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The Use of Imminent Hazard Provisions of Environmental Laws to Compel Cleanup at Federal Facilities

Charles de Saillan*

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The author dedicates this Article to the memory of Gary A. O'Dea, 1963-2004. The author had the privilege of working with Gary as co-counsel (representing, respectively, the State of New Mexico and the City of Albuquerque) in the *Sparton Technology* litigation referenced above and elsewhere in this Article. Gary was an outstanding attorney, a dedicated advocate for the environment, and a good friend.

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I. INTRODUCTION

Unfortunately, some of the worst offenders [of environmental standards] are our own federal facilities.

– Presidential Candidate George H.W. Bush, May 16, 1988[1]

In 1985, an environmental oversight committee of Congress lamented that federal facilities are among the most polluted sites

1. *Quoted in* H.R. REP. NO. 102-111, at 2 (1991), *reprinted in* 1992 U.S.C.C.A.N. 1287, 1288.

in the nation.[2] Today, more than twenty years later, that conclusion remains valid. The Departments of Defense and Energy, as well as other federal agencies, are responsible for widespread environmental contamination at thousands of sites across the country. The federal government recently estimated that some ninety-six Department of Energy (DOE) facilities and 4,618 Department of Defense (DOD) installations will require environmental cleanup.[3] The federal government estimates that cleanup of contamination at these sites will cost in the hundreds of billions of dollars.[4] To compound the environmental problem, federal agencies such as DOD and DOE are at best ambivalent and at worst hostile to environmental protection and cleanup. Former Secretary of the Interior Gale Norton, then the Colorado Attorney General, described the problem quite accurately:

> Defense and nuclear weapons facilities were established to provide for national security, with many facilities dating back to [World War] II and its immediate aftermath. As a result of the priority placed on weapons production, the environment was largely ignored, resulting in contamination of soil, surface water, and ground water and an enormous backlog of waste and dangerous materials.[5]

Several years earlier, then Secretary of Energy James D. Watkins made a similar observation: "[Environmental contamination] problems have resulted from a forty-year culture cloaked in secrecy and imbued with a dedication to the production of nuclear weapons without a real sensitivity for protecting the environment."[6]

Today, given the United States' involvement in ongoing armed conflicts in Afghanistan and Iraq, environmental protection and cleanup remain a low priority for the nation's military

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2. H.R. REP. NO. 99-253, pt. 1, at 58 (1985), *reprinted in* 1986 U.S.C.C.A.N. 2835, 2840, *and in* 3 S. COMM. ON ENV'T & PUBLIC WORKS, 101st CONG., A LEGISLATIVE HISTORY OF THE SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT OF 1986, at 1764, 1821 (1990) [hereinafter A LEGISLATIVE HISTORY OF SARA].

3. *See infra* notes 17, 21, and accompanying text.

4. *See infra* notes 19, 24, and accompanying text.

5. *Superfund Reauthorization: Hearings Before the Subcomm. on Commerce, Trade, and Hazardous Materials of the H. Comm. on Commerce*, 104th Cong. pt. 2, at 243, 246 (1995) [hereinafter *Superfund Reauthorization Hearings*] (statement of Colorado Att'y Gen. Gale Norton).

6. H.R. REP. NO. 102-111, at 3 (1991), *reprinted in* 1992 U.S.C.C.A.N. 1287, 1289.

establishment. The military has repeatedly urged Congress to pass legislation exempting its activities from environmental laws.[7] In March 2003, Deputy Secretary of Defense Paul Wolfowitz issued an internal memorandum imploring DOD to give "greater consideration" to the use of the existing national security exemptions in federal environmental laws to avoid the requirements of those laws.[8] More significantly, efforts to enforce cleanup requirements at polluted federal facilities have been mired in a morass of legal issues spawned by the doctrine of federal sovereign immunity, the "unitary executive" theory, and the principle of federal preemption of state law.[9] Consequently, investigation and cleanup of environmental contamination at federal facilities has been exceedingly slow.[10]

Despite these obstacles, certain federal and some state environmental laws may provide means for federal and state regulatory agencies, as well as local and tribal governments, environmental groups, and private citizens, to compel federal facilities to clean up the pollution they have created. These laws authorize environmental protection agencies to issue administrative orders, or to obtain appropriate injunctive relief in court, upon finding that pollution may present an "imminent and substantial endangerment" to the public health or welfare or the environment. At the federal level, the Clean Air Act,[11] the Clean Water Act,[12] the Safe Drinking Water Act,[13] the Resource Conservation and Recovery Act (RCRA),[14] and the Comprehensive

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7. *See, e.g.*, Felicity Barringer, *Pentagon is Pressing to Bypass Environmental Laws for War Games and Arms Testing*, N.Y. TIMES, Dec. 28, 2004, at A18; Michael Janofsky, *Pentagon is Asking Congress to Loosen Environmental Laws*, N.Y. TIMES, May 11, 2005, at A16; Jennifer 8. Lee, *Military Seeks Exemptions on Harming Environment*, N.Y. TIMES, Mar. 6, 2003, at 27.

8. Memorandum from Paul Wolfowitz, Deputy Sec'y of Def., to the Sec'y of the Army, the Sec'y of the Navy, and the Sec'y of the Air Force (Mar. 7, 2003) (on file with author).

9. As former Senator Robert Stafford aptly remarked while debating federal environmental cleanup legislation, "no loophole, it seems, is too small to be found by the Federal Government." 132 CONG. REC. 28,414 (Oct. 3, 1986) (statement of Sen. Stafford), *reprinted in* 6 A LEGISLATIVE HISTORY OF SARA, *supra* note 2, at 5177.

10. Congress has expressly recognized that cleanup at federal facilities has been neither timely nor adequate. H.R. REP. NO. 99-253, pt. 1, at 95 (1985), *reprinted in* 1986 U.S.C.C.A.N. 2835, 2877, *and in* 3 A LEGISLATIVE HISTORY OF SARA, *supra* note 2, at 1764, 1858.

11. 42 U.S.C. §§ 7401-7671q (Westlaw 2007).

12. 33 U.S.C. §§ 1251-1387 (Westlaw 2007).

13. 42 U.S.C. §§ 300f-300j-26 (Westlaw 2007).

14. 42 U.S.C. §§ 6901-6992k (Westlaw 2007).

Environmental Response, Compensation, and Liability Act (CERCLA)[15] all include such "imminent hazard" provisions. Among these federal laws, RCRA also authorizes citizen suits for injunctive relief to address an imminent and substantial endangerment to health or the environment. Regrettably, none of these provisions completely overcomes the persistent obstacles raised by federal sovereign immunity, the unitary executive, and federal preemption of state law. Nonetheless, some of these imminent hazard provisions can be effective in addressing environmental pollution at federal facilities.

This Article explores the use of the imminent hazard provisions in federal and state environmental laws to compel cleanup of federal facilities and advocates that they be used more extensively. In Section I, the Article describes the environmental pollution problem at federal facilities, focusing primarily on DOD and DOE facilities. Section II discusses the difficult and persistent legal problems that have mired efforts to address the environmental pollution at federal facilities. Section III of the Article describes the imminent hazard provisions in each of the five major federal environmental pollution statutes. In Section IV, the Article examines the imminent hazard provisions more closely. It considers some of the issues surrounding the interpretation of these provisions and their application to federal facilities. Section V provides some practical considerations for the preparation and litigation of imminent hazard actions, both administrative and judicial, including citizen suits, to compel cleanup of federal facilities. Finally, Section VI concludes that some of these provisions can be very effective in addressing environmental pollution at federal facilities, while others are, for various reasons, quite ineffective. It then recommends wider use of these provisions, and proposes several changes to current law.

II. THE ENVIRONMENTAL PROBLEM: THE FEDERAL GOVERNMENT AS A POLLUTER

The federal government has created many of the most heavily polluted sites in the nation. The extent of environmental contamination at federal facilities throughout the United States is stunning, and the estimated costs of cleanup are astronomical. The contamination problem is enormous, both quantitatively, in the

15. 42 U.S.C. §§ 9601-9675 (Westlaw 2007).

sheer number of contaminated federal sites, and qualitatively, in the severity of the contamination at many of these sites. Although the extent of the problem has not been fully characterized, certain federal agencies, notably DOD and DOE, have attempted to inventory the contamination at their facilities. This Section provides an overview of the environmental pollution problem at federal facilities. To illustrate the problem, it also describes in detail some of the most seriously polluted federal facilities.

A. *An Overview of the Environmental Problem*

Military installations under DOD comprise the large majority of contaminated federal facilities. These facilities include military bases, firing ranges and proving grounds, arsenals and munitions dumps, and weapons research facilities. In a March 2007 report, DOD listed 8,278 individual sites that require environmental cleanup[16] at 4,618 active and closing military installations and formerly used defense sites throughout the United States and its territories.[17] These sites include contaminated buildings, aboveground and underground storage tanks, industrial facilities, open burn areas, firing ranges, mixed waste disposal areas, surface impoundments, landfills, and areas of contaminated soil or groundwater.[18] In a 2007 report to Congress, DOD estimated that investigation and cleanup of these sites will cost more than $32 billion to complete.[19]

The vast nuclear weapons complex, now under DOE, comprises the next-largest segment of contaminated federal facilities. These facilities were established during World War II and the Cold War to develop and produce nuclear weapons. They include vast federal reservations such as Hanford in Washington; large-scale nuclear reactors, now decommissioned, at Hanford and at Savannah River in South Carolina; fuel fabrication plants at Fernald in Ohio and Weldon Springs in Missouri; various isotope

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16. U.S. DEP'T OF DEF., THE DEFENSE ENVIRONMENTAL PROGRAMS FISCAL YEAR 2006 ANNUAL REPORT TO CONGRESS 13, 14, figs. 15, 16, & 17 (Mar. 2007) [hereinafter DOD, DEFENSE ENVIRONMENTAL PROGRAMS 2006 REPORT].

17. *Id.* at N-3.

18. *Id.* at M-1 to M-215.

19. *Id.* at D-3 to D-4. The actual figure, $32,592,400,000, includes $13,902,800,000 for the installation restoration program (IRP) and $18,689,600,000 for the separate military munitions response program (MMRP), which addresses unexploded ordnance, discarded military munitions, and munitions constituents. *Id.*

separation (i.e., enrichment) plants such as the gaseous diffusion plants at Oak Ridge in Tennessee, Paducah in Kentucky, and Portsmouth in Ohio; chemical separation plants at Hanford, Savannah River, and the Idaho National Engineering Laboratory; former component fabrication plants at Rocky Flats and Savannah River; the weapons assembly plant at Pantex in Texas; the Nevada Test Site; and the three national nuclear weapons research laboratories, Los Alamos National Laboratory and Sandia National Laboratories in New Mexico and Lawrence Livermore National Laboratory in California, among other facilities.[20] In a January 1997 report, DOE concluded that environmental contamination exists at all of its ninety-six facilities.[21] Within these facilities, DOE reported a total of 9,898 individual contaminated sites.[22] DOE further estimated that the nuclear weapons complex had contaminated approximately seventy-nine million cubic meters of soil and 1.8 billion cubic meters of water, most of it ground water.[23] In 2002, DOE estimated that the costs of cleanup would be $220 billion, and could easily reach $300 billion.[24]

By another measure, federal facilities represent a significant proportion of the sites that the United States Environmental Protection Agency (EPA) has listed as priorities for federal response under the Superfund program. Following the mandate of section 105(a)(8) of CERCLA,[25] the Superfund law, EPA has established a National Priorities List (NPL)[26] of hazardous waste sites requiring cleanup. The NPL includes many—though certainly not all—of the nation's worst hazardous waste sites, those that pose the greatest "risk or danger to public health or welfare or the environment."[27] Of the 1,244 sites that EPA currently lists on the NPL, 158 sites in forty-two states and the District of Columbia are

20. U.S. DEP'T OF ENERGY, CLOSING THE CIRCLE ON THE SPLITTING OF THE ATOM 11-21 (2d ed. 1996); U.S. DEP'T OF ENERGY, LINKING LEGACIES: CONNECTING THE COLD WAR NUCLEAR WEAPONS PROCESSES TO THEIR ENVIRONMENTAL CONSEQUENCES 11-29 (1997) [hereinafter DOE, LINKING LEGACIES].

21. DOE, LINKING LEGACIES, *supra* note 20, at 72.

22. *Id.* at 76.

23. *Id.* at 72, 77.

24. U.S. DEP'T OF ENERGY, A REVIEW OF THE ENVIRONMENTAL MANAGEMENT PROGRAM ES-1 (Feb. 2002).

25. 42 U.S.C. § 9605(a)(8) (Westlaw 2007).

26. 40 C.F.R. pt. 300, app. B (Westlaw 2007).

27. *See* Comprehensive Environmental Response, Compensation, and Liability Act [hereinafter CERCLA] § 105(a)(8)(A), 42 U.S.C. § 9605(a)(8) (Westlaw 2007) (setting forth criteria for listing sites on the NPL).

federal facilities.[28]

B. *Specific Examples of the Environmental Problem*

Many of the nation's worst and most notorious toxic waste sites are federal facilities. A few descriptions of particularly notable examples follow. Although all of these sites are currently undergoing some type of cleanup, they serve to illustrate the magnitude of the problem.

Probably the most severely polluted site in the United States is the DOE Hanford reservation. Acquired in 1943 and used primarily for the production of weapons-grade plutonium, Hanford covers 620 square miles in south-central Washington along the Columbia River.[29] Within its boundaries are a total of nine nuclear reactors, now decommissioned, that were used to produce plutonium from uranium fuel.[30] There are also seven chemical separation plants used at various times to refine the plutonium for use in weapons through a complex series of chemical processes.[31] Operations at Hanford began in 1944, continued through the Cold War, and had largely ended by 1992.[32] However, the environmental legacy of Hanford remains. The chemical processing and separation of plutonium produced a large quantity of chemical wastes and both high- and low-level radioactive wastes.[33] Some of the wastes were stored in underground tanks. Between 1943 and 1986, a total of 177 tanks were constructed for waste storage, with capacities ranging from

28. 40 C.F.R. pt. 300, app. B, tbl.2 (Westlaw 2007).

29. MICHAEL D'ANTONIO, ATOMIC HARVEST: HANFORD AND THE LETHAL TOLL OF AMERICA'S NUCLEAR ARSENAL 14 (1993).

30. DOE, LINKING LEGACIES, *supra* note 20, at 167-68. Three reactors, the B, D, and F Reactors, were built during World War II. Beginning in 1948, five more reactors were built, the H, DR, C, KW, and KE Reactors. The ninth reactor, the N Reactor, began operating in 1963. *Id.* at 163, 167-68.

31. *Id.* at 173-178. The three original plants, known as the B, T, and U Plants were constructed in 1944 and 1945. The plants were huge windowless concrete structures, each measuring more than 800 feet long, 85 feet wide, and 100 feet tall, and were descriptively dubbed "canyons." *Id.* at 173-74. Subsequently, the Plutonium Finishing Plant (PFP) was built in 1948, the REDOX (reduction and oxidation) Plant or S Plant was built in 1951, the PUREX (plutonium-uranium extraction) Plant or A Plant was built in 1956, and the UO_3 (uranium trioxide) Plant, converted from an unused bulk reduction building, began operating in 1953. *Id.* at 173-78.

32. *Id.* at 23-24.

33. *Id.* at 171.

55,000 to one million gallons.[34] Most of the tanks—149 out of 177—were single-walled.[35] Many of the tanks leaked; Hanford operators recorded some sixty-six leaks from these tanks, totaling approximately one million gallons.[36] Most of the chemical processing wastes were not stored in tanks, however, but were discharged directly into the ground. The operators discharged an estimated 346 billion gallons of liquid wastes, containing 1.4 million curies of various radionuclides, into ponds, trenches, and injection wells at Hanford between 1944 and 1991.[37] As a result, a tremendous amount of groundwater beneath the facility, estimated to extend over an area of eighty square miles or more, has become contaminated with chemical and radioactive pollutants.[38] Several plumes of contaminated groundwater, exceeding federal drinking water standards, are leaching into the Columbia River along approximately ten miles of shoreline.[39] In addition, Hanford operations released hundreds of thousands of curies of radionuclides, such as radioactive iodine (I-131), ruthenium (Ru-103 and Ru-106), xenon (Xe-133), and plutonium (Pu-239), into the atmosphere, mostly during the 1940s and 1950s.[40]

The Oak Ridge National Laboratory in eastern Tennessee is another highly contaminated legacy of the nuclear weapons program. Covering ninety-two square miles along the Clinch River, the Oak Ridge facility was acquired in 1942 primarily to produce enriched uranium[41] for atomic bombs.[42] In 1945, the government

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34. U.S. GEN. ACCOUNTING OFFICE, NUCLEAR WASTE: FURTHER IMPROVEMENT NEEDED IN THE HANFORD TANK FARM MAINTENANCE PROGRAM 2 (GAO/RCED-95-29) (1994).

35. DOE, LINKING LEGACIES, *supra* note 20, at 180.

36. *Id.*

37. *Id.* at 89, 180; *see also* MICHELE STENEHJEM GERBER, ON THE HOME FRONT: THE COLD WAR LEGACY OF THE HANFORD NUCLEAR SITE 143-69 (1992) (recounting in detail the liquid waste disposal practices at Hanford through the 1970s).

38. U.S. GOV'T ACCOUNTABILITY OFFICE, DEP'T OF ENERGY: PRELIMINARY INFORMATION ON THE POTENTIAL FOR COLUMBIA RIVER CONTAMINATION FROM THE HANFORD SITE 5 (GAO-06-77R) (2005); *see also* D'ANTONIO, *supra* note 29, at 285 (reporting 230 square miles of polluted groundwater).

39. U.S. GOV'T ACCOUNTABILITY OFFICE, *supra* note 38, at 5.

40. GERBER, *supra* note 37, at 77-78; *see also* U.S. GOV'T ACCOUNTABILITY OFFICE, *supra* note 38 at 77-112 (describing radionuclide air emissions from Hanford through the 1950s).

41. The DOE describes the uranium enrichment process as follows:

> Uranium enrichment begins with natural uranium, and results in enriched

constructed three uranium enrichment plants at Oak Ridge, each using a different process. The S-50 thermal diffusion plant and the K-25 gaseous diffusion plant produced low enriched uranium from uranium hexafluoride gas. These plants, in turn, fed the Y-12 Plant, which produced highly enriched uranium through an electromagnetic spectrograph process in devices called "Calutrons."[43] Although the S-50 plant and the Y-12 Calutrons were shut down at the end of World War II, the K-25 gaseous diffusion plant was expanded between 1946 and 1954 to produce highly enriched uranium.[44] In addition, several lithium enrichment plants were constructed at the Y-12 Plant area during the 1950s to produce tritium for nuclear weapons.[45] Two of the plants were column exchange (COLEX) facilities, which used mercury in the process. While they were in operation between 1955 and 1963, these plants used approximately twenty-four million pounds of mercury.[46] The various processes at Oak Ridge generated a tremendous quantity of waste. Between the late 1940s and 1976, K-25 Plant operators disposed of an assortment of wastes, including plutonium, thorium, uranium, radioactive sodium fluoride, arsenic, beryllium chips, boron, solvents such as trichloroethylene (TCE), waste oils, and polychlorinated biphenyls (PCBs), at a large burial ground (K-1070-A) consisting of unlined trenches and pits and a drum storage pad.[47] Another burial ground (K-1070-C/D), covering twenty-two acres, is classified.[48] In addition, a 1.3-acre unlined lagoon was used from the 1940s until the early 1980s for

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> uranium (EU) and depleted uranium. [Natural uranium] contains 0.711 percent of the isotope uranium-235, the remainder being almost entirely uranium-238. [Enriched uranium] is uranium that has been processed so that it contains more than a 0.711 percent concentration of uranium-235. [Depleted uranium] contains less than 0.711 percent uranium-235. . . . Highly enriched uranium contains more than twenty percent of the uranium-235 isotope.

DOE, LINKING LEGACIES, *supra* note 20, at 136.

42. RICHARD RHODES, THE MAKING OF THE ATOMIC BOMB 486-87 (1986).

43. DOE, LINKING LEGACIES, *supra* note 20, at 136, 138-39. Calutrons are modified cyclotrons developed at the University of California at Berkeley. The term is an abbreviation of California University Cyclotron. *Id.* at 39.

44. *Id.* at 142.

45. *Id.* at 143. Tritium (^3H) is an unstable isotope of hydrogen. Tritium gas is used to boost the explosive yield of many modern nuclear weapons. U.S. DEP'T OF ENERGY, CLOSING THE CIRCLE ON THE SPLITTING OF THE ATOM 11 (2d ed. 1996).

46. DOE, LINKING LEGACIES, *supra* note 20, at 143-44.

47. *Id.* at 143.

48. *Id.*

settling metal hydroxide precipitates from neutralized solutions.[49] A large quantity of depleted uranium hexafluoride gas, known as "tails," is stored in steel cylinders at K-25.[50] The plant buildings also contain asbestos.[51] At least 733,000 pounds, and possibly as much as two million pounds, of metallic mercury used in the lithium enrichment process have been released into the environment, as well as other metals such as cadmium and chromium.[52] Fish from nearby streams were found to contain mercury in excess of federal standards.[53] Groundwater at Oak Ridge is contaminated with solvents, radionuclides, acids, and plating wastes.[54]

Los Alamos National Laboratory, the birthplace of the atomic bomb, is also seriously contaminated. Los Alamos currently covers forty square miles on the Pajarito Plateau, located in northern New Mexico about twenty-five miles northwest of Santa Fe, adjacent to the Rio Grande.[55] The facility is divided by a series of eight major canyons that connect with the Rio Grande gorge. Facility operations take place mainly in forty-nine "Technical Areas" on mesas between the canyons.[56] The government began construction of the laboratory at Los Alamos in November 1942, and the facility began operating in March 1943; its original purpose was to research and develop an atomic bomb.[57] Since World War II, operations at Los Alamos have expanded significantly. The laboratory's operations have included the design and testing of nuclear weapons; research, design, fabrication, and testing of high explosives; bioscience research; chemical and material science research; laser design and development; and development of nuclear reactors.[58] Its facilities include several chemical and radiological laboratories, nuclear reactors, and particle

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49. *Id.*

50. *Id.* at 106.

51. *Id.* at 143.

52. *Id.* at 89-90; *see also* Legal Envtl. Assistance Found., Inc. v. Hodel, 586 F. Supp. 1163, 1166 (E.D. Tenn. 1984).

53. STEPHEN DYCUS, NATIONAL DEFENSE AND THE ENVIRONMENT 64 (1996).

54. *Id.*; DOE, LINKING LEGACIES, *supra* note 20, at 143.

55. LOS ALAMOS NAT'L LAB., ENVIRONMENTAL SURVEILLANCE AT LOS ALAMOS DURING 2005, at 22 (LA-14304-ENV) (Sept. 2006).

56. *Id.* at 22, 26-27.

57. DOE, LINKING LEGACIES, *supra* note 20, at 200; *see also* RHODES, *supra* note 42, at 449-51, 459-60.

58. U.S. DEP'T OF ENERGY, DRAFT SITE-WIDE ENVIRONMENTAL IMPACT STATEMENT FOR CONTINUED OPERATION OF LOS ALAMOS NATIONAL LABORATORY, at 2-13 to 2-16 (DOE/EIS-0380D) (June 2006).

accelerators.[59] A facility for the processing of plutonium for nuclear warheads is also located at the Laboratory, in Technical Area 55.[60] These operations have generated a tremendous amount of hazardous, radioactive, and mixed waste, including chlorinated and non-chlorinated solvents, PCBs, polynuclear aromatic hydrocarbons, perchlorate, heavy metals, explosive compounds, and radionuclides. Laboratory personnel disposed of the wastes at various times by dumping the wastes into canyons, or by more systematic disposal in surface impoundments, trenches, landfills, shafts, waste piles, and septic systems throughout the facility.[61] The laboratory continues to dispose of radioactive waste in trenches and shafts at Technical Area 54, and to discharge radioactive waste water from an outfall at Technical Area 50.[62] In addition, the facility has operated several firing ranges at Technical Areas 10, 14, 15, 36, 39, and 40, some of them now inactive, for the testing of explosives.[63] These firing ranges are littered with unexploded ordinance (UXO), and soil on the ranges is contaminated with trinitrotoluene (TNT), cyclotetramethylene-tetranitramine or High Melting Explosive (HMX), cyclonitrite or Royal Demolition Explosive (RDX), metals, depleted uranium, and perchlorate, among other contaminants.[64] Chemicals and radionuclides from laboratory operations have contaminated the aquifer that supplies drinking water to Los Alamos County. County water supply wells have been contaminated with low levels of perchlorate, tritium, and strontium-90.[65]

One of the most seriously contaminated DOD facilities is McClellan Air Force Base, located eight miles northeast of Sacramento, California. The main function of the base is to maintain and repair aircraft. Over the years of its operation, the facility generated untold quantities of hazardous wastes, including

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59. LOS ALAMOS NAT'L LAB., *supra* note 55, at 267-70.

60. *Id.* at 269.

61. Interview with John Young, Geologist, Hazardous Waste Bureau, N.M. Env't Dep't, in Santa Fe, N.M. (May 5, 2006).

62. LOS ALAMOS NAT'L LAB., *supra* note 55, at 269; interview with John Young, *supra* note 61.

63. LOS ALAMOS NAT'L LAB., *supra* note 55, at 267-68; interview with John Young, *supra* note 61.

64. Interview with John Young, *supra* note 61.

65. Ian Hoffman, *Evidence Points to Contamination*, ALBUQUERQUE J. (North), Jan. 14, 2000, at 1; Jennifer McKee, *Tritium Confirmed in Water*, ALBUQUERQUE J. (North), Oct. 24, 2003, at 1; interview with John Young, *supra* note 61.

spent solvents, used oil, electroplating wastes, paint wastes, spilled jet fuel, caustic cleaners, and PCBs, which it disposed of at 170 individual sites on the base.[66] Disposal of these wastes contaminated 373 acres of soil to a depth of 300 feet, for an estimated 1.5 billion cubic feet of contaminated soil.[67] It also produced three large plumes of contaminated groundwater, consisting mostly of TCE and other chlorinated solvents, having an aerial extent of over 660 acres, a depth of 400 feet, and an estimated volume of eleven billion gallons.[68] Because of the contamination, five drinking water wells have been taken out of service.[69]

Another heavily contaminated DOD facility is the Aberdeen Proving Ground, in northeast Maryland. Aberdeen sits on 112 square miles of land, divided by a river, that protrudes into the Chesapeake Bay just below the mouth of the Susquehanna River. It is largely surrounded by wetlands and estuaries, and adjoins the Susquehanna National Wildlife Refuge.[70] The Army has used the site since World War I for the storage and testing of explosives and chemical weapons, such as blister agents, tear gas, and nerve agents, and was also used for the study of captured, foreign-made chemical weapons.[71] An Army investigation has identified 319 waste management units at Aberdeen, contaminated with PCBs, petroleum hydrocarbons, TCE, dichloro-diphenyl-trichloroethane (DDT), lead, perchlorate, and UXO, among other things.[72] One of the most contaminated sites at Aberdeen is known as the old "O Field," a four-and-one-half acre disposal site that the Army used to dispose of, and sometimes to detonate, an assortment of explosives, incendiary devices, and chemical agents.[73] The soil and

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66. SETH SHULMAN, THE THREAT AT HOME: CONFRONTING THE TOXIC LEGACY OF THE U.S. MILITARY 84 (1992); *see also* McClellan Ecological Seepage Situation v. Perry, 47 F.3d 325, 327 (9th Cir. 1995).

67. DOD, DEFENSE ENVIRONMENTAL PROGRAMS 2006 REPORT, *supra* note 16, at M-127; U.S. GEN. ACCOUNTING OFFICE, ENVIRONMENTAL CLEANUP: CASE STUDIES OF SIX HIGH PRIORITY DOD INSTALLATIONS 33 (GAO/NSIAD-95-8) (1994) [hereinafter GAO, ENVIRONMENTAL CLEANUP].

68. DOD, DEFENSE ENVIRONMENTAL PROGRAMS 2006 REPORT, *supra* note 16, at M-127; GAO, ENVIRONMENTAL CLEANUP, *supra* note 67, at 33.

69. DOD, DEFENSE ENVIRONMENTAL PROGRAMS 2006 REPORT, *supra* note 16, at M-127.

70. SHULMAN, *supra* note 66, at 33-34.

71. *Id.* at 35; GAO, ENVIRONMENTAL CLEANUP, *supra* note 67, at 8.

72. DOD, DEFENSE ENVIRONMENTAL PROGRAMS 2006 REPORT, *supra* note 16, at M-9.

73. SHULMAN, *supra* note 66, at 34-40.

ground water around O Field are contaminated with some forty hazardous chemicals.[74]

Rocky Mountain Arsenal, a twenty-seven-square-mile Army facility near Denver, Colorado, has been described as "one of the worst hazardous waste pollution sites in the country."[75] The federal government acquired the facility in 1942 for the production of chemical and incendiary weapons, including mustard gas, white phosphorous, phosgene, and napalm.[76] In 1953, it began the manufacture of Sarin nerve agent.[77] Beginning in 1947, the government leased portions of the arsenal to private companies, primarily Shell Chemical Company, for the production of commercial chemicals.[78] For thirty-five years, Shell and other companies produced chemicals such as benzene and chlorine, and a wide assortment of pesticides, including aldrin, dieldrin, malathion, parathion, and DDT.[79] The Army and the private companies disposed of wastes in lined and unlined lagoons, open burning and detonation areas, and landfills that received liquid and solid wastes.[80] Between 1956 and 1982, the Army and Shell disposed of their chemical wastes in a ninety-three-acre asphalt-lined surface impoundment known as Basin F.[81] In 1975, State officials discovered that off-site groundwater was contaminated with diisopropylmethylphosphonate (DIMP) and dicyclopentadiene (DCPD).[82] Drinking water wells in nearby South Adams County became contaminated with TCE in excess of EPA drinking water standards, and with pesticides.[83]

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74. *Id.* at 34.

75. United States v. Colorado, 990 F.2d 1565, 1569 (10th Cir. 1993); Daigle v. Shell Oil Co., 972 F.2d 1527, 1531 (10th Cir. 1992).

76. Vicky L. Peters et al., *Can States Enforce RCRA at Superfund Sites?: The* Rocky Mountain Arsenal *Decision*, 23 Envtl. L. Rep. (Envtl. Law Inst.) 10,419, 10,419 (1993).

77. *Id.*; *see also* Karen B. Wiley & Steven L. Rhodes, *Decontaminating Federal Facilities: The Case of the Rocky Mountain Arsenal*, ENVIRONMENT, Apr. 1987, at 16, 18.

78. Wiley & Rhodes, *supra* note 77, at 18.

79. Peters et al., *supra* note 76, at 10,419.

80. DOD, DEFENSE ENVIRONMENTAL PROGRAMS 2006 REPORT, *supra* note 16, at M-177.

81. Peters et al., *supra* note 76, at 10,419; *see also* Colorado v. U.S. Dep't of the Army, 707 F. Supp. 1562, 1563 (D. Colo. 1989).

82. Peters et al., *supra* note 76, at 10,419; DYCUS, *supra* note 53, at 93. DIMP is a byproduct of the production of Sarin nerve agent. *Id.*

83. Wiley & Rhodes, *supra* note 77, at 17; *see also* Peggy Strain, *Wells Could Be Tainted, Homes West of Arsenal Told*, DENVER POST, Jan. 16, 1981, at 1 (reporting on contamination of 25 private drinking water wells with pesticides).

The Naval Air Engineering Center in Lakehurst, New Jersey is also seriously contaminated. The facility is located at the north end of New Jersey's Pine Barrens, a large, sparsely populated pine forest covering over 1,000 square miles in the southern part of the State.[84] Beneath the Pine Barrens, and beneath the Naval Engineering Center, is the Cohansey aquifer, the largest supply of potable fresh water in the Northeast, holding an estimated seventeen trillion gallons.[85] Given the sandy, highly permeable soil in the Pine Barrens, and the relatively shallow water table,[86] the aquifer is particularly vulnerable to contamination. According to a Navy investigation, the facility disposed of more than three million gallons of contaminated jet fuel, spent solvents, hydraulic fluid, and other liquid wastes on the ground at the facility.[87] This volume includes an estimated ten tons of tetraethyl lead disposed of at one location.[88] Consequently, groundwater at the site is contaminated with petroleum hydrocarbons and solvents including TCE.[89]

The inactive Jefferson Proving Ground, which covers 100 square miles in southeast Indiana near the small town of Madison, has been described as "the largest contiguous contaminated area in the United States."[90] The northern portion of the facility, above the firing line, is littered with more than one million unexploded bombs, shells, and mines either lying on the surface or buried in the ground.[91] South of the firing line are several waste disposal areas contaminated with depleted uranium, heavy metals, UXO, solvents, PCBs, and petroleum hydrocarbons, as well as buildings containing asbestos.[92] The site also has contaminated local

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84. *See* JOHN MCPHEE, THE PINE BARRENS 5 (1968); SHULMAN, *supra* note 66, at 63-64.

85. SHULMAN, *supra* note 66, at 63. According to a 1966 United States Geologic Survey Report, water from the aquifer "can be expected to be bacterially sterile, odorless, clear; its chemical purity approaches that of uncontaminated rain-water or melted glacier ice." *Quoted in* MCPHEE, *supra* note 84, at 14.

86. SHULMAN, *supra* note 66, at 64.

87. *Id.* at 66.

88. *Id.* at 67.

89. DOD, DEFENSE ENVIRONMENTAL PROGRAMS 2006 REPORT, *supra* note 16, at M-110.

90. SHULMAN, *supra* note 66, at 4. Shulman attributes the quote to former Indiana Senator Dan Coats. *Id.*

91. *Id.*; DOD, DEFENSE ENVIRONMENTAL PROGRAMS 2006 REPORT, *supra* note 16, at M-103.

92. DOD, DEFENSE ENVIRONMENTAL RESTORATION PROGRAMS 2006 REPORT, *supra* note 16, at M-103.

groundwater.[93]

The Otis Air National Guard Base, near Falmouth on Cape Cod, Massachusetts is another seriously contaminated DOD facility. The facility provides training for the Army and Air National Guard, and support to the Coast Guard Air and Sea Rescue Units.[94] DOD studies have identified approximately eighty-five contaminated sites at the base. They include chemical and fuel spills, landfills, and former fire fighter training areas.[95] The facility has contaminated local groundwater, causing several private and municipal drinking water wells to be taken out of service.[96]

III. THE LEGAL PROBLEM: THE FEDERAL GOVERNMENT AS A LAWBREAKER

Despite the enormity of the environmental problems at federal facilities, the federal government has been delinquent in taking action to address these problems. Federal agencies have routinely relied on a triad of legal doctrines to avoid compliance with environmental laws and clean up obligations: the doctrine of federal sovereign immunity, the unitary executive theory, and the preemption of environmental laws by the Atomic Energy Act. These doctrines apply uniquely to the federal government, and they elevate federal agencies to a privileged status. Attorneys defending federal agencies have taken full advantage of these legal doctrines to avoid federal and state enforcement actions. Consequently, these doctrines often prevent EPA and state environmental agencies from compelling cleanup of the environmental contamination described above. This Section examines these legal doctrines and describes how polluting federal agencies have used the doctrines to thwart Congress and environmental regulatory agencies.

A. *Sovereign Immunity*

The first major legal obstacle to cleanup of federal facilities has been the sovereign immunity of the federal government. Simply put, sovereign immunity means that the federal government cannot be sued without its consent. That consent must take the

93. *Id.*
94. *Id.* at M-124.
95. *Id.*
96. *Id.*

form of a statutory waiver of sovereign immunity enacted by Congress.

1. *Origins and history of federal sovereign immunity.*

The doctrine of sovereign immunity derives from the ancient English common law maxim that "the King can do no wrong." Setting forth the English common law some 235 years ago, Sir William Blackstone proclaimed: "That the king can do no wrong is a necessary and fundamental principle of the English constitution."[97] This doctrine has carried over from the English law of Blackstone into American jurisprudence, but the reasons for its adoption by United States courts are obscure.

The United States Supreme Court first applied sovereign immunity in the 1821 case, *Cohens v. Virginia*.[98] Significantly, the *Cohens* Court offered no explanation for its support of the doctrine.[99] More than sixty years later, the Court acknowledged that "while the exemption of the United States and of the several states from being subjected as defendants to ordinary actions in the courts has since [*Cohens*] been repeatedly asserted here, the principle has never been discussed or the reasons for it given."[100] Nevertheless, the Court expressed satisfaction that the principle "has always been treated as established doctrine"[101] and discussed it no further. It was twenty-five years later—eighty-six years after the Court's first unexplained endorsement of sovereign immunity—that the Court articulated a rationalization for the doctrine: the "sovereign is exempt from suit, not because of any formal conception or obsolete theory, but on the logical and practical ground that there can be no legal right as against the authority that makes the law on which the right depends."[102] This rationale

97. 3 WILLIAM BLACKSTONE, COMMENTARIES * 254. Further, according to Blackstone, "[t]he king is not only incapable of *doing* wrong, but even of *thinking* wrong: he can never mean to do an improper thing: in him is no folly or weakness." 1 BLACKSTONE, *supra* at * 246.

A rather contrary view was once expressed by Mark Twain's Huckleberry Finn: "All kings is mostly rapscallions." MARK TWAIN, ADVENTURES OF HUCKLEBERRY FINN 199 (1885).

98. 19 U.S. (6 Wheat.) 264 (1821).

99. Justice John Paul Stevens has suggested that the *Cohens* Court embraced the doctrine because of tradition alone. John Paul Stevens, *Is Justice Irrelevant?*, 87 NW. U. L. REV. 1121, 1123 (1993).

100. United States v. Lee, 106 U.S. 196, 207 (1882).

101. *Id.*

102. Kawananakoa v. Polyblank, 205 U.S. 349, 353 (1907).

has been criticized as illogical[103] and tautological.[104]

Perhaps the most cogent justification that has been advanced for the doctrine of sovereign immunity is to protect the public treasury from the costs of litigation and monetary awards. According to one observer, "[t]his concern underlies all of the [Supreme] Court's sovereign immunity decisions."[105] The Supreme Court articulated this justification, although in a case involving state sovereign immunity, in *Alden v. Maine*:

> Not only must a State defend or default but also it must face the prospect of being thrust, . . . against its will, into the disfavored status of a debtor, subject to the power of private citizens to levy on its treasury or perhaps even on government buildings or property which the State administers on the public's behalf.[106]

Such a justification for federal sovereign immunity finds some support in Article I of the Constitution, which allocates to Congress the authority to pay the debts of the United States and to appropriate funds.[107] Arguably, money judgments against the United States cannot be paid unless Congress has made its intent clear, through an express waiver of immunity, and appropriated the necessary funds.

Although its justification is unclear, the doctrine of federal sovereign immunity remains established law today. The Supreme

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103. *See, e.g.*, Jeremy Travis, Note, *Rethinking Sovereign Immunity After* Bivens, 57 N.Y.U. L. REV. 597, 618 n.104 (1982) ("As a logical proposition, one has little difficulty conceiving of a sovereign unbridled by supervening limitations on power but which, having incurred an obligation or committed a wrong under laws extant at the time of the breach, was obliged to make good on the wrong done."); Note, *Absolute Liability and the Tort Claims Act*, 5 STAN. L. REV. 274, 274 n.5 (1953) ("[T]here is no inherent reason why the state should be considered superior to its subjects. It is just as logical to assume that the state intended to be bound by the same rules that govern its people.").

104. John M. Rogers, *Applying the International Law of Sovereign Immunity to the States of the Union*, 1981 DUKE L.J. 449, 458.

105. Erwin Chemerinsky, *Against Sovereign Immunity*, 53 STAN. L. REV. 1201, 1217 (2001).

106. 527 U.S. 706, 749 (1999).

107. Article I of the Constitution provides that "[t]he Congress shall have the Power . . . to pay the Debts . . . of the United States," U.S. CONST. art. 1, § 8, cl. 1; and that "[n]o Money shall be drawn from the Treasury, but in Consequence of Appropriations made by Law," U.S. CONST. art. 1, § 9, cl. 7. *See also* Vicki C. Jackson, *Suing the Federal Government: Sovereignty, Immunity, and Judicial Independence*, 35 GEO. WASH. INT'L L. REV. 521, 543-46 (2003) (discussing the power of appropriations as a justification for federal sovereign immunity).

Court most recently reviewed a question of federal sovereign immunity in *Department of the Army v. Blue Fox, Inc.*[108] In *Blue Fox*, the Court reasserted that waivers of federal sovereign immunity must be "unequivocally expressed" and found that because the remedy the plaintiff sought against the Army fell outside the statutory waiver of immunity, it was barred.[109] The Court cast no doubt on the continued vitality of the federal sovereign immunity doctrine.[110]

Notwithstanding its general acceptance by a majority of the Supreme Court, the doctrine of sovereign immunity has been widely criticized.[111] Many critics have recognized that sovereign immunity is inconsistent with the fair and equitable administration of justice. In 1970, Professor Kenneth Davis observed that sovereign immunity often causes substantive injustice by denying private parties a remedy for the wrongs of the federal government, and procedural injustice by denying private parties the opportunity for independent judicial review of unlawful government agency decisions.[112] Similarly, Justice Stevens, who has consistently

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108. 525 U.S. 255 (1999); *see also* Lane v. Peña, 518 U.S. 187 (1996) (asserting that waivers of federal sovereign immunity must be "unequivocally expressed," finding that the statute in question did not with sufficient clarity waive the federal government's sovereign immunity from monetary damages, and holding that the Secretary of Transportation therefore was not liable for such damages).

109. 525 U.S. at 261-63.

110. The Supreme Court's unrelenting application of the doctrine of federal sovereign immunity brings to mind the comments of Justice Holmes, although writing on a different subject:

> It is revolting to have no better reason for a rule of law than that so it was laid down in the time of Henry IV. It is still more revolting if the grounds upon which it was laid down have vanished long since, and the rule simply persists from blind imitation of the past.

Oliver Wendell Holmes, *The Path of the Law*, 10 HARV. L. REV. 457, 469 (1897).

111. Some fifty years ago, Professor Kenneth Davis noted that "nearly every commentator who considers the subject vigorously asserts that the doctrine of sovereign immunity must go." KENNETH CULP DAVIS, ADMINISTRATIVE LAW TREATISE § 25.01, at p. 435 (1958); *See also* John Copeland Nagle, *Waiving Sovereign Immunity in an Age of Clear Statement Rules*, 1995 WIS. L. REV. 771, 775 n.24.

112. Kenneth C. Davis, *Sovereign Immunity Must Go*, 22 ADMIN. L. REV. 383, 383 (1970). He went on to remark, somewhat caustically, that "[s]overeign immunity often produces an uncivilized result, because what counts . . . is not reason but force, not law but power, not orderly adjudication but physical taking by the stronger party, not refinements the sum of which we call civilization but crudities that are sometimes characteristic of primitive men." *Id.* at 392.

condemned[113] the doctrine, wrote in his dissenting opinion in *United States v. Nordic Village, Inc.*:

> Despite its ancient lineage, the doctrine of sovereign immunity is nothing but a judge-made rule that is sometimes favored and sometimes disfavored. Its original reliance on the notion that a divinely ordained monarch "can do no wrong" is, of course, thoroughly discredited. Moreover, its persistent threat to the impartial administration of justice has been repeatedly acknowledged and recognized.[114]

Another commenter, Professor Erwin Chemerinsky, argues that "[s]overeign immunity allows the government to violate the Constitution or laws of the United States without accountability"[115]; it "frustrates compensation and deterrence"; and it leaves "[i]ndividuals injured by government wrong-doing . . . without a remedy."[116]

Nor have the critics acknowledged the protection of the treasury as a legitimate justification for federal sovereign immunity. Professor Vicki Jackson writes that it is "difficult to account for much of federal sovereign immunity law on this basis, since many forms of relief that do not involve claims against the treasury have been found barred by the government's immunity from suit."[117] Further, "Congress' control of appropriations does not necessarily require a doctrine of sovereign immunity from judgment," as other less absolute limitations are possible.[118] For example, a rule of law could assume that Congress intended to bind the federal government to the substantive and procedural requirements of a statute, unless the statute expressly exempts the government.

2. *Early statutory waivers of federal sovereign immunity in*

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113. In all seven federal sovereign immunity cases decided by the Court between 1992 and 1995, Justice Stevens voted against the government. Nagle, *supra* note 111, at 774 & n.22. Since 1995, Justice Stevens voted against the government again in *Lane*, 518 U.S. 187, but he apparently joined the unanimous decision in favor of the government in *Department of the Army v. Blue Fox, Inc.*, 525 U.S. 255 (1999).

114. 503 U.S. 30, 42-43 (1992) (Stevens, J., dissenting); *see also* Stevens, *supra* note 99 (for more of Justice Steven's views on the doctrine of sovereign immunity).

115. Chemerinsky, *supra* note 105, at 1213.

116. *Id. at* 1216.

117. Jackson, *supra* note 107, at 546 n.101.

118. *Id.* at 607.

environmental laws.

Apparently recognizing that federal government immunity from compulsory compliance with federal environmental laws is bad public policy, Congress wrote express waivers of federal sovereign immunity into the major federal environmental laws enacted in the 1970s, beginning with the Clean Air Act, the Clean Water Act, and the Safe Drinking Water Act. It has repeatedly revised the statutory waivers, most often in response to narrow judicial interpretations.[119]

When Congress enacted the modern Clean Air Act in 1970, it included a rather straightforward waiver of federal sovereign immunity. Section 118(a) of the of the 1970 statute provided that each department, agency, and instrumentality of the federal government "shall be subject to, and comply with, all Federal, State, interstate, and local requirements respecting the control and abatement of air pollution in the same manner, and to the same extent, that any person is subject to such requirements."[120] In enacting this waiver, Congress noted that "Federal agencies have been notoriously laggard in abating pollution."[121]

When Congress enacted the modern Clean Water Act[122] in 1972, it included a nearly identical waiver of federal sovereign immunity in section 313, which provided that each agency, department, and instrumentality of the federal government "shall comply with Federal, State, interstate, and local requirements respecting control and abatement of pollution to the same extent as any person is subject to such requirements."[123] In passing this legislation, Congress noted "flagrant violations" of water pollution control laws by federal facilities. For example, the Senate Report stated:

> Evidence received in hearings disclosed many incidents of flagrant violations of air and water pollution requirements by

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119. *See* discussion *infra* Section II.A.3 and 4.

120. Clean Air Amendments of 1970, Pub. L. No. 91-604, § 5, 84 Stat. 1676, 1689-90 (originally codified as 42 U.S.C. § 1857f (Supp. IV 1970)) (amended 1977).

121. S. REP. NO. 91-1196, at 37 (1970), *reprinted in* 1 S. COMM. ON PUBLIC WORKS, 93D CONG., A LEGISLATIVE HISTORY OF THE CLEAN AIR AMENDMENTS OF 1970, at 397, 437 (1974).

122. Water Pollution Control Act Amendments of 1972, Pub. L. No. 92-500, § 2, 86 Stat. 816, 875 (originally codified at 33 U.S.C. § 1323 (1972)) (amended 1977).

123. 33 U.S.C. § 1323 (Westlaw 2007).

Federal facilities and activities. Lack of Federal leadership has been detrimental to the water pollution control effort. The Federal Government cannot expect private industry to abate pollution if the Federal Government continues to pollute. This section requires that Federal facilities meet all control requirements as if they were private citizens.[124]

Similarly, in enacting the Safe Drinking Water Act in 1974, Congress included a partial waiver of federal sovereign immunity in section 1447. It provided that each federal agency "shall comply with all national primary drinking water regulations," and "with any applicable underground injection control program."[125]

3. *Judicial interpretation of waivers of federal sovereign immunity.*

The express waivers of federal sovereign immunity in the 1970 Clean Air Act, the 1972 Clean Water Act, and the 1974 Safe Drinking Water Act did not put the immunity problem to rest, however. The Supreme Court has construed waivers of federal sovereign immunity extremely narrowly in its decisions over the past twenty-five years. The Court has proclaimed that such waivers must be "unequivocal,"[126] that they must be "construed strictly in favor of the sovereign,"[127] and that they must "not [be] enlarged beyond what the language requires."[128] Further, the legislative history of a statute cannot supply a waiver of sovereign immunity that does not appear clearly in the statutory text.[129] Applying these principles, the Court has gone to great lengths, almost in direct defiance of Congress, to avoid finding that federal sovereign

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124. S. REP. NO. 92-414 at 67 (1972), *reprinted in* 1972 U.S.C.C.A.N. 3668, 3733-34, *and in* 2 S. COMM. ON PUBLIC WORKS, 93D CONG., A LEGISLATIVE HISTORY OF THE WATER POLLUTION CONTROL ACT AMENDMENTS OF 1972, at 1415, 1485, (1973) [hereinafter A LEGISLATIVE HISTORY OF THE CLEAN WATER ACT OF 1972]; *see also* H.R. REP. NO. 92-911 at 118-19 (1972) ("The Committee, after hearing of numerous examples of flagrant violation of pollution controls[,] is determined that the Federal facilities shall be a model for the Nation and that . . . they shall be required to meet all requirements as if they were private citizens."), *reprinted in* 1 A LEGISLATIVE HISTORY OF THE CLEAN WATER ACT OF 1972, *supra* at 753, 805-06.

125. Safe Drinking Water Act of 1974, Pub. L. No. 93-523, § 2, 88 Stat. 1660, 1688.

126. U.S. Dep't of Energy v. Ohio, 503 U.S. 607, 615 (1992); *Nordic Vill.*, 503 U.S. at 33; Irwin v. U.S. Dep't of Veterans Affairs, 498 U.S. 89, 95 (1990).

127. Lane v. Peña, 518 U.S. 187, 192 (1996); *Ohio*, 503 U.S. at 615; *Nordic Vill.*, 503 U.S. at 34; Ruckelshaus v. Sierra Club, 463 U.S. 680, 685 (1983).

128. *Ohio*, 503 U.S. at 615; *Nordic Vill.*, 503 U.S. at 34; Library of Congress v. Shaw, 478 U.S. 310, 318-19 (1986); *Ruckelshaus*, 463 U.S. at 685.

129. *Lane*, 518 U.S. at 192; *Nordic Vill.*, 503 U.S. at 37.

immunity had been waived in environmental laws.

In two cases decided in 1976, the Court gave an early indication of its resistance to applying federal environmental laws to agencies of the United States government, notwithstanding the express waivers of federal sovereign immunity. At issue were the waivers in the Clean Air Act and the Clean Water Act, described in the previous section.[130]

In the first case, *Hancock v. Train*,[131] the issue before the Court was whether an operating permit issued by a state agency to control air pollution was a "State requirement" within the meaning of the immunity waiver in the Clean Air Act. As mandated by the Clean Air Act, the Commonwealth of Kentucky had developed a State Implementation Plan for achieving federal air quality standards, and EPA approved the plan.[132] The Kentucky plan was based on a permitting program,[133] much like that of nearly every other state.[134] In 1972, a Kentucky official wrote to several federal facilities, including the Paducah Gaseous Diffusion Plant and several Army bases, requesting that they obtain operating permits as required by the implementation plan.[135] The federal agencies responded that these facilities were not required to obtain such permits.[136] EPA supported their position.[137] Kentucky brought suit against the federal agencies, and the case ultimately reached the Supreme Court. Despite the waiver language mandating compliance with "State requirements," and despite the fact that nearly every state implemented its pollution control requirements using a permitting system, the Court concluded that it was unable to find any "clear and unambiguous declaration by the Congress that Federal installations may not perform their activities unless a state official issues a permit."[138] Looking to the legislative history of the 1970 Act, the Court found that the term "requirements" applied only to "emission standards and compliance schedules," not to every measure in a state implementation plan.[139] The Court

130. *See supra* Section II.A.2.
131. 426 U.S. 167 (1976).
132. *Id.* at 172.
133. *Id.* at 172-73.
134. *Id.* at 184-85.
135. *Id.* at 174.
136. *Id.*
137. *Id.* at 175.
138. *Id.* at 180.
139. *Id.* at 189.

concluded by noting "the undoubted congressional awareness of the requirement of clear language to bind the United States," and held that if Congress had intended to subject federal installations to state permit requirements, "the Clean Air Act does not satisfy the traditional requirement that such intention be evinced with satisfactory clarity."[140]

In the second case, *EPA v. California ex rel. State Water Resources Control Board*,[141] the Court decided the analogous issue whether a permit issued under a state program to implement the Clean Water Act was a "State requirement respecting abatement of pollution" within the meaning of the Act's immunity waiver. The State of California had enacted a permitting program to administer the Clean Water Act, and requested EPA approval of the program.[142] EPA approved the California program, but with a caveat: the state program would apply to "all discharges in the State of California other than those from agencies and instrumentalities of the Federal government," while the federal program would apply to discharges from such federal facilities.[143] California appealed EPA's decision, and the case went to the Supreme Court. The Court found that *Hancock* was controlling precedent; although the Clean Water Act differed in significant respects from the Clean Air Act, those differences "hardly require a conclusion contrary to Hancock v. Train."[144] As in that case, the Court held that the term "requirement" refers "simply and solely to substantive standards, to effluent limitations and standards and schedules of compliance."[145] The Court concluded that the Clean Water Act provisions "do not subject federal facilities to state . . . permit requirements with the requisite degree of clarity."[146]

In both these cases, the Court invited Congress to amend the statute if it intended to bind federal facilities to state permitting requirements.[147] Congress accepted the invitation. In 1977, Congress amended the sovereign immunity waivers in both the

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140. *Id.* at 198 (footnote omitted).

141. 426 U.S. 200 (1976).

142. *Id.* at 209.

143. *Id.*

144. *Id.* at 214-15.

145. *Id.* at 215 (quotation omitted).

146. *Id.* at 227.

147. Hancock v. Train, 426 U.S. 167, 198 (1976) (stating that Congress "need only amend the Act to make its intention manifest"); *Cal. Water Res. Bd.*, 426 U.S. at 228 (stating that Congress "may legislate to make that intention manifest").

Clean Air Act and the Clean Water Act to require federal facilities to obtain such permits. Congress amended section 118(a) of the Clean Air Act to provide that the federal government "shall be subject to, and comply with, all Federal, State, interstate, and local requirements, administrative authority, and process and sanctions respecting the control and abatement of air pollution in the same manner, and to the same extent as any nongovernmental entity."[148] In similar fashion, Congress amended section 313(a) of the Clean Water Act to provide that the federal government "shall be subject to, and comply with, all Federal, State, interstate, and local requirements, administrative authority, and process and sanctions respecting the control and abatement of water pollution in the same manner, and to the same extent as any nongovernmental entity."[149] In amending the Clean Water Act, Congress made the following comment:

> The act has been amended to indicate unequivocally that all Federal facilities and activities are subject to all of the provisions of State and local pollution laws. Though this was the intent of Congress in passing the 1972 Federal Water Pollution Control Act Amendments, the Supreme Court, encouraged by Federal agencies, has misconstrued the original intent.[150]

Likewise, when it adopted RCRA in 1976, Congress expressly provided in section 6001 that each department agency and instrumentality of the federal government "shall be subject to, and comply with, all Federal, State, interstate and local requirements, both substantive and procedural (including any requirements for permits . . .) respecting control or abatement of solid waste or hazardous waste disposal in the same manner, and to the same extent, as any [other] person."[151]

Nevertheless, several years later, when the Court had the opportunity to interpret these more recent waivers of federal sovereign immunity, the Court again declined to apply the waivers

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148. Clean Air Act Amendments of 1977, Pub. L. No. 95-95, § 116, 91 Stat. 685, 711.

149. Clean Water Act of 1977, Pub. L. No. 95-217, § 61, 91 Stat. 1566, 1598.

150. S. REP. NO. 95-370 at 67 (1977), *reprinted in* 1977 U.S.C.C.A.N. 4326, 4392, *and in* 4 S. COMM. ON ENV'T & PUBLIC WORKS, 95TH CONG., A LEGISLATIVE HISTORY OF THE CLEAN WATER ACT OF 1977, at 632, 700 (1978).

151. Resource Conservation and Recovery Act of 1976 [hereinafter RCRA], § 2, Pub. L. No. 94-580, 90 Stat. 2795, 2821 (originally codified at 42 U.S.C. § 6961 (1977)) (amended 1992).

to hold the government liable. In *Department of Energy v. Ohio*, the State of Ohio sought civil penalties in a citizen suit against DOE for violations of the Clean Water Act and RCRA at the Fernald facility.[152] Under the provisions of the Clean Water Act and RCRA, violators were potentially liable for civil penalties of up to $25,000 per day of violation. It was undisputed, moreover, that in operating the Fernald plant, DOE had committed at least some of the violations that Ohio alleged.[153] Nevertheless, the Court held that neither the express waivers of federal sovereign immunity in the Clean Water Act and in RCRA (at that time), nor the citizen suit provisions in the Clean Water Act and RCRA, subjected the federal government to civil penalties for past violations of these statutes.[154]

With Justice David Souter writing for the majority, the Court first addressed the express waivers of federal sovereign immunity. The Court acknowledged that the sovereign immunity waiver provisions in both the Clean Water Act[155] and RCRA[156] applied to immunity from "sanctions." Ohio had reasonably asserted that the term "sanctions" includes civil penalties for past violations.[157] Not so, according to the Court. Rather, the term "sanctions" includes only "coercive fines," not "punitive fines."[158] Coercive fines, the Court explained, are forward-looking, designed to compel compliance with the law, whereas punitive fines are backward-looking, designed to punish past violations of the law.[159] By using the term "sanctions," Congress had waived federal sovereign

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152. 503 U.S. 607 (1992).

153. *Id.* at 613 n.3.

154. Prior to the Supreme Court decision in *Ohio*, several lower courts had ruled on the issue, with differing results. Ohio v. U.S. Dep't of Energy, 904 F.2d 1058 (6th Cir. 1990) (stating that both RCRA and the Clean Water Act waived federal sovereign immunity for civil penalties), *rev'd*, 503 U.S. 607 (1992); United States v. Washington, 872 F.2d 874 (9th Cir. 1989) (stating that RCRA did not waive federal sovereign immunity for civil penalties); Maine v. U.S. Dep't of the Navy, 702 F. Supp. 322 (D. Me. 1988) (stating that RCRA waived federal sovereign immunity for civil penalties), *rev'd and vacated*, 973 F.2d 1007 (1st Cir. 1992); McClellan Ecological Seepage Situation v. Weinberger, 707 F. Supp. 1182, 1198-99 (E.D. Cal. 1988) (stating that Clean Water Act did not waive federal sovereign immunity for civil penalties), *vacated on other grounds sub nom.* McClellan Ecological Seepage Situation v. Perry, 47 F.3d 325 (9th Cir. 1995).

155. Clean Water Act § 313(a), 33 U.S.C. § 1323(a) (Westlaw 2007), set forth *infra* note 187.

156. RCRA § 6001(a), 42 U.S.C. § 6961(a) (1990), *amended by* 42 U.S.C. § 6961(a) (Westlaw 2007).

157. *Ohio*, 503 U.S. at 620.

158. *Id.* at 620-623, 627-28.

159. *Id.*

immunity only for coercive fines. Thus, the Court concluded that Congress had not waived the immunity of DOE from liability for civil penalties for its past violations of either RCRA or the Clean Water Act. In reaching this conclusion, the Court was not deterred by the reference to "civil penalties arising under federal law" in the waiver provision of the Clean Water Act. While the Court conceded that the reference "suggests that the civil penalties arising under federal law may indeed include the punitive along with the coercive,"[160] the Court ultimately attributed the reference to a drafter's mistake.[161]

The *Ohio* Court went on to hold that the citizen suit provisions of the Clean Water Act and RCRA, under which Ohio had brought the action, did not waive federal sovereign immunity for civil penalties. The citizen suit provision of the Clean Water Act, in section 505(a), allows any citizen to commence a civil action "against any person (including the United States . . .)" who is alleged to be in violation of an effluent standard or limitation under the Act or in violation of an order issued by EPA or a State respecting such a standard or limitation.[162] It further provides that the district courts have jurisdiction "to apply any appropriate civil penalties" under section 309(d)[163] for the violation. The citizen suit provision of RCRA, in section 7002(a)(1)(A), likewise allows any person to commence a civil action "against any person (including . . . the United States) . . . who is alleged to be in violation of any permit, standard, regulation, condition, requirement, prohibition, or order which has become effective pursuant to" RCRA.[164] It also provides that the district courts have jurisdiction "to apply any

160. *Id.* at 624.

161. *Id.* at 623-27. The Court admitted that the reference "leaves us with an unanswered question and an unresolved tension between closely related statutory provisions." *Id.* at 626. The Court wondered "what Congress could have meant in using a seemingly expansive phrase like 'civil penalties arising under federal law.'" *Id.* In a remarkable passage, the Court finally surmised: "Perhaps it used it just in case some later amendment might waive the government's immunity from punitive sanctions. Perhaps a drafter mistakenly thought that liability for such sanctions had somehow been waived already. Perhaps someone was careless. The question has no satisfactory answer." *Id.* at 626-27.

162. 33 U.S.C. § 1365(a) (Westlaw 2007).

163. 33 U.S.C. § 1319(d) (Westlaw 2007). This section provides that any person who violates the Act, or any permit, requirement, or order under the Act, is liable for a civil penalty not to exceed $25,000 per day for each violation.

164. 42 U.S.C. § 6972(a)(1)(A) (Westlaw 2007).

appropriate civil penalties" under section 3008(a) and (g)[165] for the violation.

Ohio argued that these citizen suit provisions effectively waived federal sovereign immunity for civil penalties in such suits.[166] Again, the Court found otherwise. The Court began by noting that the general definition of "person" in both the Clean Water Act, and in RCRA (at the time) did not include the United States.[167] It also noted that elsewhere in the statutes, the term "person" is redefined in various ways "for the purpose of this section."[168] The Court then made a distinction between "drafting that merely redefines 'person' when it occurs within a particular clause or sentence, and drafting that expressly alters the definition for any and all purposes of the entire section in which the special definition occurs."[169] Because the citizen suit provisions in each of these laws does not use the words "for the purpose of this section" in redefining "person" to include the United States, the Court deduced that the redefinition applies only to the particular clause in which it occurs. The citizen suit provisions in RCRA and the Clean Water Act redefine "person" to include the United States only for the purpose of the clause subjecting "any person" to suit, but not to the separate clause subjecting the defendant to civil penalties in such a suit.[170]

Justice White, joined by Justices Blackmun and Stevens, dissented. He accused the majority of "adopting 'an unduly restrictive interpretation' of both statutes and writing the waivers out of existence."[171] The decision, he charged, "resort[s] to ingenuity to create ambiguity that simply does not exist in the statute."[172] It "ignores the unequivocally expressed intention of Congress, . . . and deprives the States of a powerful weapon in combating federal agencies that persist in despoiling the

165. 42 U.S.C. § 6928(a) and (g) (Westlaw 2007). These subsections provide that any person who violates any requirement of RCRA shall be liable for a civil penalty in an amount not to exceed $25,000 for each day of each such violation, and that EPA may assess such a civil penalty in an administrative order.

166. *Ohio*, 503 U.S. at 616-17.

167. *Id.* at 617.

168. *Id.* at 618-19.

169. *Id.*

170. *Id.* at 619.

171. *Id.* at 630 (White, J., dissenting) (internal quotations omitted).

172. *Id.* at 633 (internal quotations omitted).

environment."[173] Many commentators joined Justice White in criticizing the decision.[174]

Congress responded to the *Ohio* decision[175] by enacting the Federal Facility Compliance Act of 1992.[176] The Federal Facility Compliance Act amended RCRA in several ways, but most importantly, it clearly subjected the federal government to civil penalties for past violations of the law. It expanded the express waiver of federal sovereign immunity in section 6001 of RCRA[177] to cover "all civil and administrative penalties and fines, regardless of whether such penalties or fines are punitive or coercive in nature."[178] It also amended the definition of "person" in RCRA to include "each department, agency, and instrumentality of the United States."[179] In enacting these provisions, Congress stated its

173. *Id.* at 630 (citations omitted).

174. *See, e.g.*, Randall S. Abate & Carolyn H. Cogswell, *Sovereign Immunity and Citizen Enforcement of Federal Environmental Laws: A Proposal for a New Synthesis*, 15 VA. ENVTL. L.J. 1, 14 (1995) (Because the Court did not follow the rules of statutory interpretation or the legislative history of the statutes, "[t]he Court's reasoning in *Ohio* is faulty"; and "by eliminating the specter of civil penalties, the Court undermined citizen efforts to oversee federal agency conduct."); Daniel Horne, *Federal Facility Environmental Compliance After* United States Department of Energy v. Ohio, 65 U. COLO. L. REV. 631, 635 (1994) (The *Ohio* Court applied "an unduly restrictive interpretation" and "subverted congressional policies of four" environmental statutory provisions.); Gregory J. May, United States Department of Energy v. Ohio *and the Federal Facility Compliance Act of 1992: The Supreme Court Forces a Hazardous Compromise in CWA and RCRA Enforcement Against Federal Agencies*, 4 VILL. ENVTL. L.J. 363, 377-78 (1993) (The *Ohio* Court's "refined and, perhaps, hair-splitting statutory analysis avoided any plain meaning that the [Clean Water Act] and RCRA provisions may have held," and the decision "may have subverted Congress' intent."); Nagle, *supra* note 111, at 776 ("[T]he justification for a clear statement rule must be clear; in sovereign immunity cases [such as *Ohio*], it is not."); K.C. Schefski, Shelby Perkins & James D. Werner, *Sovereign Immunity and the National Nuclear Security Administration: A King That Can Do No Wrong?*, 31 Envtl. L. Rep. (Envtl. Law Inst.) 10,111, 10,112 (2001) ("[T]he [*Ohio*] Court stripped the states of an important tool of enforcement.").

175. The *Ohio* decision is a prominent example of Justice Steven's admonition, in the *Nordic Village* case, that the "Court's stubborn insistence on 'clear statements' burdens the Congress with unnecessary reenactment of provisions that were already plain enough when read literally." 503 U.S. at 45 (Stevens, J., dissenting). *See also Lane v. Peña*, 518 U.S. 187, 212 (1996) (Stevens, J., dissenting) ("When judge-made rules require Congress to use its valuable time enacting and reenacting provisions whose original intent was clear to all but the most skeptical and hostile reader, those rules should be discarded.").

176. Pub. L. No. 102-386, 106 Stat. 1505 (1992).

177. Section 6001(a) of RCRA as amended by the Federal Facility Compliance Act is set forth in relevant part *infra* note 190.

178. Pub. L. No. 102-386, § 102, 106 Stat. 1505, 1505 (1992), *codified at* 42 U.S.C. § 6961(a) (Westlaw 2007).

179. Pub. L. No. 102-386, § 103, 106 Stat. 1505, 1507 (1992), *codified at* 42 U.S.C. § 6903(15) (Westlaw 2007).

purpose to "reaffirm the original intent of Congress that each department, agency, and instrumentality of the United States be subject to all of the provisions of federal, state, interstate, and local solid waste and hazardous waste laws and regulations."[180] Congress further stated that "this amendment overrules the Supreme Court holding in *U.S. Department of Energy v. Ohio*."[181] Congress made similar amendments to the Safe Drinking Water Act in 1996.[182] Legislation has been introduced in Congress that would likewise amend the Clean Water Act[183] and CERCLA[184] to provide a clearer waiver of federal sovereign immunity. Congress has not yet acted on this legislation, however.

4. *Current statutory waivers of federal sovereign immunity.*

Given Congress' enactment and reenactments of waivers of federal sovereign immunity, each of these environmental statutes now expressly provides that most of its requirements—in some cases, perhaps, all of them—apply to the federal government. Further, each of these statutes provides that the analogous requirements of state law also apply to the federal government. However, it has taken Congress many reenactments, over many years, to design waivers that are close to comprehensive. And despite these reenactments, some significant gaps in the waivers still remain.

Section 118(a) of the Clean Air Act, as last amended in 1977, includes a fairly comprehensive waiver of federal sovereign immunity. It provides that "[e]ach department, agency, and instrumentality of the . . . Federal Government . . . shall be subject to, and comply with, all Federal, State, interstate, and local requirements, administrative authority, and process and sanctions regarding the control and abatement of air pollution in the same manner, and to the same extent as any nongovernmental entity." The provision applies to "any requirement whether substantive or

180. H.R. REP. NO. 102-886, at 18 (1992) (Conf. Rep.), *reprinted in* 1992 U.S.C.C.A.N. 1317, 1318.

181. *Id.*

182. Pub. L. No. 104-182, § 129, 110 Stat. 1613, 1660 (1996).

183. Federal Facilities Clean Water Compliance Act of 1998, S. 1923, 105th Cong. §§ 2, 3; Clean Water Act Amendments of 1995, H.R. 961, 104th Cong. § 306(a), (e) (1995).

184. Superfund Cleanup Acceleration Act of 1997, S. 8, 105th Cong. § 603; *see also* S. COMM. ON ENV'T & PUBLIC WORKS, 105TH CONG., SUPERFUND CLEANUP ACCELERATION ACT OF 1998, S. Rep. No. 105-192, at 77-78 (1998).

procedural," including "any recordkeeping or reporting requirement, any requirement respecting permits and any other requirement whatsoever." It applies "notwithstanding any immunity of such agencies . . . under any law or rule of law."[185] However, because the Clean Air Act has not been amended since 1990, Congress has not amended the waiver to address the *Ohio* decision. Thus, it arguably does not waive federal sovereign immunity for civil penalties for past violations.[186]

Section 313(a) of the Clean Water Act, as amended in 1977, has a nearly identical waiver of federal sovereign immunity. It provides that "[e]ach department, agency, or instrumentality of the . . . Federal Government . . . shall be subject to, and comply with, all Federal, State, interstate, and local requirements, administrative authority, and process and sanctions" for "the control and abatement of water pollution in the same manner, and to the same extent as any nongovernmental entity." The provision applies to "any requirement whether substantive or procedural," including "any recordkeeping or reporting requirement, any requirement respecting permits and any other requirement, whatsoever." It applies "notwithstanding any immunity of such agencies . . . under any law or rule of law."[187] Yet under the *Ohio* decision, the waiver does not apply to civil penalties for past violations.[188]

Section 1447(a) of the Safe Drinking Water Act, amended in 1996 after the *Ohio* decision, includes a more comprehensive waiver of federal government immunity. It provides that "[e]ach department, agency, and instrumentality of the . . . Federal Government . . . shall be subject to, and comply with, all Federal, State, interstate, and local requirements, both substantive and procedural," for "the protection of . . . wellhead areas," for "public water systems," and for "underground injection in the same manner and to the same extent as" any other person. The provision applies to "any requirement for permits or reporting or any provisions for injunctive relief and such sanctions as may be imposed by a court to enforce such relief." Significantly, it applies to "all administrative orders." It also applies to "all civil and administrative penalties and fines, regardless of whether such

185. 42 U.S.C. § 7418(a) (Westlaw 2007).

186. *See* cases cited *infra* note 193.

187. 33 U.S.C. § 1323(a) (Westlaw 2007).

188. *See supra* text accompanying notes 152-161.

penalties or fines are punitive or coercive in nature or are imposed for isolated, intermittent, or continuing violations." It further declares that "[t]he United States hereby expressly waives any immunity otherwise applicable to the United States with respect to any such substantive or procedural requirement."[189]

Section 6001(a) of RCRA, as amended in 1992 after the *Ohio* decision, also contains a more comprehensive waiver of federal sovereign immunity. It provides that "[e]ach department, agency, and instrumentality of the . . . Federal Government . . . shall be subject to, and comply with, all Federal, State, interstate, and local requirements, both substantive and procedural," for "control and abatement of solid waste or hazardous waste disposal and management in the same manner, and to the same extent, as" any other person. Again, the provision applies to "any requirement for permits or reporting or any provisions for injunctive relief and such sanctions as may be imposed by a court to enforce such relief." It applies to "all administrative orders." It also applies to "all civil and administrative penalties and fines, regardless of whether such penalties or fines are punitive or coercive in nature or are imposed for isolated, intermittent, or continuing violations." Once again, the statute affirms that "[t]he United States hereby expressly waives any immunity otherwise applicable to the United States with respect to any such substantive or procedural requirement." Furthermore, section 6001(b)(1) provides that EPA may "commence an administrative enforcement action against any department, agency, or instrumentality of the . . . Federal government pursuant to the enforcement authorities contained in this chapter."[190]

Finally, section 120(a)(1) of CERCLA waives the sovereign immunity of the federal government, although in somewhat more restrained terms. It provides that "[e]ach department, agency, and instrumentality of the United States . . . shall be subject to, and comply with" CERCLA "in the same manner and to the same extent, both procedurally and substantively, as any nongovernmental entity, including liability" under section 107 of CERCLA.[191] As to analogous state laws, however, the CERCLA waiver is only partial. Section 120(a)(4) provides that "State laws

189. 42 U.S.C. § 300j-6(a) (Westlaw 2007).
190. 42 U.S.C. § 6961 (Westlaw 2007).
191. 42 U.S.C. § 9620(a)(1) (Westlaw 2007).

concerning removal and remedial action, including State laws regarding enforcement, shall apply to removal and remedial actions at facilities owned or operated by a department, agency, or instrumentality of the United States"; it applies, however, only to federal facilities that "are not included on the National Priorities List."[192]

Despite the breadth of these waivers of federal sovereign immunity, they contain some significant gaps. Following the *Ohio* decision, the lower courts have continued to apply the waivers of sovereign immunity in federal environmental laws narrowly, urged on by federal government lawyers. For example, one federal court of appeals has ruled that the Clean Air Act does not waive the federal government's sovereign immunity for penalties for past violations, citing *Ohio*.[193] Another court of appeals reached a similar conclusion under CERCLA.[194] Furthermore, although CERCLA generally imposes liability on any person who is the current or former owner or operator of a facility at which hazardous substances have been disposed,[195] several courts found the federal government's liability to be less extensive. These courts held that the CERCLA waiver of federal sovereign immunity from state cleanup laws applies only to liability based on current ownership or operation of a facility, not on past ownership or operation.[196] Additionally, based on Supreme Court decisions, the federal government has taken the position that its sovereign immunity from liability for interest on unpaid penalties has not been waived.[197]

Thus, despite the repeated efforts of Congress to waive the sovereign immunity of the federal government as it applies to

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192. 42 U.S.C. § 9620(a)(4) (Westlaw 2007).

193. City of Jacksonville v. U.S. Dep't of the Navy, 348 F.3d 1307 (11th Cir. 2003); *accord* United States v. Ga. Dep't of Natural Resources, 897 F. Supp. 1464, 1470-71 (N.D. Ga. 1995). *Contra* United States v. Tenn. Air Pollution Control Bd., 185 F.3d 529, 534-35 (6th Cir. 1999).

194. Maine v. U.S. Dep't of the Navy, 973 F.2d 1007, 1010 (1st Cir. 1992).

195. CERCLA § 107(a)(1), (2), 42 U.S.C. § 9607(a)(1), (2) (Westlaw 2007); *see also infra* text accompanying note 363.

196. Crowley Marine Servs., Inc. v. Fednav Ltd., 915 F. Supp. 218, 222 (E.D. Wash. 1995); Rospatch Jessco Corp. v. Chrysler Corp., 829 F. Supp. 224, 226-29 (W.D. Mich. 1993); Redland Soccer Club v. U.S. Dep't of the Army, 801 F. Supp. 1432, 1436-37 (M.D. Pa. 1992), *aff'd in part, rev'd in part on other grounds*, 55 F.3d 827 (3d Cir. 1995).

197. *See* Lt. Col. (ret.) Harry M. Hughes & Maj. Mitzi O. Weems, *Federal Sovereign Immunity Versus State Environmental Fines*, 58 A.F.L. REV. 207, 212 n.12 (2006) (citing Library of Congress v. Shaw, 478 U.S. 310 (1986)).

compliance with environmental laws, that doctrine has been, and to some extent remains, a stubborn problem and a source of litigation and delay. As Congressman Tom Udall observed not long ago, a major obstacle to the cleanup of federal facilities has been the "arcane, archaic, anachronistic doctrine of sovereign immunity."[198]

B. *The Unitary Executive*

The second major legal obstacle to compelling cleanup of federal facilities has been the unitary executive theory. This theory holds that the entire executive branch of the federal government is one legal entity. Thus, one executive agency or department of the federal government cannot sue another executive agency or department of the federal government. The basis for this theory is that any dispute within the executive branch can be resolved by the president.[199] Hence, there is no justiciable "case or controversy" amenable to resolution by the courts under Article III of the Constitution.[200]

Under the unitary executive theory, EPA cannot bring a judicial enforcement action against a sister federal agency such as DOD or DOE. This theory has been advocated by the United States Department of Justice since the 1980s. As explained by then Assistant Attorney General for Land and Natural Resources F. Henry Habicht II in 1987, the Department of Justice "has

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198. Thomas S. Udall, *Superfund: The Keynote Address at the 20th Annual Advanced American Law Institute-American Bar Association Course of Study on Hazardous Wastes, Superfund, and Toxic Substances*, 29 Envtl. L. Rep. (Envtl. Law Inst.) 10,143, 10,147 (1999).

199. Proponents of the unitary executive theory point to *United States v. Myers*, 272 U.S. 52, 135 (1926), in which the Court stated:

> The ordinary duties of officers prescribed by statute come under the general administrative control of the President by virtue of the general grant to him of the executive power, and he may properly supervise and guide their construction of the statutes under which they act in order to secure that unitary and uniform execution of the laws which article 2 of the Constitution evidently contemplated in vesting general executive power in the President alone.

200. Article III provides that "[t]he judicial Power shall extend to" enumerated "Cases" and "Controversies." U.S. CONST. art. III, § 2, cl. 1. According to the Supreme Court, this clause limits the exercise of the judicial power "to questions presented in an adversary context and in a form historically viewed as capable of resolution through the judicial process." Flast v. Cohen, 392 U.S. 83, 95 (1968). The clause further limits the judiciary from "intrud[ing] into areas committed to the other branches of government." *Id.*

consistently taken the position that under our constitutional scheme, disputes of a legal nature between two or more executive branch agencies whose heads serve at the pleasure of the President are properly resolved by the President or by someone with authority delegated by the President."[201] Two years later, Assistant Attorney General Donald A. Carr repeated this statement, adding that allowing EPA to bring a legal action against another federal agency "would be unconstitutional."[202] In litigation, the Justice Department has likewise argued that EPA has no authority to bring an action against another executive agency.[203] More recently, the Justice Department has conceded that EPA may assess civil penalties against other federal agencies in administrative proceedings outside the jurisdiction of the federal courts.[204]

In its environmental practice, the Justice Department has followed the unitary executive theory without exception. The Justice Department, through its Environmental Enforcement Section, invariably represents "the United States of America" on behalf of EPA as the plaintiff in judicial actions to compel environmental cleanup.[205] The Justice Department, through its Environmental Defense Section, also invariably represents "the United States of America" on behalf of DOD, DOE, or any other federal agency as the defendant in judicial actions for environmental claims. Occasionally, the United States on behalf of EPA files a lawsuit against a private party, and the defendant files a

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201. *Environmental Compliance by Federal Agencies: Hearings Before the Subcomm. on Oversight and Investigations of the House Comm. on Energy and Commerce*, 100th Cong. 206 (1987) (statement of F. Henry Habicht II, Assistant Att'y Gen. for Land and Natural Resources).

202. *Environmental Compliance by Federal Agencies: Hearings Before the Subcomm. on Transportation and Hazardous Materials of the House Comm. on Energy and Commerce*, 101st Cong. 117 (1989) (statement of Donald A. Carr, Acting Assistant Att'y Gen. for Land and Natural Resources).

203. *E.g.*, Maine v. U.S. Dep't of the Navy, 702 F. Supp. 322, 338 n.8 (D. Me. 1988) (Appendix: Magistrate's Recommended Decision) (noting that counsel for the United States argued that EPA had no authority to bring an action against the Navy).

204. Memorandum from Dawn E. Johnson, Acting Assistant Att'y Gen., Office of Legal Counsel, U.S. Dep't of Justice, to Jonathan Z. Cannon, General Counsel, EPA, and Judith A. Miller, Gen. Counsel, Dep't of Def. (July 16, 1997) (on file with the author).

205. EPA retains the authority to bring an enforcement action on its own behalf, independent of Justice Department representation. *See* Memorandum of Understanding Between the Department of Justice and the Environmental Protection Agency, Civil Litigation, § 9, 42 Fed. Reg. 48,942, 48,943 (1977). EPA has never exercised that power, however. Neal Devins & Michael Herz, *The Battle that Never Was: Congress, the White House, and Agency Litigation Authority*, 61 LAW & CONTEMP. PROBS. 205, 213 n.34 (1998).

counterclaim against the United States naming DOD or DOE. In this situation, attorneys from both the Environmental Enforcement Section and the Environmental Defense Section represent the United States in the same proceeding. Although they might be perceived as representing disparate interests and being on opposite sides of the lawsuit, these attorneys invariably work together.[206] Indeed, under the Department of Justice organization, the environmental enforcement attorneys and the environmental defense attorneys all work within the same division, the Environment and Natural Resources Division,[207] and report to the same person, the Assistant Attorney General for Environment and Natural Resources. Thus, in environmental litigation, the Justice Department forms the nucleus of the unitary executive.

Surprisingly perhaps, there is some question whether the unitary executive theory as advocated by the Justice Department is correct as a matter of constitutional law. One commenter, himself a former Assistant Chief of the Justice Department's Environmental Defense Section, has made an intriguing argument that a judicial action styled *EPA v. DOD* would not offend constitutional principles.[208] He points out that the Supreme Court has in the past entertained similar lawsuits within the executive branch.[209] The courts will hear such a case, he maintains, if the

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206. In one such action, involving cleanup of the Rocky Mountain Arsenal, the court noted the incongruity of this situation:

> The Army . . . seeks full and unbridled discretion, subject only to E.P.A.'s input through the same attorneys who represent the Army, to regulate the Basin F cleanup, a process that has been ongoing for more than five years and is still nowhere near completion or resolution.

Colorado v. U.S. Dep't of the Army, 707 F. Supp. 1562, 1570 (D. Colo. 1989).

207. On Earth Day, April 22, 1990, the name of the Division was changed from the Land and Natural Resources Division to the Environment and Natural Resources Division. *See* 2 THE DEPARTMENT OF JUSTICE MANUAL (2D ED.) tit. 5, at 383 (2004 Supp.).

208. Michael W. Steinberg, *Can EPA Sue Other Federal Agencies?*, 17 ECOLOGY L.Q. 317, 325-31 (1990); *see also* Michael Herz, *United States v. United States: When Can the Federal Government Sue Itself?*, 32 WM. & MARY L. REV. 893 (1991).

209. Steinberg, *supra* note 208, at 331-37. *See* United States v. Nixon, 418 U.S. 683 (1974); United States v. Interstate Commerce Comm'n, 337 U.S. 426 (1949). Most notably, in *United States v. Nixon*, the Supreme Court held that the United States, represented by the Special Prosecutor, an employee of the Department of Justice, could bring a lawsuit against a sitting president, President Richard M. Nixon. In arguing the case, President Nixon's lawyers had maintained that the action was a nonjusticiable intra-branch dispute. *See* UNITED STATES V. NIXON: THE PRESIDENT BEFORE THE SUPREME COURT 347-50 (Leon Friedman, ed., 1974) (setting forth the Brief for the Respondent, Cross-Petitioner Richard

dispute meets two criteria. First, it must be "justiciable" in that it is the sort of dispute over which courts have traditionally exercised jurisdiction. Second, the dispute must be a truly adversarial one.[210] The commenter concludes that a lawsuit by EPA against DOD to enforce environmental laws would meet both these criteria.[211]

Regardless whether the Justice Department view is the constitutionally correct one, it is unlikely ever to be tested. The Attorney General, by statute, controls federal government litigation,[212] and the Justice Department would not be expected to condone litigation that it views as unconstitutional. Indeed, in the thirty-seven years that EPA has been in existence it has never initiated a judicial action against any other federal agency.

Thus, at least as a practical matter, EPA, the federal agency empowered to administer and enforce federal environmental laws, has been seriously handicapped in enforcing those laws against some of the biggest offenders of those laws, federal facilities. According to former Colorado Attorney General Gale Norton, "EPA has been shown to be a toothless tiger at federal facilities."[213]

C. *The Atomic Energy Act as a Shield*

The third major legal obstacle to the cleanup of federal facilities has been the preemptive effect—both real and

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M. Nixon, President of the United States, before the Supreme Court). The Court was not persuaded, however. Noting the "unique authority and tenure" delegated to the Special Prosecutor, the Court held that "the fact that both parties are officers of the Executive Branch cannot be viewed as a barrier to justiciability." *Nixon*, 418 U.S. at 694, 697.

210. Steinberg, *supra* note 208, at 337.

211. *Id.* at 352-53.

212. Federal law provides that "the conduct of litigation in which the United States, an agency, or officer thereof is a party, or is interested, and securing evidence therefore, is reserved to officers of the Department of Justice, under the direction of the Attorney General." 28 U.S.C. § 516 (Westlaw 2007).

213. *Superfund Reauthorization Hearings*, *supra* note 5, at 247 (statement of Colorado Att'y Gen. Gale Norton). Former New Mexico Attorney General Tom Udall echoed her conclusion: "Where federal government agencies are the liable parties, EPA enforcement authority is at its weakest" because of the "unitary Executive theory." *Superfund Cleanup Acceleration Act: Hearing on S. 8 Before the Subcomm. on Superfund, Waste Control, and Risk Assessment of the S. Comm. on Environment and Public Works*, 105th Cong. 428, 451 (1997) (statement of New Mexico Att'y Gen. Tom Udall). Former Washington Attorney General Christine Gregoire also concurred: "EPA has always had a very difficult time regulating sister Federal agencies; . . . enforcement actions have not been possible due to the 'Unitary Executive Theory.'" *Accelerated Cleanup and Environmental Restoration Act: Hearings Before the S. Comm. on Environment and Public Works*, 104th Cong. 695, 702 (1996) (statement of Washington Att'y Gen. Christine O. Gregoire).

—of the Atomic Energy Act of 1954 (AEA).[214] The federal government, primarily DOE, often raises the AEA as a shield against environmental regulation and cleanup requirements relating to radioactive materials. The AEA has served to deflect environmental cleanup requirements in two ways. First, two federal environmental statutes have for many years exempted certain radioactive materials—so-called source material, special nuclear material, and byproduct material—regulated under the AEA. In 1978 and again in 2005, Congress effectively expanded this exemption. Second, the federal government has argued that the AEA preempts EPA or state regulation of all radioactive materials, whether or not they are regulated under the AEA.

1. *The atomic energy act.*

Congress initially passed the AEA in 1946,[215] ostensibly to develop peaceful uses of atomic energy.[216] The AEA created the Atomic Energy Commission (AEC), and gave it considerable power to implement the law. Under the 1946 AEA, the federal government—through the AEC—was given a monopoly over nuclear technology and nuclear materials,[217] with little congressional oversight.[218] The AEC was charged with management of the federal nuclear weapons complex, previously managed by DOD. The AEC was also tasked to promote peaceful uses of atomic energy. In 1954, Congress rewrote the AEA to allow private industry to develop atomic energy for commercial purposes, including nuclear power generation, under a program of federal regulation and licensing.[219] As amended, the AEA provided for the licensing of the construction, ownership, and operation of

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214. 42 U.S.C. §§ 2011 to 2297g-4 (Westlaw 2007).

215. Act of Aug. 1, 1946, ch. 724, 60 Stat. 755.

216. Congress stated its purpose "to direct the development of atomic energy in such a way as to improve the public welfare, increase the standard of living, strengthen free competition in private enterprise, and promote world peace." S. REP. NO. 79-1211 at 9 (1946), *reprinted in* 1946 U.S.C.C.A.N. 1327, 1327-28.

217. Pac. Gas & Elec. Co. v. Cal. State Energy Res. Conservation & Dev. Comm'n, 461 U.S. 190, 206 (1983).

218. Stewart Udall, former Congressman and Secretary of the Interior, writes that the AEA "creat[ed] a powerful clandestine agency authorized to function with little surveillance by the country's elected lawmakers," which "constituted an unprecedented act of abdication by the Congress of the United States." STEWART L. UDALL, THE MYTHS OF AUGUST: A PERSONAL EXPLORATION OF OUR TRAGIC COLD WAR AFFAIR WITH THE ATOM 174 (1994).

219. Pub. L. No. 83-703, 68 Stat. 919 (1954).

commercial nuclear power reactors.[220] It also provided for the licensing of the transfer, delivery, receipt, acquisition, possession, and use of nuclear materials.[221] In 1974, Congress again amended the AEA to separate the agency's licensing and regulatory functions from its nuclear weapons and energy development functions.[222] The law abolished the AEC.[223] It created the Energy Research and Development Administration (ERDA),[224] and gave ERDA both an expanded role to develop sources of energy,[225] and the responsibility to manage the nuclear weapons complex.[226] The law also created a new Nuclear Regulatory Commission (NRC) to license and regulate commercial nuclear power.[227] In 1977, Congress transferred all of the functions of the ERDA into the newly created DOE.[228] Thus, the AEA as it has been amended establishes a dichotomy in federal jurisdiction over atomic energy: the NRC regulates commercial nuclear power, and DOE manages the nuclear weapons complex. The AEA allows DOE nearly complete discretionary authority over nuclear materials within the complex, including radioactive waste, with no external regulatory oversight.[229]

Although radioactive materials can be classified in several ways,[230] the AEA regulates three specific types of radioactive

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220. 42 U.S.C. § 2133(a) (Westlaw 2007).

221. 42 U.S.C. §§ 2061-2064, 2071-2078, 2091-2099, 2111-2114 (Westlaw 2007).

222. Energy Reorganization Act of 1974, Pub. L. No. 93-438, 88 Stat. 1233 (codified as amended at 42 U.S.C. §§ 5801 to 5891 (Westlaw 2007)).

223. Pub. L. No. 93-438, § 104(a), 88 Stat. 1233, 1237 (codified at 42 U.S.C. § 5814(a) (Westlaw 2007)).

224. Pub. L. No. 93-438, § 101, 88 Stat. 1233, 1234 (codified at 42 U.S.C. § 5811 (Westlaw 2007)).

225. Pub. L. No. 93-438, § 103, 88 Stat. 1233, 1235 (codified at 42 U.S.C. § 5813 (Westlaw 2007)).

226. Pub. L. No. 93-438, § 104(d), 88 Stat. 1233, 1237 (codified at 42 U.S.C. § 5814(d) (Westlaw 2007)).

227. Pub. L. No. 93-438, § 201(a)(1), 88 Stat. 1233, 1242 (codified at 42 U.S.C. § 5841(a)(1) (Westlaw 2007)).

228. Department of Energy Organization Act, Pub. L. No. 95-91, § 301(a), 91 Stat. 565, 577 (1977) (codified at 42 U.S.C. § 7151(a) (Westlaw 2007)); *see also* § 102(18), 91 Stat. 565, 567 (codified at 42 U.S.C. § 7112(18) (Westlaw 2007)) (stating the purpose of Congress to transfer the functions of ERDA "related to nuclear weapons" to DOE).

229. Andrew P. Caputo, *A Failed Experiment*, ENVTL. F., Jan./Feb. 1996, at 17, 17-18; David P. O'Very, *The Regulation of Radioactive Pollution*, *in* CONTROLLING THE ATOM IN THE 21ST CENTURY 281, 284 (David P. O'Very et al. eds., 1994).

230. *See generally* WILBURN L. CHESSER & JAMES O. PAYNE, JR., RADIOACTIVE MATERIALS, WASTE AND POLLUTION: A GUIDE FOR STATES AND A PROPOSAL FOR LEGISLATION 11-38 (1994).

materials: "source material," "special nuclear material," and "by-product material."[231] "Source material," in simple terms, is uranium, thorium, and ores of these elements. As these terms are currently defined, they cover virtually all forms of radioactive materials and radioactive waste, although that has not always been the case.

The first term, "source material," is defined in section 11(z) of the AEA as uranium, thorium, and ores containing significant quantities of these radioactive elements:

> The term "source material" means (1) uranium, thorium, or any other material which is determined by the Commission . . . to be source material; or (2) ores containing one or more of the foregoing materials in such concentrations as the Commission may by regulation determine from time to time.[232]

NRC regulations further refine the definition of "source material" to include "[u]ranium or thorium or any combination thereof, in any physical or chemical form," or "ores which contain by weight one-twentieth of one percent (0.05%) or more of: (i) Uranium, (ii) thorium or (iii) any combination thereof."[233]

"Special nuclear material" is plutonium or enriched uranium fuel. As defined in section 11(aa) of the AEA:

> The term "special nuclear material" means (1) plutonium, uranium enriched in the isotope 233 or in the isotope 235, and any other material which the Commission . . . determines to be special nuclear material, but does not include source material; or (2) any material artificially enriched by any of the foregoing, but does not include source material.[234]

NRC regulations contain a virtually identical definition of "special nuclear material."[235]

"Byproduct material" has become a catch-all term for an assortment of radioactive materials. It includes radioactive material generated in the production of plutonium or enriched uranium.

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231. United States v. Kentucky, 252 F.3d 816, 821 (6th Cir. 2001).
232. 42 U.S.C. § 2014(z) (Westlaw 2007).
233. 10 C.F.R. § 40.4 (Westlaw 2007).
234. 42 U.S.C. § 2014(aa) (Westlaw 2007).
235. 10 C.F.R. § 40.4 (Westlaw 2007).

Congress amended the definition in 1978 to include tailings and other wastes produced in the mining and milling of uranium or thorium ore.[236] Congress amended the definition again in the Energy Policy Act of 2005 to include radioactive material produced in a particle accelerator, radium-226, and naturally occurring radioactive material that the NRC determines poses a threat to the public health, safety, or security.[237] As defined in section 11(e) of the AEA:

> The term "byproduct material" means—
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> (1) any radioactive material (except special nuclear material) yielded in or made radioactive by exposure to the radiation incident to the process of producing or utilizing special nuclear material;
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> (2) the tailings or waste produced by the extraction or concentration of uranium or thorium from any ore processed primarily for its source material content;
>
> (3)(A) any discrete source of radium-226 that is produced, extracted, or converted after extraction, before, on, or after August 8, 2005, for use for a commercial, medical, or research activity; or
>
> (B) any material that—
>
> (i) has been made radioactive by use of a particle accelerator; and
>
> (ii) is produced, extracted, or converted after extraction, before, on, or after the date of enactment of this paragraph for use for a commercial, medical, or research activity; and
>
> (4) any discrete source of naturally occurring radioactive material, other than source material, that—
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> (A) the Commission, in consultation with the Administrator of the Environmental Protection Agency, the Secretary of Energy, the Secretary of Homeland Security, and the head of any other appropriate Federal agency, determines would pose a threat similar to the threat posed by a discrete source of radium-226 to the public health and safety or the common defense and security; and
>
> (B) before, on, or after August 8, 2005 is extracted or

236. Uranium Mill Tailings Radiation Control Act of 1978, Pub. L. No. 95-604, § 201, 92 Stat. 3021, 3033.

237. Energy Policy Act of 2005, Pub. L. No. 109-58, § 651(e)(1), 119 Stat. 594, 806-07.

converted after extraction for use in a commercial, medical, or research activity.[238]

NRC regulations further define "byproduct material" to include "discrete surface wastes resulting from uranium solution extraction processes," but not including "[u]nderground ore bodies depleted by such solution extraction operations."[239]

2. *Statutory exemptions.*

Source, special nuclear, and byproduct material regulated under the AEA are exempt under some federal and state environmental statutes. The statutory exemption is most prominent in RCRA. RCRA regulates the management and disposal of "hazardous waste," which is a subset of "solid waste."[240] Section 1004(27) of RCRA defines "solid waste" to include nearly anything that is discarded.[241] However, the definition expressly excludes "source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954, as amended." These materials are not covered under RCRA.[242] Moreover, many analogous state hazardous waste statutes have similar exemptions.[243]

The Clean Water Act has been interpreted to contain a very similar exemption, although it is not expressly in the statute. The Clean Water Act regulates "pollutants" discharged into waters of the United States. The Act defines "pollutant" broadly to include "radioactive materials."[244] However, the EPA regulations implementing the Act define "pollutant" more narrowly to cover

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238. 42 U.S.C. § 2014(e) (Westlaw 2007).

239. 10 C.F.R. § 40.4 (Westlaw 2007).

240. These terms are discussed *infra* text accompanying notes 546-552.

241. 42 U.S.C. § 6903(27) (Westlaw 2007), discussed *infra* text accompanying notes 546-550.

242. *E.g.*, United States v. Kentucky, 252 F.3d 816, 822 (6th Cir. 2001) (explaining that "solid waste" under RCRA does not include "source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954" (quoting 42 U.S.C. § 6903(27) (Westlaw 2007))); Water Keeper Alliance v. U.S. Dep't of Def., 152 F. Supp. 2d 163, 170 (D.P.R. 2001) (stating that RCRA's definition of "solid waste" expressly excludes depleted uranium).

243. For example, the New Mexico Hazardous Waste Act, mimicking RCRA, provides in its definition of "solid waste" that the term "does not include . . . source, special nuclear or byproduct material as defined by the federal Atomic Energy Act of 1954, as amended." N.M. STAT. ANN. § 74-4-3(O) (Westlaw 2007).

244. Clean Water Act § 502(6), 33 U.S.C. § 1362(6) (Westlaw 2007), discussed *infra* Section IV.D.2.

"radioactive materials (*except* those regulated under the Atomic Energy Act of 1954, as amended)."[245] EPA's regulation was based on legislative history; the House Report on the Clean Water Act of 1972 states:

> The term "pollutant" as defined in the bill includes "radioactive materials." These materials are those not encompassed in the definition of source, byproduct, or special nuclear materials as defined by the Atomic Energy Act of 1954, as amended, and regulated pursuant to that Act. "Radioactive materials" encompassed by this bill are those beyond the jurisdiction of the Atomic Energy Commission.[246]

Based on this House report, the Supreme Court affirmed EPA's interpretation in 1976.[247] Again, some state water quality statutes contain similar exemptions.[248]

Several broad categories of radioactive materials once fell outside these definitions and thus outside the jurisdiction of the AEA, as the House report quoted above suggests. With the amendments to the AEA in 1978 and 2005, Congress incrementally expanded the definition of "byproduct material," and simultaneously displaced RCRA and Clean Water Act jurisdiction.[249] As a result, the AEA now covers virtually all radioactive materials, while RCRA and the Clean Water Act now exempt virtually all such materials.

3. *Federal preemption.*

Aside from the statutory exemptions, the United States on behalf of DOE has argued—with some success—that the AEA preempts state regulation of source, special nuclear, and

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245. 40 C.F.R. § 122.2 (Westlaw 2007) (emphasis added).

246. H.R. REP. NO. 92-911, at 131 (1972), *reprinted in* 1 A LEGISLATIVE HISTORY OF THE CLEAN WATER ACT OF 1972, *supra* note 124, at 753, 818.

247. Train v. Colo. Pub. Interest Research Group, Inc., 426 U.S. 1 (1976) (discharges of radioactive materials from the Fort St. Vrain Nuclear Generating Station and from the Rocky Flats Plant); *accord* Waste Action Project v. Dawn Mining Corp., 137 F.3d 1426 (9th Cir. 1998) (discharges of uranium mill tailings from a uranium milling facility).

248. For example, the New Mexico Water Quality Act exempts these materials from regulation in its definition of "water contaminant." N.M. STAT. ANN. § 74-6-2(B) (West 1977).

249. Radioactive materials that previously fell outside the definition of byproduct material, before enactment of the Energy Policy Act of 2005, are discussed *infra* text accompanying notes 599-606.

byproduct material. DOE has further argued, even before the AEA was amended and expanded in 2005, that the AEA preempts state regulation of *all* radioactive materials.

The doctrine of federal preemption derives from the Supremacy clause of the United States Constitution, which provides: "This Constitution, and the Laws of the United States which shall be made in Pursuance thereof . . . shall be the supreme Law of the Land; and the Judges in every State shall be bound thereby, any Thing in the Constitution or Laws of any State notwithstanding."[250] Under the Supremacy Clause, the Supreme Court has held that federal law can preempt state law in three ways.[251] First, Congress can define explicitly the extent to which its enactment preempts state law.[252] Second, state law is preempted where it regulates conduct in a field that Congress intended the federal government to occupy exclusively, for example where Congress has enacted a "scheme of federal regulation so pervasive" that it is reasonable to infer "Congress left no room for the States to supplement it."[253] Third, state law is preempted if it directly conflicts with federal law.[254]

DOE has a long history of raising AEA preemption to shield it from regulation under environmental laws. In 1980, not long after the first RCRA regulations went into effect, DOE stated in a letter to EPA that that all DOE nuclear weapons facilities were exempt from RCRA, based on the AEA.[255] In a 1982 order, DOE softened its position slightly, stating that it would follow the RCRA regulations "to the extent practicable."[256]

An early and influential Supreme Court decision ostensibly supporting DOE's view is *Pacific Gas and Electric Co. v. California Energy Resources Conservation and Development Commission*.[257] That

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250. U.S. CONST. art. VI, cl. 2.

251. English v. Gen. Elec. Co., 496 U.S. 72, 78 (1990).

252. *Id.* (citing Shaw v. Delta Airlines, Inc., 463 U.S. 85, 95-98 (1983)).

253. *Id.* at 79 (citing Rice v. Santa Fe Elevator Corp., 331 U.S. 218, 230 (1947)).

254. *Id.* (citing Fla. Lime & Avocado Growers, Inc. v. Paul, 373 U.S. 132, 142-43 (1963)).

255. *See* Barbara A. Finamore, *Regulating Hazardous and Mixed Waste at Department of Energy Nuclear Weapons Facilities: Reversing Decades of Environmental Neglect*, 9 HARV. ENVTL. L. REV. 83, 101 (1983) (citing letter from Stephen H. Greenleigh, Assistant Gen. Counsel for Env't, DOE, to James A. Rogers, Assoc. Gen. Counsel, EPA (Nov. 14, 1980)).

256. *See id.* at 103 (citing DOE, Hazardous and Radioactive Mixed Waste Management (Order No. 5480.2) (Dec. 13, 1982)).

257. 461 U.S. 190 (1983).

case involved neither DOE nor the nuclear weapons complex; rather, it involved state regulation of the nuclear power industry. The State of California had adopted a statute placing a moratorium on the construction of new nuclear power plants until "there exists a demonstrated technology or means for the disposal of high-level nuclear waste."[258] The electric utilities, supported by the United States, [259] argued that the AEA preempted the California statute.[260] The Court adopted a narrower view of preemption, however, holding that Congress only "intended that the federal government should regulate the radiological safety aspects involved in the construction and operation of a nuclear power plant."[261] The states, on the other hand, "retain their traditional responsibility in the field of regulating electric utilities for determining questions of need, reliability, cost and other related state concerns."[262] Because the California statute was based on economic considerations, the Court held it was not preempted.[263] In reaching this conclusion, however, the Court stated in rather expansive language[264] that "the federal government has occupied the entire field of nuclear safety concerns, except the limited powers expressly ceded to the states."[265] Yet in subsequent cases, the Court found other circumstances in which state law properly applies to issues of safety at nuclear power plants.[266]

The first case to examine the preemptive effect of the AEA on RCRA and state hazardous waste laws, and the applicability of those laws to the DOE nuclear weapons complex, was *Legal*

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258. *Id.* at 198 (citing CAL. PUB. RES. CODE § 25524.2 (West 1977)).

259. Although not a party, the United States filed an *amicus* brief in the case, arguing that the AEA preempted state law. 461 U.S. at 204 (the *amici* parties are listed at 103 S. Ct. 1713, 1717).

260. 461 U.S. at 204.

261. *Id.* at 205.

262. *Id.* The Court also stated that the "[n]eed for power plants, their economic feasibility, and rates and services, are areas that have characteristically been governed by the states." *Id.*

263. *Id.* at 216.

264. In a separate concurring opinion, Justices Blackmun and Stevens criticized the majority's broad "dictum." *Id.* at 224 (Blackmun and Stevens, JJ., concurring).

265. *Id.* at 212.

266. *See* Silkwood v. Kerr-McGee Corp., 464 U.S. 238 (1984) (explaining that AEA does not preempt state tort law providing punitive damages as a remedy to person suffering injuries from radiation exposure in a nuclear power plant); English v. Gen. Elec. Co., 496 U.S. 72 (1990) (explaining that AEA does not preempt state law providing a claim for intentional infliction of emotional distress arising from retaliation against an employee of a nuclear power plant who had raised safety concerns about the plant).

Environmental Assistance Foundation, Inc. v. Hodel.[267] At issue in that case was whether DOE was required to obtain a permit for the disposal of hazardous waste at the Y-12 Plant at its Oak Ridge facility. DOE argued that no permit was necessary. DOE based its argument on section 1006(a) of RCRA, which provides that "[n]othing in [RCRA] shall be construed to apply to (or to authorize any State, interstate, or local authority to regulate) any activity or substance which is subject to the . . . [AEA] except to the extent that such application (or regulation) is not inconsistent with the requirements of" the AEA.[268] This provision of RCRA fits within both the first and third categories of preemption the Supreme Court has recognized: Congress has explicitly defined the extent to which the AEA preempts state regulation of hazardous and solid waste, and it has done so by providing that state law is preempted when it conflicts with federal law. DOE argued that application of RCRA to the Y-12 Plant would be inconsistent with the AEA.[269] Therefore, DOE maintained, under section 1006(a) of RCRA the Y-12 Plant "is totally excluded from RCRA regulations."[270] The court rejected DOE's argument. It found that RCRA regulates the management of hazardous wastes, and the AEA regulates nuclear materials.[271] The court had no problem reconciling these regulatory programs: "AEA facilities are subject to the RCRA except as to those wastes which are expressly regulated by the AEA."[272] Thus, the court concluded, application of RCRA to the Y-12 plant "will not be inconsistent with the AEA."[273]

The case that is often regarded as the apogee of judicial finding of AEA preemption of state environmental laws is *United States v. Kentucky.*[274] That case grew from the effort of the

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267. 586 F. Supp. 1163 (E.D. Tenn. 1984).

268. 42 U.S.C. § 6905(a) (Westlaw 2007). *Cf.* RCRA § 1004(27), 42 U.S.C. § 6903(27) (Westlaw 2007) (exempting source, special nuclear, and byproduct material regulated under the AEA), discussed *supra* text accompanying notes 240-242.

269. 586 F. Supp. at 1166. DOE argued that application of RCRA to its facility would be inconsistent with the AEA for three reasons: 1) the AEA precludes state regulation of DOE activities, while RCRA subjects DOE facilities to state regulation; 2) RCRA gives EPA and state agencies the authority to set standards for waste disposal, while the AEA gives such authority to DOE; and 3) the AEA restricts the release of data on nuclear weapons and materials, while RCRA subjects such data to public disclosure. *Id.*

270. *Id.* at 1167. *See also* Finamore, *supra* note 255, at 107-110.

271. 586 F. Supp. at 1167.

272. *Id.*

273. *Id.* at 1168.

274. 252 F.3d 816 (6th Cir. 2001).

Commonwealth of Kentucky to regulate the disposal of solid and radioactive waste in a landfill at the Paducah gaseous diffusion plant. Kentucky had issued to DOE a solid waste permit for operation of the landfill pursuant to its authority under RCRA. The permit contained conditions prohibiting DOE from placing in the landfill "[s]olid waste that exhibits radioactivity above de minimis levels," and prohibiting DOE from placing in the landfill "solid waste that contains radionuclides . . . until a Waste Characterization Plan for radionuclides has been submitted to the Division of Waste Management for review and approval."[275] DOE appealed the permit conditions, arguing that they were preempted by the AEA. In response, Kentucky argued that the permit conditions regulated only solid waste, not source, special nuclear, or byproduct materials.[276] The court dismissed Kentucky's arguments, finding that the permit conditions "specifically limit the amount of 'radioactivity' and 'radionuclides' that DOE may place in its landfill."[277] It found, moreover, that the radioactive materials to be regulated under the permit "are materials covered by the AEA, i.e., source, special nuclear, and byproduct materials."[278] The court therefore concluded that the AEA preempted the permit conditions.[279]

Emboldened by its success in the *Kentucky* case, DOE began taking an expanded view of federal preemption. Previously, DOE had maintained that regulation of source, special nuclear, and byproduct material was preempted, but had acknowledged that regulation of other radioactive material was subject to state regulation.[280] After the *Kentucky* decision, DOE took the position that the preemptive effect of the AEA extended beyond source, special nuclear, and byproduct material. Relying on broadly-worded passages in the *Kentucky* opinion,[281] DOE argued that the

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275. *Id.* at 820.

276. *Id.* at 823; *see also* Brief of Appellant, Kentucky Natural Resources and Environmental Protection Cabinet, at 11-17, *Kentucky*, 252 F.3d 816 (No. 00-5247) (on file with the author).

277. 252 F.3d at 823.

278. *Id.* at 823.

279. *Id.* at 822-25.

280. *See infra* text accompanying notes 600-601.

281. For example, the court stated in *Kentucky* that "the AEA preempts the field of state regulation of radioactive materials." 252 F.3d at 824. However, throughout its opinion, the *Kentucky* court equated the term "radioactive materials" with source, special nuclear, and byproduct material. *Id.* at 821-25.

AEA exclusively occupied the field of regulation of radioactive materials and thus preempted state regulation of all such materials.[282] No court ever had the opportunity to rule on DOE's expanded view of federal preemption. With the passage of the Energy Policy Act of 2005, Congress has effectively adopted DOE's view by expanding the AEA definition of "byproduct material."[283]

Thus, the exemption in RCRA and the Clean Water Act for source, special nuclear, and byproduct material regulated under the AEA as amended in 2005, and the coterminous federal preemption of state regulation of source, special nuclear, and byproduct material regulated under the AEA, leaves these radioactive materials virtually unregulated in the DOE nuclear weapons complex.[284] Of course, the statutory exemption enacted by Congress, and the judicial finding of federal preemption, are both premised on the presumption that these substances are adequately regulated under the AEA, but this presumption is obviously false.[285] As we have seen, the only AEA regulatory authority for the nuclear weapons complex is DOE, which is also the operator of the complex. The regulatory authority and the regulated entity are thus one and the same. As the Congressional Office of Technology Assessment concluded in 1991, "decades of self-regulation, without independent oversight or meaningful public scrutiny" have contributed to "contaminated ground water, soil, sediments, and surface water" at DOE facilities.[286]

IV. THE IMMINENT HAZARD PROVISIONS OF ENVIRONMENTAL LAWS

As the discussion in the previous Sections makes clear, federal facilities have created enormous environmental problems, and the

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282. *E.g.*, The Nat'l Nuclear Sec. Admin. of the U.S. Dep't of Energy & the Regents of the Univ. of Cal., Comments on May 2, 2002 Draft Administrative Order Regarding the Los Alamos National Laboratory 66-80 (before the N.M. Env't Dep't July 31, 2002) (on file with the author).

283. Pub. L. No. 109-58, § 651(e)(1), 119 Stat. 594, 806-07 (2005), discussed *supra* text accompanying note 237.

284. Several commenters have urged Congress to remove the exemptions for source, special nuclear, and byproduct material from the Clean Water Act and RCRA. *E.g.*, O'Very, *supra* note 229, at 287, 293, 298.

285. The many examples of environmental pollution from radionuclides at DOE facilities, discussed in Section I.B, disprove this presumption. *See supra* text accompanying notes 29-65.

286. CONG. OFFICE OF TECH. ASSESSMENT, COMPLEX CLEANUP: THE ENVIRONMENTAL LEGACY OF NUCLEAR WEAPONS PRODUCTION 15 (OTA-O-484) (1991).

obstacles to compelling the federal government to clean up its polluted facilities are formidable. Yet in spite of these obstacles, many environmental laws may, in some cases, provide a remedy for pollution from federal facilities. Most federal and many state environmental statutes include provisions to address pollution that may create "an imminent and substantial endangerment" to the public health or the environment. Congress enacted most of these provisions—commonly called "imminent hazard" provisions—in the 1970s, and it has periodically revised and enhanced the provisions. They are triggered by evidence of an endangerment; and they give EPA or state environmental agencies, and in one instance citizen plaintiffs, generally broad authority to seek injunctive relief to abate the endangerment. Most of the statutes also authorize EPA to issue legally enforceable administrative orders to abate the endangerment. As one court observed, "Congress broadly drafted these provisions to give appropriate government officials the right to seek judicial relief, or take other appropriate action to avert imminent and substantial threats to the environment or public health."[287] Some of these provisions—particularly those in RCRA—can be very useful in forcing cleanup of federal facilities. This Section describes the imminent hazard provisions in the federal statutes, including their evolution through congressional amendment.

A. *The Clean Air Act*

Congress enacted the first imminent hazard provision as part of the Clean Air Amendments of 1970, which created the Clean Air Act in its modern form.[288] The Clean Air Act establishes a comprehensive program for federal and state control of air pollution.[289] The original imminent hazard provision was in section 303 of the 1970 statute. It was triggered if EPA received evidence "that a pollution source or combination of sources (including

287. United States v. Reilly Tar & Chem. Corp., 546 F. Supp. 1100, 1107 (D. Minn. 1982) (referring to the imminent hazard provisions in the Clean Air Act, Clean Water Act, Safe Drinking Water Act, RCRA, and CERCLA); *accord* United States v. Price, 523 F. Supp. 1055, 1070 (D.N.J. 1981), *aff'd*, 688 F.2d 204 (3d Cir. 1982); *see also* United States v. Hooker Chems. & Plastics Corp., 749 F.2d 968, 988 (2d Cir. 1984) ("The emergency powers provisions [of the Clean Water Act, the Safe Drinking Water Act, and RCRA] confer 'broad authority' on the [EPA] Administrator to provide him substantial flexibility needed to prevent imminent hazards.").

288. Clean Air Amendments of 1970, Pub. L. No. 91-604, 84 Stat. 1676.

289. *See generally* ARNOLD W. REITZE, JR., AIR POLLUTION LAW 33-46 (1995).

moving sources) is presenting an imminent and substantial endangerment to the health of persons," and "that State or local authorities have not acted to abate such sources." EPA could then bring an action in federal district court to immediately restrain any person causing or contributing to the pollution to stop the emission of air pollutants, "or to take such other action as may be necessary."[290]

In 1977, Congress enacted major amendments to the Clean Air Act.[291] As part of those amendments, Congress made three significant changes to the imminent hazard provision in section 303. First, Congress conferred on EPA new authority to issue administrative orders to address an endangerment "[i]f it is not practicable to assure prompt protection of the health of persons solely by commencement of [a] civil action."[292] However, any such order would be limited in duration to twenty-four hours, unless EPA brought a civil action in district court within that time. In such circumstance, the order would be limited in duration to forty-eight hours or such other time as authorized by the court.[293] Second, Congress required that before EPA could commence a civil action or issue an administrative order, it must "consult with State and local authorities to confirm the correctness of the information on which the action proposed to be taken was based."[294] Finally, Congress added a new penalty provision, authorizing the district courts to impose a fine of not more than $5,000 for each day of violation of an administrative order issued under section 303.[295]

In 1990, Congress again extensively amended the Clean Air Act,[296] and it included revisions to the imminent hazard provision in section 303. First and most importantly, Congress replaced the words "health of persons" with "public health or welfare or the environment," thus greatly expanding the scope of the provision.[297]

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290. *Id.* § 12(a), 84 Stat. at 1705-06 (originally codified as 42 U.S.C. § 1871i (Supp. IV 1970)) (amended 1977).

291. Clean Air Act Amendments of 1977, Pub. L. No. 95-95, 91 Stat. 685.

292. *Id.* § 302(a), 91 Stat. at 770 (codified at 42 U.S.C. § 7603(a) (1977)) (amended 1990).

293. *Id.*, 91 Stat. at 771 (codified at 42 U.S.C. § 7603(a) (1977)) (amended 1990).

294. *Id.*, 91 Stat. at 770-71 (codified at 42 U.S.C. § 7603(b) (1977)) (amended 1990).

295. *Id.*, 91 Stat. at 771 (codified at 42 U.S.C. § 7603(b) (1977)) (amended 1990).

296. Clean Air Act Amendments of 1990, Pub. L. No. 101-549, 104 Stat. 2399.

297. *Id.* § 704(1), 104 Stat. at 2681 (codified at 42 U.S.C. § 7603 (Westlaw 2007)). Explaining this amendment, the Senate Report stated:

Second, Congress eliminated the prerequisite that EPA could bring an action only if state and local authorities had not acted.[298] Third, recognizing that twenty-four hours was an "unrealistically short time limit" for an administrative order,[299] Congress lengthened the time limit to sixty days. If EPA brings a judicial action within that time, the order could be extended for another fourteen days or such longer period as might be authorized by the court.[300] In addition, Congress deleted the penalty provision added in 1977, reasoning that enforcement and civil penalties for violation of an order under section 303 was covered in the general enforcement provision.[301]

Section 303 has not been amended since 1990. As it is currently written, section 303 is set forth below in its entirety:

> Notwithstanding any other provision of this [Act], the [EPA] Administrator, upon receipt of evidence that a pollution source or combination of sources (including moving sources) is presenting an imminent and substantial endangerment to public health or welfare, or the environment, may bring a suit on behalf of the United States in the appropriate United States district court to immediately restrain any person causing or contributing to the alleged pollution to stop the emission of air pollutants causing or contributing to such pollution or to take such other action as may be necessary. If it is not practicable to assure

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> Broadening section 301 [sic] to include harm to the environment is important to enable EPA to address emergency threats to ecosystems in instances where there is no readily demonstrable immediate threat to human health. For example, toxic emissions might be blowing downwind from a facility into an undeveloped natural area and threatening to impair the area's ecosystem. This amendment will allow EPA to order the plant to take necessary steps to eliminate the threat to flora and fauna.

S. REP. NO. 101-228, at 370 (1989), *reprinted in* 1990 U.S.C.C.A.N. 3385, 3753, *and in* 5 SENATE COMM. ON ENV'T & PUBLIC WORKS, 103D CONG., A LEGISLATIVE HISTORY OF THE CLEAN AIR ACT AMENDMENTS OF 1990, at 8338, 8710 (1993) [hereinafter A LEGISLATIVE HISTORY OF THE CLEAN AIR ACT AMENDMENTS OF 1990].

298. Pub. L. 101-549, § 704(3), 104 Stat. at 2681 (codified at 42 U.S.C. § 7603 (Westlaw 2007)).

299. S. REP. NO. 101-228, at 370 (1989), *reprinted in* 1990 U.S.C.C.A.N. 3385, 3753, *and in* 5 A LEGISLATIVE HISTORY OF THE CLEAN AIR ACT AMENDMENTS OF 1990, *supra* note 297, at 8338, 8710.

300. Pub. L. 101-549, § 704(5), 104 Stat. at 2682 (codified at 42 U.S.C. § 7603 (Westlaw 2007)).

301. *Id.*, § 704(4), 104 Stat. at 2681 (codified at 42 U.S.C. § 7603 (Westlaw 2007)). The general enforcement provision is section 113, 42 U.S.C. § 7413 (Westlaw 2007).

> prompt protection of public health or welfare or the environment by commencement of such a civil action, the Administrator may issue such orders as may be necessary to protect public health or welfare or the environment. Prior to taking any action under this section, the Administrator shall consult with appropriate state and local authorities and attempt to confirm the accuracy of the information on which the action proposed to be taken is based. Any order issued by the Administrator under this section shall be effective upon issuance and shall remain in effect for a period of not more than 60 days, unless the Administrator brings an action pursuant to the first sentence of this section before the expiration of that period. Whenever the Administrator brings such an action within the sixty-day period, such order shall remain in effect for an additional fourteen days or for such longer period as may be authorized by the court in which such action is brought.[302]

Two aspects of this provision are noteworthy. First, the provision allows the Administrator to take action if there is an endangerment to public health or the public *welfare*, a very broad term as we will see. Second, it limits the duration of an administrative order to a maximum of sixty days, unless a federal court authorizes a longer duration. This limitation is unique among the imminent hazard provisions in the federal environmental laws. Although Congress lengthened the maximum period to sixty days from one day in 1990, the limitation remains problematic.

Congress added a second imminent hazard provision to the Clean Air Act in 1990, in section 112(r)(9), though it is a much narrower provision. It is triggered when EPA determines that the actual or threatened "accidental release" of a "regulated substance" may cause "an imminent and substantial endangerment to the human health or welfare or the environment." EPA may either bring a lawsuit to abate the danger or threat, or issue an administrative order as necessary to protect human health. Section 112(r)(9)(A) is set forth below in its entirety:

> In addition to any other action taken, when the Administrator determines that there may be an imminent and substantial endangerment to the human health or welfare or the environment because of an actual or threatened accidental release of a regulated substance, the Administrator may secure

302. 42 U.S.C. § 7603 (Westlaw 2007).

> such relief as may be necessary to abate such danger or threat, and the district court of the United States in the district in which the threat occurs shall have jurisdiction to grant such relief as the public interest and the equities of the case may require. The Administrator may also, after notice to the State in which the stationary source is located, take other action under this paragraph including, but not limited to, issuing such orders as may be necessary to protect human health. The Administrator shall take action under section [303] of this [Act] rather than this paragraph whenever the authority of such section is adequate to protect human health and the environment.[303]

Note that this provision applies only to an "accidental release." Further, although the provision gives EPA the authority to issue administrative orders of unlimited duration, that authority extends only to protection of human health, not to protection of human welfare or the environment.

B. *The Clean Water Act*

Congress enacted the second imminent hazard provision as part of the Water Pollution Control Act Amendments of 1972.[304] This legislation, which became law only after Congress overrode the veto of then President Nixon,[305] formed the modern Clean Water Act. The Clean Water Act establishes a comprehensive program for the control of pollution of surface water.[306] The imminent hazard provision of the Clean Water Act is in section 504. It is triggered when EPA receives evidence that the discharge of water pollutants "is presenting an imminent and substantial endangerment to the health of persons or to the welfare of persons." It allows EPA, upon receiving such evidence, to bring a lawsuit against the person causing or contributing to the pollution to stop the discharge of pollutants.

Although Congress passed major amendments to the Clean Water Act in 1977[307] and 1987,[308] it has not revised section 504 since

303. 42 U.S.C. § 7412(r)(9)(A) (Westlaw 2007).

304. Water Pollution Control Act Amendments of 1972, Pub. L. No. 92-500, 86 Stat. 816.

305. 86 Stat. at 903-904. For the debates and the votes on the congressional override, see 118 CONG. REC. 37,054-61 (1972), *reprinted in* 1 A LEGISLATIVE HISTORY OF THE CLEAN WATER ACT OF 1972, *supra* note 124, at 95-136.

306. *See generally* 2 WILLIAM H. RODGERS, JR., ENVIRONMENTAL LAW: AIR AND WATER 5-30 (Supp. 2002).

307. Clean Water Act of 1977, Pub. L. No. 95-217, 91 Stat. 1566.

its original enactment in 1972. Section 504 is set forth below in its entirety:

> Notwithstanding any other provision of this [Act], the Administrator, upon receipt of evidence that a pollution source or combination of sources is presenting an imminent and substantial endangerment to the health of persons or the welfare of persons where such endangerment is to the livelihood of such persons, such as inability to market shellfish, may bring a suit on behalf of the United States in the appropriate United States district court to immediately restrain any person causing or contributing to the alleged pollution to stop the discharge of pollutants causing or contributing to such pollution or to take such other action as may be necessary.[309]

Note that the imminent hazard provision in the Clean Water Act, somewhat like that in the Clean Air Act, applies to the welfare of persons, so long as the endangerment affects the person's livelihood. However, unlike the Clean Air Act provision, the Clean Water Act provision does not address an endangerment to the environment. Moreover, the provision does not authorize EPA to issue administrative orders, a significant omission.

C. *The Safe Drinking Water Act*

In 1974, Congress enacted the third imminent hazard provision as part of the Safe Drinking Water Act.[310] Congress' stated purpose in enacting the law was to "protect public water supplies from contamination."[311] The imminent hazard provision is in section 1431 of the statute. In its original form, section 1431 was triggered if EPA received information "that a contaminant which is present in or likely to enter a public water system may present an imminent and substantial endangerment to the health of persons," and "that State and local authorities have not acted to protect the

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308. Water Quality Act of 1987, Pub. L. No. 100-4, 101 Stat. 7. President Reagan vetoed the legislations, but Congress overrode the veto. 101 Stat. 89-90. For the debates and the votes on the congressional override, see 133 CONG. REC. 2795-812 (1987), *reprinted in* 1 SENATE COMM. ON ENV'T & PUBLIC WORKS, 100TH CONG., A LEGISLATIVE HISTORY OF THE WATER QUALITY ACT OF 1987, at 313-57 (1988).

309. 33 U.S.C. § 1364 (Westlaw 2007).

310. Safe Drinking Water Act of 1974, Pub. L. No. 93-523, 88 Stat. 1660.

311. S. REP. NO. 93-231, at 1 (1973), *reprinted in* SENATE COMM. ON ENV'T & PUBLIC WORKS, 97TH CONG., A LEGISLATIVE HISTORY OF THE SAFE DRINKING WATER ACT 795, 795 (1982) [hereinafter A LEGISLATIVE HISTORY OF THE SAFE DRINKING WATER ACT].

health of such persons."[312] Upon receiving such information, EPA was authorized to take action to protect the health of persons who are or may be users of the water system, including travelers. Such action might include issuing an administrative order or bringing a judicial action for appropriate relief, including injunctive relief. Prior to taking such action, however, if "practical in light of such imminent endangerment," EPA was to consult with state and local authorities to confirm the correctness of the information on which the action proposed to be taken was based.[313] Congress also included a penalty provision in section 1431(b). It provided that any person "who willfully violates or fails or refuses to comply with" an administrative order could be fined, in an enforcement action brought by EPA in federal district court, "not more than $5,000 for each day in which such violation occurs or failure to comply continues."[314]

Congress enacted significant amendments to the Safe Drinking Water Act in 1986,[315] including revisions to section 1431. First, Congress expanded the scope of the provision to address contaminants in or likely to enter "an underground source of drinking water," as well as a public water system.[316] Second, Congress expanded EPA's administrative order authority by expressly authorizing an order "requiring the provision of alternative water supplies by persons who caused or contributed to the endangerment."[317] Finally, Congress expanded the scope of the penalty provision by deleting the word "willfully," thus eliminating any requirement that EPA must show a violation is intentional, and replacing the term "fine" with "civil penalty."[318]

Congress again amended the Safe Drinking Water Act extensively in 1996,[319] and it made one change to the imminent

312. Pub. L. No. 93-523, § 2(a), 88 Stat. at 1680 (codified at 42 U.S.C. § 300i(a) (Supp. V 1975)) (amended 1986).

313. *Id.*

314. *Id.* (codified at 42 U.S.C. § 300i(b) (Supp. V 1975)) (amended 1986).

315. Safe Drinking Water Act Amendments of 1986, Pub. L. No. 99-339, 100 Stat. 642.

316. *Id.*, § 204(1), 100 Stat. at 660 (codified at 42 U.S.C. § 300i(a) (Supp. IV 1986)) (amended 2002).

317. *Id.*, § 204(2), 100 Stat. at 660 (codified at 42 U.S.C. § 300i(a) (Supp. IV 1986)) (amended 2002).

318. *Id.*, § 204(3), 100 Stat. at 660 (codified at 42 U.S.C. § 300i(b) (Supp. IV 1986)) (amended 1996).

319. Safe Drinking Water Act Amendments of 1996, Pub. L. No. 104-182, 110 Stat. 1613.

hazard provision in section 1431. It increased the maximum civil penalty for violation of an administrative order from $5,000 to $15,000.[320]

Section 1431 in its current form is set forth below in its entirety:

> (a) Notwithstanding any other provision of this subchapter, the Administrator, upon receipt of information that a contaminant which is present in or is likely to enter a public water system or an underground source of drinking water, or that there is a threatened or potential terrorist attack (or other intentional act designed to disrupt the provision of safe drinking water or to impact adversely the safety of drinking water supplied to communities and individuals),[321] which may present an imminent and substantial endangerment to the health of persons, and that appropriate State and local authorities have not acted to protect the health of such persons, may take such actions as he may deem necessary in order to protect the health of such persons. To the extent he determines it to be practicable in light of such imminent endangerment, he shall consult with the State and local authorities in order to confirm the correctness of the information on which action proposed to be taken under this subsection is based and to ascertain the action which such authorities are or will be taking. The action which the Administrator may take may include (but shall not be limited to) (1) issuing such orders as may be necessary to protect the health of persons who are or may be users of such system (including travelers), including orders requiring the provision of alternative water supplies by persons who caused or contributed to the endangerment, and (2) commencing a civil action for appropriate relief, including a restraining order or permanent or temporary injunction.[322]

Note that this provision applies simply when there *may* be an

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320. *Id.*, § 113(d), 110 Stat. at 1636 (codified at 42 U.S.C. § 300i(b) (Westlaw 2007)).

321. The clause that begins "or that there is a threatened or potential terrorist attack" was added by the Public Health Security and Bioterrorism Preparedness and Response Act of 2002, Pub. L. No. 107-188, § 403(2), 116 Stat. 594, 687 (codified at 42 U.S.C. § 300i(a) (Westlaw 2007)).

322. 42 U.S.C. § 300i (Westlaw 2007). The maximum penalty has been increased to $16,500 as an adjustment for inflation pursuant to an act of Congress. *See infra* note 844.

imminent and substantial endangerment, a broader application than the Clean Air Act or the Clean Water Act. On the other hand, it applies only to hazards to the health of persons, not to their welfare. It also allows EPA to take action only after concluding that state and local officials have not acted and, if practical, after consulting with state and local officials.

D. *The Resource Conservation and Recovery Act*

In 1976, Congress enacted another imminent hazard provision as part of RCRA,[323] the first hazardous waste law Congress enacted RCRA to establish a comprehensive "cradle-to-grave" system for regulation of the generation, transport, storage, treatment, and disposal of hazardous waste.[324] The imminent hazard provision, in section 7003, was triggered if EPA received "evidence that the handling, storage, treatment, transportation, or disposal of any solid waste or hazardous waste is presenting an imminent and substantial endangerment to health or the environment."[325] Upon receipt of such evidence, EPA was authorized to bring suit in federal district court "to immediately restrain any person for [sic[326]] contributing to the alleged disposal to stop such handling, storage, treatment, transportation, or disposal or to take such other action as may be necessary."[327] The provision also required EPA to provide notice to the affected state of any suit.[328]

Congress enacted amendments to RCRA in 1980,[329] and it made several revisions to section 7003. First, it revised section 7003 to authorize EPA to take action if management of waste "may present" an endangerment, rather than "is presenting" an

323. RCRA, Pub. L. No. 94-580, 90 Stat. 2795. RCRA was passed as an amendment to the Solid Waste Disposal Act, but the amended statute is commonly referred to as RCRA.

324. City of Chicago v. Envtl. Def. Fund, 511 U.S. 328, 331 (1994). As one court wryly observed, while the RCRA regulatory system is "invariably described as a 'cradle-to-grave' system, it in fact reaches . . . well beyond the grave." Am. Iron & Steel Inst. v. EPA, 886 F.2d 390, 393 (D.C. Cir. 1989).

325. Pub. L. No. 94-580, § 2, 90 Stat. at 2826 (codified at 42 U.S.C. § 6973 (1977)) (amended 1978).

326. Congress deleted the word "for" as a technical amendment in the Quiet Communities Act of 1978, Pub. L. No. 95-609, § 7(q), 92 Stat. 3079, 3083 (1979).

327. Pub. L. No. 94-580, § 2, 90 Stat. at 2826 (codified at 42 U.S.C. § 6973 (1977)) (amended 1978).

328. *Id.*

329. Solid Waste Disposal Act Amendments of 1980, Pub. L. No. 96-482, 94 Stat. 2334.

endangerment,[330] thus allowing EPA to address a risk of harm.[331] Second, Congress made clear that EPA could take action against any person contributing not just to "alleged disposal," but to "such handling, storage, treatment, transportation, or disposal."[332] Third, Congress gave EPA express authority to issue an administrative order to address an endangerment, after giving notice to the affected state.[333] Finally, Congress added a penalty provision in subsection (b). The new subsection provided that any person "who willfully violates, or fails or refuses to comply with," an administrative order could be fined, in an enforcement action brought by EPA in federal district court, "not more than $5,000 for each day in which such violation occurs or failure to comply continues."[334]

Congress passed extensive amendments to RCRA in 1984,[335] including revisions to section 7003(a). First, and most importantly, Congress added the words "past or present" before "handling, storage, treatment, transportation, or disposal," and added a parenthetical phrase making clear that section 7003 applies not only to persons who are currently managing wastes, but also to "any past or present generator, past or present transporter, or past or present owner or operator of a treatment, storage, or disposal facility."[336] In making these revisions, Congress stated its view that section 7003 "has always reached those persons who have contributed in the past . . . to the endangerment," and the

330. *Id.*, § 25(2), 94 Stat. at 2348 (codified at 42 U.S.C. § 6973(a) (1982)) (amended 1984).

331. The House Report on the legislation stated the committee's intent that EPA "use this authority where the *risk* of serious harm is present." H.R. REP. NO. 96-191, at 5 (1979) (emphasis added), *reprinted in* 1 SENATE COMM. ON ENV'T & PUBLIC WORKS, 102D CONG., A LEGISLATIVE HISTORY OF THE SOLID WASTE DISPOSAL ACT, AS AMENDED 1027, 1031 (1991) [hereinafter A LEGISLATIVE HISTORY OF RCRA]; *see also* Me. People's Alliance v. Mallinckrodt, Inc., 471 F.3d 277, 294 (1st Cir. 2006) ("We think it is clear that the 1980 amendments to the provision, substituting 'may present' for 'is presenting,' fundamentally altered how this provision was understood."), *cert. denied*, 2007 WL 1479993 (S. Ct. Oct. 1, 2007).

332. Pub. L. No. 96-482, § 25(3), 94 Stat. at 2348 (codified at 42 U.S.C. § 6973(a) (1982)) (amended 1984).

333. *Id.*, § 25(4), 94 Stat. at 2348 (codified at 42 U.S.C. § 6973(a) (Westlaw 2007)).

334. *Id.* (codified at 42 U.S.C. § 6973(b) (1982)) (amended 1984).

335. Hazardous and Solid Waste Amendments of 1984, or "HSWA," Pub. L. No. 98-616, 98 Stat. 3221.

336. *Id.*, § 402(1)-(2), 98 Stat. at 3271 (codified at 42 U.S.C. § 6973(a) (Westlaw 2007)).

revisions are "merely intended to clarify the existing authority."[337] Congress thereby overruled several federal district court decisions holding that section 7003 did not apply to past disposal practices.[338] Second, Congress added a new subsection requiring EPA to give immediate notice to local government agencies upon receiving evidence that hazardous waste at a site has presented an endangerment. It also provides that notice of the endangerment must be posted at the site.[339] Third, Congress added another new subsection requiring that EPA, prior to entering into any settlement under section 7003, must provide notice of the proposed settlement to the public and allow an opportunity for a public meeting and public comment on the proposed settlement.[340] Finally, in the 1984 amendments, Congress also smoothed some of the awkward language in section 7003(a).[341]

Congress has not changed section 7003 since the 1984 RCRA amendments. Section 7003, as currently written, is set forth below in its entirety:

> (a) Notwithstanding any other provision of this chapter, upon receipt of evidence that the past or present handling, storage, treatment, transportation or disposal of any solid waste or hazardous waste may present an imminent and substantial endangerment to health or the environment, the Administrator may bring suit on behalf of the United States in the appropriate district court against any person (including any past or present

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337. H.R. Rep. No. 98-1133, at 119 (1984) (Conf. Rep.), *reprinted in* 1984 U.S.C.C.A.N. 5649, 5690, *and in* 2 A LEGISLATIVE HISTORY OF RCRA, *supra* note 331, at 2311, 2429. The Senate Report likewise states: "section 7003 has always provided the authority to require the abatement of present conditions of endangerment resulting from past disposal practices." Sen. Rep. No. 98-284, at 58 (1983), *reprinted in* 2 A LEGISLATIVE HISTORY OF RCRA, *supra* note 331, at 2023, 2084.

338. United States v. Ne. Pharm. & Chem. Co., 579 F. Supp. 823 (W.D. Mo. 1984); United States v. Waste Indus., 556 F. Supp. 1301 (E.D.N.C. 1982), *rev'd* 734 F.2d 159 (4th Cir. 1984); United States v. Wade, 546 F. Supp. 785 (E.D. Pa. 1982). Congress stated that these decisions are "inconsistent with the authority conferred" in section 7003, "and with these clarifying amendments." H.R. Rep. No. 98-1133, at 119 (1984) (Conf. Rep.), *reprinted in* 1984 U.S.C.C.A.N. 5649, 5690, *and in* 2 A LEGISLATIVE HISTORY OF RCRA, *supra* note 331, at 2311, 2429.

339. Pub. L. No. 98-616, § 403(a), 98 Stat. at 3271-72 (codified at 42 U.S.C. § 6973(c) (Westlaw 2007)).

340. *Id.*, § 404, 98 Stat. at 3273 (codified at 42 U.S.C. § 6973(d) (Westlaw 2007)).

341. *Id.*, § 402(3)-(4), 98 Stat. at 3271 (codified at 42 U.S.C. § 6973(a) (Westlaw 2007)). Congress also added to section 7003(a) a sentence providing that a transporter is not liable if acting as a common carrier. *Id.*, § 402(5), 98 Stat. at 3271 (codified at 42 U.S.C. § 6973(a) (Westlaw 2007)).

generator, past or present transporter, or past or present owner or operator of a treatment, storage, or disposal facility) who has contributed or who is contributing to such handling, storage, treatment, transportation or disposal to restrain such person from such handling, storage, treatment, transportation, or disposal, to order such person to take such other action as may be necessary, or both. . . . The Administrator shall provide notice to the affected State of any such suit. The Administrator may also, after notice to the affected State, take other action under this section including, but not limited to, issuing such orders as may be necessary to protect public health and the environment.

(b) Any person who willfully violates, or fails or refuses to comply with, any order of the Administrator under subsection (a) of this section may, in an action brought in the appropriate United States district court to enforce such order, be fined not more than $5,000 for each day in which such violation occurs or such failure to comply continues.[342]

(c) Upon receipt of information that there is hazardous waste at any site which has presented an imminent and substantial endangerment to human health or the environment, the Administrator shall provide immediate notice to the appropriate local government agencies. In addition, the Administrator shall require notice of such endangerment to be promptly posted at the site where the waste is located.

(d) Whenever the United States or the Administrator proposes to covenant not to sue or to forebear from suit or to settle any claim arising under this section, notice, and an opportunity for a public meeting in the affected area, and a reasonable opportunity to comment on the proposed settlement prior to its final entry shall be afforded to the public. The decision of the United States or the Administrator to enter into such Consent Decree, covenant, or agreement shall not constitute a final agency action subject to judicial review under this [Act or the Administrative Procedures Act].[343]

As part of the 1984 RCRA amendments, Congress added a second imminent hazard provision to the statute,[344] one that is unique among federal environmental laws; it is in RCRA's citizen suit section. Section 7002(a)(1)(B) allows "any person" to bring a civil lawsuit against "any person, including the United States and

342. The maximum penalty has been increased to $6,500 as an adjustment for inflation pursuant to an act of Congress. *See infra* note 844.

343. RCRA § 7003, 42 U.S.C. § 6973 (Westlaw 2007). One sentence, limiting the liability of common carrier transporters, is omitted from section 7003(a).

344. Pub. L. No. 98-616, § 401, 98 Stat. 3221, 3268 (1984).

any other governmental instrumentality or agency" who is contributing or has contributed to "the past or present handling, storage, transportation, treatment or disposal of any solid or hazardous waste which may present an imminent and substantial endangerment to health or the environment." Further, the section authorizes the district court to restrain any person from such handling or to take other necessary action.[345]

Section 7002(b) places certain restrictions on such citizen suits, however. The first restriction is a notice requirement. Section 7002(b)(2)(A) prohibits filing a citizen suit "prior to ninety days after the plaintiff has given written notice of the endangerment to the [EPA] Administrator; the State in which the alleged endangerment may occur; [and] any person alleged to have contributed or be contributing to the past or present handling, storage, treatment, transportation, or disposal of any solid or hazardous waste" resulting in the endangerment.[346] However, such a citizen suit "may be brought immediately after such notification in the case of an action under this section respecting a violation of" the hazardous waste management provisions in subtitle C (codified as subchapter III[347]) of RCRA.[348] In addition, upon filing the complaint, the plaintiff must serve a copy with the United States Attorney General and the EPA Administrator.[349]

The second restriction bars a citizen suit if EPA or the state is already taking some action to address the endangerment. As to an EPA action, section 7002(b)(2)(B) provides:

> No action may be commenced under subsection (a)(1)(B) of this section if the [EPA] Administrator, in order to restrain or abate acts or conditions which may have contributed to or are contributing to the activities which may present the alleged endangerment—
>
> (i) has commenced and is diligently prosecuting an action under section [7003 of RCRA] or under section 106 of [CERCLA];
>
> (ii) is actually engaging in a removal action under section 104

345. RCRA § 7002(a)(1), 42 U.S.C. § 6972(a)(1)(B) (Westlaw 2007).

346. RCRA § 7002(b)(2)(A), 42 U.S.C. § 6972(b)(2)(A) (Westlaw 2007).

347. *See infra* note 554.

348. RCRA § 7002(b)(2)(A), 42 U.S.C. § 6972(b)(2)(A) (Westlaw 2007).

349. RCRA § 7002(b)(2)(F), 42 U.S.C. § 6972(b)(2)(F) (Westlaw 2007).

of [CERCLA[350]];

(iii) has incurred costs to institute a Remedial Investigation and Feasibility Study [RI/FS] under section 104 of [CERCLA] and is diligently proceeding with a remedial action under that Act; or

(iv) has obtained a court order (including a consent decree) or issued an administrative order under section 106 of [CERCLA] or section [7003 of RCRA] pursuant to which a responsible party is diligently conducting a removal action, [RI/FS], or proceeding with a remedial action.[351]

However, section 7002(b)(2)(B) further provides that a citizen suit is prohibited under clause (iv) "only as to the scope and duration of the administrative order referenced in clause (iv)."[352] As to a state action, section 7002(b)(2)(C) similarly provides:

No action may be commenced under subsection (a)(1)(B) of this section if the State, in order to restrain or abate acts or conditions which may have contributed to or are contributing to the activities which may present the alleged endangerment—

(i) has commenced and is diligently prosecuting an action under subsection (a)(1)(B) of this section;

(ii) is actually engaging in a removal action under section 104 of [CERCLA]; or

(iii) has incurred costs to institute a[n RI/FS] under section 104 of [CERCLA] and is diligently proceeding with a remedial action under that Act.[353]

Section 7002 also authorizes the court to award attorney fees. Section 7002(e) provides that "in issuing any final order in any action" brought under section 7002, "the court . . . may award costs of litigation (including reasonable attorney and expert witness fees) to the prevailing or substantially prevailing party, whenever the court determines such an award is appropriate."[354]

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350. 42 U.S.C. § 9604 (Westlaw 2007).

351. RCRA § 7002(b)(2)(B), 42 U.S.C. § 6972(b)(2)(B) (Westlaw 2007). See *infra* notes 726, 728, and 729 for an explanation of the CERCLA terms "removal action," "RI/FS," and "remedial action."

352. RCRA § 7002(b)(2)(B), 42 U.S.C. § 6972(b)(2)(B) (Westlaw 2007).

353. RCRA § 7002(b)(2)(C), 42 U.S.C. § 6972(b)(2)(C) (Westlaw 2007).

354. 42 U.S.C. § 6972(e) (Westlaw 2007).

E. *The Comprehensive Environmental, Response, Compensation, and Liability Act*

In 1980 Congress enacted an imminent hazard provision as part of CERCLA.[355] Congress passed CERCLA in response to the increasingly serious problem of uncontrolled releases of hazardous substances.[356] The CERCLA imminent hazard provision is in section 106(a). It is triggered when the President determines that "there may be an imminent and substantial endangerment to the public health or welfare or the environment" resulting from "an actual or threatened release of a hazardous substance." Upon making such a determination, the President may bring a lawsuit for injunctive relief to abate the endangerment, or issue an administrative order.

As originally enacted, section 106(b) provided that "any person who willfully violates, or fails or refuses to comply with, an order" under subsection (a) may in an enforcement action brought in federal district court "be fined not more than $5,000 for each day in which such violation occurs or failure to comply continues."[357] Congress overhauled CERCLA in 1986.[358] Congress did not change section 106(a) at all, but it made two important changes to the penalty provision in section 106(b). First, it revised the subsection to provide that any person who willfully violates an order is liable for a civil penalty if the violation is "without sufficient cause."[359] Second, Congress increased the maximum civil penalty from $5,000 to $25,000 for each day of violation.[360] As currently written, section 106(a) and (b)(1) provides:

> (a) In addition to any other action taken by a State or local government, when the President determines that there my be an imminent and substantial endangerment to the public health or

355. Comprehensive Environmental Response, Compensation, and Liability Act of 1980, Pub. L. No. 96-510, 94 Stat. 2767.

356. United States v. Monsanto Co., 858 F.2d 160, 167 (4th Cir. 1988), *cert. denied*, 490 U.S. 1106 (1989).

357. *Id.*, § 106(b), 94 Stat. at 2780 (codified at 42 U.S.C. § 9606(b) (1981)) (amended 1986).

358. Superfund Amendments and Reauthorization Act of 1986, or "SARA," Pub. L. No. 99-499, 100 Stat. 1613.

359. *Id.*, § 106(2), 100 Stat. at 1628 (codified at 42 U.S.C. § 9606(b)(1) (Westlaw 2007)).

360. *Id.*, § 109(b), 100 Stat. at 1633 (codified at 42 U.S.C. § 9606(b)(1) (Westlaw 2007)).

> welfare or the environment because of an actual or threatened release of a hazardous substance from a facility, he may require the Attorney General of the United States to secure such relief as may be necessary to abate such danger or threat, and the District Court of the United States in the district in which the threat occurs shall have jurisdiction to grant such relief as the public interest and the equities of the case may require. The President may also, after notice to the affected State, take other action under this section including, but not limited to, issuing such orders as may be necessary to protect public health and welfare and the environment.
>
> (b)(1) Any person who, without sufficient cause, willfully violates, or fails or refuses to comply with, any order of the President under subsection (a) of this section may, in an action brought in the appropriate United States district court to enforce such order, be fined not more that $25,000 for each day in which such violation occurs or such failure to comply continues.[361]

Note that the CERCLA provision vests the authority to bring an action in the President, rather than the EPA Administrator. This structure makes it much more difficult to enforce against federal facilities.

CERCLA section 106(a) is somewhat different from the other imminent hazard provisions in that it does not identify the liable parties; instead the statute contains a general liability provision in section 107(a)[362]. It places liability for cleanup of hazardous substances on four specific classes of parties: 1) any person who arranged for the treatment or disposal of hazardous substances; 2) any person who transported hazardous substances to a site selected by that person; 3) any person who is the current owner or operator of a site at which hazardous substances have been disposed; and 4) any person who owned or operated a site at the time of the disposal of hazardous substances.[363]

F. *State Laws*

Finally, many state environmental laws contain imminent

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361. Pub. L. No. 96-510, § 106(a), 94 Stat. at 2780 (codified at 42 U.S.C. § 9606(a) (Westlaw 2007)).

362. *See, e.g.*, United States v. Bliss, 667 F. Supp. 1298, 1313 (E.D. Mo. 1987) (the liability provisions of section 107(a) govern actions for injunctive relief under section 106(a)).

363. CERCLA § 107(a), 42 U.S.C. § 9607(a) (Westlaw 2007).

hazard provisions similar to the federal provisions,[364] some of them modeled closely on their federal counterparts.[365] In some circumstances the state provisions may be broader or more clearly applicable than the federal provisions, and may serve as a useful compliment to federal law. Moreover, because each of the federal statutes includes a waiver of federal sovereign immunity from actions under analogous state laws,[366] the imminent hazard provisions of those state laws generally apply to the federal government. An examination of these state laws is beyond the scope of this Article, however.

V. INTERPRETATION AND APPLICATION OF THE IMMINENT HAZARD PROVISIONS

The imminent hazard provisions of environmental laws have only rarely been applied to federal facilities. Nevertheless, there is a rather large body of federal case law interpreting these provisions in a variety of circumstances, as well as a substantial collection of relevant EPA guidance documents. The case law and guidance is generally applicable to both federal and non-federal facilities. This section examines, in detail, the interpretation, and implementation of the imminent hazard provisions of the federal[367] environmental laws, including the citizen suit provision in RCRA.

As we saw in the previous Section, Congress used expansive language in drafting the imminent hazard provisions in federal environmental laws. For their part, EPA and the federal courts

364. *E.g.*, CAL. HEALTH & SAFETY CODE § 25358.3 (Westlaw 2007); IND. CODE ANN. § 13-14-10-2 (Westlaw 2007); MASS. GEN. LAWS ANN. ch. 21E, § 9 (Westlaw 2007); MICH. COMP. LAWS ANN. §§ 324.5518, 324.20119 (Westlaw 2007); N.C. GEN. STAT. ANN. § 130A-310.5 (Westlaw 2007); N.M. STAT. ANN. § 74-4-13 (Westlaw 2007); N.M. STAT. ANN. § 74-6-11 (Westlaw 2007); OKLA. STAT. ANN. tit. 27A, § 2-3-504 (Westlaw 2007); W. VA. CODE ANN. § 22-18-18 (Westlaw 2007); *see also*, ENVTL. L. INST., AN ANALYSIS OF STATE SUPERFUND PROGRAMS: 50-STATE STUDY, 2001 UPDATE 133-279 (2002).

365. For example, the imminent hazard provision of the New Mexico Hazardous Waste Act, N.M. STAT. ANN. § 74-4-13 (Westlaw 2007), is virtually identical to section 7003 of RCRA. The imminent hazard provision of the California Hazardous Substance Accounts Act, CAL. HEALTH & SAFETY CODE § 25358.3 (Westlaw 2007), is quite similar to section 106(a) of CERCLA.

366. *See* discussion *supra* Section II.A.4, especially notes 185, 187, 189-191.

367. The imminent hazard provisions of many state environmental laws, which are modeled on the federal provisions, raise similar issues of interpretation. An examination of the interpretation of state imminent hazard provisions is beyond the scope of this Article.

have interpreted these provisions broadly. In guidance documents on use of the imminent hazard provisions under the Clean Air Act,[368] the Clean Water Act,[369] the Safe Drinking Water Act,[370] RCRA,[371] and CERCLA,[372] EPA has tended to propound a broad application of these provisions, and the agency has generally advocated a broad interpretation of the provisions in its enforcement actions. The courts, too, have interpreted these provisions liberally, often applying the remedial purpose canon. Under the remedial purpose canon, a remedial statute is to be interpreted liberally to effectuate its goals.[373] Nearly every federal court of appeals has applied the canon to the construction of CERCLA,[374] and federal courts have applied it to construction of

368. EPA, Guidance on Section 303 of the Clean Air Act (Apr. 1, 1999) [hereinafter EPA Guidance on Section 303 of the Clean Air Act] (on file with the author); EPA, Guidance on Using Order Authority under Section 112(r)(9) of the Clean Air Act (Apr. 17, 1991) (on file with the author).

369. EPA, Guidance on the Use of Section 504 of the Clean Water Act (Aug. 11, 1992) [hereinafter EPA Guidance on Section 504 of the Clean Water Act] (on file with the author).

370. EPA, Final Guidance on Emergency Authority under Section 1431 of the Safe Drinking Water Act (Sept. 27, 1991) [hereinafter EPA Guidance on Section 1431 of the Safe Drinking Water Act] (on file with the author).

371. EPA, Guidance on the Use of Section 7003 of RCRA (Oct. 1997) [hereinafter EPA Guidance on Section 7003 of RCRA], *reprinted in* 4 ROBERT E. STEINBERG & RICHARD H. MAYS, RCRA AND SUPERFUND: A PRACTICE GUIDE WITH FORMS 37-2 (2d ed. 2001); EPA, Final Revised Guidance Memorandum on the Use and Issuance of Administrative Orders Under Section 7003 of the Resource Conservation and Recovery Act (RCRA) (Sept. 26, 1984) (on file with the author).

372. EPA, Guidance on CERCLA Section 106 Judicial Actions (Feb. 24, 1989) [hereinafter EPA Guidance on Section 106 of CERCLA], *reprinted in* 3 STEINBERG & MAYS, *supra* note 371, at 13-4; EPA, Guidance Memorandum on the Use and Issuance of Administrative Orders Under § 106(a) of CERCLA (Sept. 8, 1983), *reprinted in* 3 STEINBERG & MAYS, *supra* note 371, at 3-4.

373. *See generally* Blake A. Watson, *Liberal Construction of CERCLA Under the Remedial Purpose Canon: Have the Lower Courts Taken a Good Thing Too Far?*, 20 HARV. ENVTL. L. REV. 199 (1996).

374. Dedham Water Co. v. Cumberland Farms Dairy, Inc., 805 F.2d 1074, 1081 (1st Cir. 1986) ("CERCLA is essentially a remedial statute designed by Congress to protect and preserve public health and the environment" and "[w]e are therefore obligated to construe its provisions liberally to avoid frustration of the beneficial legislative purposes."); B.F. Goodrich Co. v. Murtha, 958 F.2d 1192, 1198 (2d Cir. 1992) ("Because it is a remedial statute, CERCLA must be construed liberally to effectuate its two primary goals."); United States v. Alcan Aluminum Corp., 964 F.2d 252, 258 (3d Cir. 1992) ("CERCLA is a remedial statute which should be construed liberally to effectuate its goals."); United States v. Carolina Transformer Co., 978 F.2d 832, 838 (4th Cir. 1992) ("[S]ince CERCLA is a remedial statute, its provisions should be construed broadly to avoid frustrating the legislative purpose."); Amoco Oil Co. v. Borden, Inc., 889 F.2d 664, 669 (5th Cir. 1989) ("[T]he definition of 'release' should be construed broadly . . . to avoid frustrating the

the imminent hazard provision of RCRA,[375] the Clean Water Act,[376] and the Safe Drinking Water Act,[377] as well.

A. *An Imminent and Substantial Endangerment*

The issue at the crux of most imminent hazard cases is the interpretation of the terms "imminent and substantial endangerment." In construing these words, the courts have cautioned that an allegation of an imminent and substantial endangerment is a serious one, and it should not be taken lightly. An endangerment will not be found "if the risk of harm is remote in time, completely speculative in nature, or *de minimis* in degree."[378] Nor will an endangerment be found if the cause of the

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beneficial legislative purpose."); Anspec Co. v. Johnson Controls, 922 F.2d 1240, 1247 (6th Cir. 1991) ("[T]he remedial nature of CERCLA's scheme requires the courts to interpret its provisions broadly to avoid frustrating the legislative purposes."); United States v. Aceto Agric. Chems. Corp., 872 F.2d 1373, 1380 (8th Cir. 1989) ("[A] liberal judicial interpretation is consistent with CERCLA's 'overwhelmingly remedial' statutory scheme."); Catellus Dev. Corp. v. United States, 34 F.3d 748, 751 (9th Cir. 1994) ("CERCLA is to be broadly interpreted to achieve its remedial goals."); Atl. Richfield Co. v. Am. Airlines, Inc., 98 F.3d 564, 570 (10th Cir. 1996) ("[B]ecause CERCLA is remedial legislation, it should be construed liberally to carry out its purpose."); Fla. Power & Light Co. v. Allis Chalmers Corp., 893 F.2d 1313, 1317 (11th Cir. 1990) ("[A] liberal judicial interpretation . . . is required in order that we achieve CERCLA's 'overwhelmingly remedial' statutory scheme.").

375. *Aceto Agric. Chems. Corp.*, 872 F.2d at 1383 (RCRA "is a remedial statute, which should be liberally construed."); *accord* Aiello v. Town of Brookhaven, 136 F. Supp. 2d 81, 112 (E.D.N.Y. 2001); United States v. Valentine, 885 F. Supp. 1506, 1511 (D. Wyo. 1995); *see also* Davis v. Sun Oil Co., 148 F.3d 606, 609 (6th Cir. 1998) ("RCRA is a remedial measure that courts have tended to construe and apply in a liberal, though not unbridled, manner."); United States v. Hooker Chems. & Plastics Corp., 749 F.2d 968, 988 (2d Cir. 1984) (stating in reference to RCRA that "the legal standard 'an imminent and substantial endangerment' . . . has been construed broadly in order to leave the Administrator free to abate emergency pollution problems").

376. *Hooker Chems.*, 749 F.2d at 988 (stating that the imminent hazard provision in the Clean Water Act "has been construed broadly"); United States v. Boldt, 929 F.2d 35, 41 (1st Cir. 1991) (stating that the Clean Water Act is "construed in a broad, rather than a narrow fashion").

377. *Hooker Chems.*, 749 F.2d at 988 (stating that the imminent hazard provision in the Safe Drinking Water Act "has been construed broadly").

378. W.R. Grace & Co. v. EPA, 261 F.3d 330, 339-40 (3d Cir. 2001); Me. People's Alliance v. Holtrachem Mfg. Co., 211 F. Supp. 2d 237, 247 (D. Me. 2002), *aff'd sub nom.* Me. People's Alliance v. Mallinckrodt, Inc., 471 F.3d 277 (1st Cir. 2006), *cert. denied*, 2007 WL 1479993 (S. Ct. Oct. 1, 2007); Wilson v. Amoco Corp., 989 F. Supp. 1159, 1172 (D. Wyo. 1998); United States v. Reilly Tar & Chem. Co., 546 F. Supp. 1100, 1109 (D. Minn. 1982); Lincoln Props., Ltd. v. Higgins, 36 Env't Rep. Cas. (BNA) 1228, 1240 (E.D. Cal. 1993).

endangerment "no longer presents such a danger."[379] Despite these rather mild reservations, the courts and EPA have interpreted the words "imminent and substantial endangerment" quite liberally, in several respects.

First, in construing the imminent hazard provisions of RCRA,[380] the courts have held that an imminent and substantial endangerment to health or the environment is not necessarily an emergency.[381] In an action under section 7003 of RCRA, "EPA need not prove that an emergency exists to prevail."[382] EPA RCRA guidance similarly states that "[i]t is not necessary for the endangerment to be . . . tantamount to an emergency."[383] Courts have also held that an endangerment under section 106 of CERCLA "is not limited to emergency situations."[384]

Second, focusing on the term "endangerment," the courts have repeatedly held that it is not necessary to show actual harm to prove an endangerment, only a *risk* of harm. The courts first applied this interpretation in a pair of early landmark environmental cases. Although neither case was brought under an imminent hazard provision, both turned on the meaning of the word "endanger" in federal environmental statutes. In the first

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379. Meghrig v. KFC W., Inc., 516 U.S. 479, 485-86 (1996).

380. By far, the majority of the reported cases interpreting the terms "imminent and substantial endangerment" are RCRA cases.

381. Dague v. City of Burlington, 935 F.2d 1343, 1355-56 (2d Cir. 1991) (Section 7002(a)(1)(B) "is not specifically limited to emergency-type situations."); United States v. Waste Indus., Inc., 734 F.2d 159, 165 (4th Cir. 1984); (The application of RCRA section 7003 "is not specifically limited to an 'emergency.'"); United States v. Union Corp., 259 F. Supp. 2d 356, 399 (E.D. Pa. 2003) ("[T]he application of section 6972 is not limited to emergency situations."); Wilson v. Amoco Corp., 989 F. Supp. 1159, 1174 (D. Wyo. 1998) ("Although [section 7002(a)(1)(B)] certainly encompasses emergency-type situations, it is not limited in application to such a narrow set of circumstances."); United States v. Valentine, 856 F. Supp. 621, 626 (D. Wyo. 1994) ("An endangerment need be neither immediate nor tantamount to an emergency to be imminent and warrant relief."); Fairway Shoppes Joint Venture v. Dryclean U.S.A. of Fla., Inc., 27 Envtl. L. Rep. (Envtl. Law. Inst.) 21,069, 21,072, 21,073 (S.D. Fla. 1996) ("It is generally recognized that application [of section 7002(a)(1)(B)] is not limited to emergency situations."); Lincoln Props., Ltd. v. Higgins, 36 Env't Rep. Cas. (BNA) 1228, 1240 (E.D. Cal. 1993) (Application of section 7002(a)(1)(B) "is not limited to emergency situations.").

382. *Waste Indus.*, 734 F.2d at 168.

383. EPA Guidance on Section 7003 of RCRA, *supra* note 371 at 10.

384. B.F. Goodrich Co. v. Murtha, 697 F. Supp. 89, 96 (D. Conn. 1988), *aff'd*, 958 F.2d 1192 (2d Cir. 1992); *accord* United States v. Conservation Chem. Co., 619 F. Supp. 162, 175, 193 (W.D. Mo. 1985) (explaining that an endangerment under section 106 "need not be an emergency for it to be imminent and substantial").

case, *Reserve Mining Co. v. EPA*,[385] EPA sought to enjoin a mining company from discharging asbestos into Lake Superior under the Water Quality Act, a precursor to the Clean Water Act. The Court of Appeals for the Eighth Circuit held that the term "endangering" in that statute was used "in a precautionary or preventive sense." Therefore, the court concluded, "evidence of potential harm as well as actual harm comes within the purview of that term."[386] In the second case, *Ethyl Corp. v. EPA*,[387] a chemical company challenged EPA's regulations phasing out lead additives in gasoline under the Clean Air Act. The Court of Appeals for the D.C. Circuit took a similar view of the term "endanger," reasoning:

> The meaning of "endanger" is not disputed. Case law and dictionary definition agree that endanger means something less than actual harm. When one is endangered, harm is threatened; no actual injury need ever occur. Thus, for example, a town may be "endangered" by a threatening plague or hurricane and yet emerge from the danger completely unscathed. A statute allowing for regulation in the face of danger is, necessarily, a precautionary statute. Regulatory action may be taken before the threatened harm occurs; indeed, the very existence of such precautionary legislation would seem to demand that regulatory action precede, and, optimally, prevent, the perceived threat.[388]

Further, the *Ethyl* court opined that a sliding scale was appropriate in gauging the level of proof necessary to support an endangerment finding: "the public health may be properly found endangered both by a lesser risk of a greater harm and by a greater risk of a lesser harm."[389] Following these precedents, several courts have held that the term "endangerment" in the imminent hazard provisions of RCRA "means a threatened or potential harm and does not require proof of actual harm."[390] Courts have likewise

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385. 514 F.2d 492 (8th Cir. 1975).

386. *Id.* at 528.

387. 541 F.2d 1, 13 (D.C. Cir.) (en banc), *cert. denied*, 426 U.S. 941 (1976) (interpreting the term "endanger" in section 211(c)(1)(A) of the Clean Air Act, 42 U.S.C. § 7545(c)(1)(A)).

388. *Id.* (footnotes omitted). Judge Skelly Wright wrote the opinion of the court on rehearing en banc, reversing the decision of the original panel. Judge Wright had written a dissenting opinion in the court's earlier decision, making points similar to those quoted above. 7 Env't Rep. Cas. (BNA) 1353, 1386 (D.C. Cir. 1975) (Wright, J., dissenting).

389. 541 F.2d at 18.

390. Interfaith Cmty. Org. v. Honeywell Int'l, Inc., 399 F.3d 248, 258 (3d Cir. 2005), *cert. denied*, 545 U.S. 1129 (2005); *accord* Parker v. Scrap Metal Processors, Inc., 386 F.3d

held that the imminent hazard provisions of the Clean Water Act,[391] the Safe Drinking Water Act,[392] and CERCLA[393] do not require proof of actual harm. EPA has said much the same thing in its guidance documents.[394]

Third, as we saw in the previous Section, under the Safe Drinking Water Act, RCRA, and CERCLA, the plaintiff only needs to show that there *may* be an endangerment. Focusing on Congress' use of the word "may" to preface the standard of liability under section 7003 of RCRA, one court observed that "EPA need not prove that an endangerment actually exists," but only "that there *may* be 'an . . . endangerment.'"[395] Another court likewise

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993, 1015 (11th Cir. 2004); Davis v. Sun Oil Co., 148 F.3d 606, 610 (6th Cir. 1998); Price v. U.S. Navy, 39 F.3d 1011, 1019 (9th Cir. 1994); Dague v. City of Burlington, 935 F.2d 1343, 1356 (2d Cir. 1991); United States v. Union Corp., 259 F. Supp. 2d 356, 400 (E.D. Pa. 2003); Me. People's Alliance v. Holtrachem Mfg. Co., 211 F. Supp. 2d 237, 246 (D. Me. 2002), *aff'd sub nom.* Me. People's Alliance v. Mallinckrodt, Inc., 471 F.3d 277 (1st Cir. 2006), *cert. denied*, 2007 WL 1479993 (S. Ct. Oct. 1, 2007); Aiello v. Town of Brookhaven, 136 F. Supp. 2d 81, 115 (E.D.N.Y. 2001); Raymond K. Hoxsie Real Estate Trust v. Exxon Educ. Found., 81 F. Supp. 2d 359, 366 (D.R.I. 2000); Nashua Corp. v. Norton Co., 116 F. Supp. 2d 330, 356 (N.D.N.Y. 2000); Wilson v. Amoco Corp., 989 F. Supp. 1159, 1172 (D. Wyo. 1998); Lefebvre v. Central Me. Power Co., 7 F. Supp. 2d 64, 68 (D. Me. 1998); Craig Lyle Ltd. P'ship v. Land O' Lakes, Inc., 877 F. Supp. 476, 482 (D. Minn. 1995); United States v. Valentine, 856 F. Supp. 621, 626 (D. Wyo. 1994); Paper Recycling, Inc. v. Amoco Oil Co., 856 F. Supp. 671, 678 (N.D. Ga. 1993); Petropoulos v. Columbia Gas of Ohio, Inc., 840 F. Supp. 511, 516 (S.D. Ohio 1993); United States v. Ottati & Goss, Inc., 630 F. Supp. 1361, 1394 (D.N.H. 1985).

391. United States v. Vertac Chem. Corp., 489 F. Supp. 870, 885 (E.D. Ark. 1980).

392. United States v. Midway Heights County Water Dist., 695 F. Supp. 1072, 1076 (E.D. Cal. 1988) ("This court need not wait to exercise its authority until water district customers have actually fallen ill from drinking" contaminated water.).

393. B.F. Goodrich Co. v. Murtha, 697 F. Supp. 89, 96 (D. Conn. 1988), *aff'd*, 958 F.2d 1192 (2d Cir. 1992); United States v. Conservation Chem. Co., 619 F. Supp. 162, 175, 192 (W.D. Mo. 1984).

394. EPA Guidance on Section 7003 of RCRA, *supra* note 371, at 10 ("An 'endangerment' is an actual, threatened, or potential harm to health or the environment."); EPA Guidance on Section 504 of the Clean Water Act, *supra* note 369, at 9 ("Evidence of actual harm is not required."); EPA Guidance on Section 1431 of the Safe Drinking Water Act, *supra* note 370, at 6 ("An endangerment is not actual harm, but a threatened or potential harm."); EPA Guidance on Section 106 of CERCLA, *supra* note 372, at 4 ("'Endangerment' is not actual harm, but a threatened or potential harm.").

395. *Valentine*, 856 F. Supp. at 626 (emphasis in original); *see also Interfaith Cmty. Org.*, 399 F.3d at 258 ("Because the operative word is 'may,' however, the plaintiffs must only show that there is a potential for an imminent threat of serious harm."), *cert. denied*, 545 U.S. 1129 (2005); *Parker*, 386 F.3d at 1015 ("[T]he operative word in the statute is the word 'may,'" and "[a]ccordingly, the plaintiffs need only demonstrate that the waste disposed of 'may present' an imminent and substantial threat."); Kara Holding Corp. v. Getty Petroleum Mktg., Inc., 67 F. Supp. 2d 302, 310 (S.D.N.Y. 1999) ("The operative word in section [7002](a)(1)(B) is 'may,' however, and a plaintiff need not establish an

noted that section 106 of CERCLA "authorizes injunctive relief when there *may* be a risk of harm, not just when there *is* a risk of harm."[396] Several courts have concluded that this "expansive language [in RCRA] is intended to confer upon the courts the authority to grant affirmative equitable relief to the extent necessary to eliminate *any risk* posed by toxic wastes."[397]

Fourth, focusing on the term "imminent," the courts have held that the harm need not be immediate, and may be years away, provided that the threat of harm is imminent. This holding finds support in the legislative history of at least two of the imminent hazard provisions. In the Senate Report for the 1984 amendments to RCRA, which made significant revisions to the imminent hazard provision, Congress stated:

> An endangerment is "imminent" and actionable when it is shown that it presents a threat to human health or the environment, even if it may not eventuate or be fully manifest for a period of many years—as may be the case with drinking water contamination, cancer, and many other effects.[398]

Congress made similar comments in the House Report on the 1976 Safe Drinking Water Act:

> [W]hile the risk of harm must be "imminent" for the administrator to act, the harm itself need not be. Thus, for example, the administrator may invoke this section when there is an imminent likelihood of the introduction into drinking water of contaminants that may cause health damage after a period of latency.[399]

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incontrovertible 'imminent and substantial' harm to health and the environment.").

396. *Conservation Chem.*, 619 F. Supp. at 175, 193 (internal quotations omitted).

397. Dague v. City of Burlington, 935 F.2d 1343, 1355 (2d Cir. 1991) (emphasis in original); *accord Parker*, 386 F.3d at 1015; United States v. Price, 688 F.2d 204, 214 (3d Cir. 1982); United States v. Union Corp., 259 F. Supp. 2d 356, 399 (E.D. Pa. 2003); Me. People's Alliance v. Holtrachem Mfg. Co., 211 F. Supp. 2d 237, 246-47 (D. Me. 2002), *aff'd sub nom.* Me. People's Alliance v. Mallinckrodt, Inc., 471 F.3d 277 (1st Cir. 2006), *cert. denied*, 2007 WL 1479993 (S. Ct. Oct. 1, 2007); Aiello v. Town of Brookhaven, 136 F. Supp. 2d 81, 115 (E.D.N.Y. 2001); Raymond K. Hoxsie Real Estate Trust v. Exxon Educ. Found., 81 F. Supp. 2d 359, 365 (D.R.I. 2000); *Kara Holding Corp.*, 67 F. Supp. 2d at 310.

398. S. REP. NO. 98-284, at 59 (1983), *reprinted in* 2 A LEGISLATIVE HISTORY OF RCRA, *supra* note 331, at 2023, 2085.

399. H.R. REP. NO. 93-1185, at 36 (1974), *reprinted in* 1974 U.S.C.C.A.N. 6454, 6488, *and in* A LEGISLATIVE HISTORY OF THE SAFE DRINKING WATER ACT, *supra* note 311, at 533, 568.

Thus, several courts construing RCRA have held that "[a] finding of 'imminency' does not require a showing that actual harm will occur immediately so long as the risk of threatened harm is present."[400] Further, "[a]n endangerment is 'imminent' if factors giving rise to it are present, even though the harm may not be realized for some time."[401] EPA makes a similar statement in its RCRA guidance.[402] Likewise, courts construing the Safe Drinking Water Act held that "only the risk of harm must be imminent."[403] And courts construing CERCLA have held that "[a]n endangerment need not be immediate to be 'imminent'"; rather, "an endangerment is imminent if factors giving rise to it are present, even though the harm may not be realized for years."[404]

In *Meghrig v. KFC Western, Inc.*, the Supreme Court somewhat more conservatively stated that "[a]n endangerment can only be 'imminent' if it threatens to occur immediately."[405] This statement led one federal court of appeals to question "whether the Court intended to refute the reading of 'imminence' contained in [earlier cases]: a looming threat of harm, but not necessarily a looming harm."[406] It is unlikely that the *Meghrig* Court intended such a refutation, however. Note that the Court in *Meghrig* stated only that the *endangerment* must be imminent, not the *harm*. Moreover, the *Meghrig* Court went on to state, consistent with prior

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400. Price v. U.S. Navy, 39 F.3d 1011, 1019 (9th Cir. 1994); *accord Me. People's Alliance* 471 F.3d at 279 n.1; Cox v. City of Dallas, 256 F.3d 281, 299 (5th Cir. 2001); *Dague*, 935 F.2d at 1356; *Union Corp.*, 259 F. Supp. 2d at 400; *Aiello*, 136 F. Supp. 2d at 115; Nashua Corp. v. Norton Co., 116 F. Supp. 2d 330, 356 (N.D.N.Y. 2000); Raytheon Co. v. McGraw-Edison Co., 979 F. Supp. 858, 862 (E.D. Wisc. 1997); Craig Lyle Ltd. P'ship v. Land O'Lakes, Inc., 877 F. Supp. 476, 482 (D. Minn. 1995).

401. *Me. People's Alliance*, 211 F. Supp. 2d at 247; *accord* Wilson v. Amoco Corp., 989 F. Supp. 1159, 1174 (D. Wyo. 1998) (stating that "impact of the threatened harm may not be realized, if ever, for many years"); *Valentine*, 856 F. Supp. at 626 (stating that "the harm may not be realized for years").

402. EPA Guidance on Section 7003 of RCRA, *supra* note 371, at 10 ("An endangerment is 'imminent' if the present conditions indicate that there may be a future risk to health or the environment even though the harm may not be realized for years.") (footnotes omitted).

403. Trinity Am. Corp. v. EPA, 150 F.3d 389, 399 (4th Cir. 1998) (internal quotations omitted); *accord* W.R. Grace & Co. v. EPA, 261 F.3d 330, 339 (3d Cir. 2001) ("EPA may take action to prevent even a *risk of* harm to a public drinking water system.").

404. United States v. Conservation Chem. Co., 619 F. Supp. 162, 175, 193-94 (W.D. Mo. 1985); *accord* B.F. Goodrich Co. v. Murtha, 697 F. Supp. 89, 96 (D. Conn. 1988), *aff'd*, 958 F.2d 1192 (2d Cir. 1992).

405. 516 U.S. 479, 485 (1995) (internal quotations omitted).

406. Davis v. Sun Oil Co., 148 F.3d 606, 610 n.3 (6th Cir. 1998).

case law and legislative history, that although "there must be a *threat* which is present now, . . . the impact of the threat may not be felt until later."[407]

Fifth, focusing on the word "substantial," several courts have held that it is not necessary to "quantify" an endangerment under RCRA[408] or CERCLA.[409] Thus, the plaintiff need not show, for example, that excess deaths will occur to show that the endangerment is "substantial," or that "a certain number of persons will be exposed" to pollutants, or that "a water supply will be contaminated to a specific degree."[410] Courts have stated that an endangerment can be based on "nondefinitive data"[411] or "circumstantial evidence."[412] Proof of an endangerment does not require a "rigorous step-by-step proof of cause and effect."[413] Further, an endangerment under RCRA "may be assessed from suspected, but not completely substantiated, relationships between facts, from trends among facts, from theoretical projections[,] from imperfect data, or from probative preliminary data not yet certifiable as 'fact.'"[414] The reason for these holdings, according to one court, is that often "the evaluation of a risk of harm involves medical and scientific conclusions that clearly lie on the frontiers of scientific knowledge, such that proof with certainty is impossible."[415] In the *Reserve Mining* case, discussed above, the

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407. 516 U.S. at 486 (emphasis added).

408. Interfaith Cmty. Org. v. Honeywell Int'l, Inc., 399 F.3d 248, 259 (3d Cir.), *cert. denied*, 545 U.S. 1129 (2005); United States v. Union Corp., 259 F. Supp. 2d 356, 400 (E.D. Pa. 2003); Me. People's Alliance v. Holtrachem Mfg. Co., 211 F. Supp. 2d 237, 247 (D. Me. 2002), *aff'd sub nom.* Me. People's Alliance v. Mallinckrodt, Inc., 471 F.3d 277 (1st Cir. 2006), *cert. denied*, 2007 WL 1479993 (S. Ct. Oct. 1, 2007); Raymond K. Hoxsie Real Estate Trust v. Exxon Educ. Found., 81 F. Supp. 2d 359, 367 (D.R.I. 2000); United States v. Valentine, 856 F. Supp. 621, 626 (D. Wyo. 1994); Lincoln Props., Ltd. v. Higgins, 36 Env't Rep. Cas. (BNA) 1228, 1240 (E.D. Cal. 1993).

409. *B.F. Goodrich*, 697 F. Supp. at 96 n.8; *Conservation Chem.*, 619 F. Supp. at 175, 194.

410. Interfaith Cmty. Org. v. Honeywell Int'l, Inc., 263 F. Supp. 2d 796, 837 (D.N.J. 2003), *aff'd*, 399 F.3d 248, 259 (3d Cir.), *cert. denied*, 545 U.S. 1129 (2005); *Union Corp.*, 259 F. Supp. 2d at 400; *Lincoln Props.*, 36 Env't Rep. Cas. (BNA) at 1240 (quoting *Conservation Chem.*, 619 F. Supp. at 194).

411. *Me. People's Alliance*, 211 F. Supp. 2d at 247.

412. *Valentine*, 856 F. Supp. at 627.

413. Ethyl Corp. v. EPA, 541 F.2d 1, 28 (D.C. Cir.) (en banc).

414. United States v. Vertac Chem. Corp., 489 F. Supp. 870, 885 (E.D. Ark. 1980). The Senate Report on the 1984 amendments to RCRA quoted this passage from *Vertac* approvingly, and it added the comma after "projections." S. REP. NO. 98-284 at 59 (1983), *reprinted in* 2 A LEGISLATIVE HISTORY OF RCRA, *supra* note 331, at 2023, 2085.

415. *Me. People's Alliance*, 211 F. Supp. 2d at 247 (internal quotations omitted) (quoting Reserve Mining Co. v. EPA, 514 F.2d 492, 519-20 (8th Cir. 1975)).

court eloquently discussed the difficulties in substantiating an endangerment:

> In assessing the probabilities in this case, it cannot be said that the probability of harm is more likely than not. Moreover, the level of probability does not easily convert into a prediction of consequences. On this record, it cannot be forecast that the rates of cancer will increase from drinking Lake Superior water or breathing Silver Bay air. The best that can be said is that the existence of this asbestos contamination in air and water gives rise to a reasonable medical concern for the public health. The public's exposure to asbestos fibers in the air and water creates some health risk. Such a contaminant should be removed.[416]

Accordingly, several courts have concluded that an "endangerment is 'substantial' if there is some reasonable cause for concern that someone or something may be exposed to risk or harm if remedial action is not taken," under RCRA[417] or CERCLA.[418] EPA states a similar position in its RCRA guidance.[419] Other courts have stated simply that an endangerment is substantial if it is "serious."[420]

B. *To Health, Welfare, or the Environment*

The next issue in imminent hazard cases is the interpretation

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416. Reserve Mining Co. v. EPA, 514 F.2d 492, 520 (8th Cir. 1975).

417. Interfaith Cmty. Org. v. Honeywell Int'l, Inc., 399 F.3d 248, 259 (3d Cir.), *cert. denied*, 545 U.S. 1129 (2005) (internal quotations omitted); *accord* United States v. Union Corp., 259 F. Supp. 2d 356, 400 (E.D. Pa. 2003); *Me. People's Alliance*, 211 F. Supp. 2d at 247; Aiello v. Town of Brookhaven, 136 F. Supp. 2d 81, 115 (E.D.N.Y. 2001); Raymond K. Hoxsie Real Estate Trust v. Exxon Educ. Found., 81 F. Supp. 2d 359, 366 (D.R.I. 2000); Wilson v. Amoco Corp., 989 F. Supp. 1159, 1174 (D. Wyo. 1998); United States v. Valentine, 856 F. Supp. 621, 626 (D. Wyo. 1994); Lincoln Props., Ltd. v. Higgins, 36 Env't Rep. Cas. (BNA) 1228, 1240 (E.D. Cal. 1993).

418. B.F. Goodrich Co. v. Murtha, 697 F. Supp. 89, 96 n.8 (D. Conn. 1988), *aff'd*, 958 F.2d 1192 (2d Cir. 1992); United States v. Conservation Chem. Co., 619 F. Supp. 162, 175, 194 (W.D. Mo. 1985).

419. EPA Guidance on Section 7003 of RCRA, *supra* note 371, at 11 ("An endangerment is 'substantial' if there is reasonable cause for concern that health or the environment may be seriously harmed.").

420. Me. People's Alliance v. Mallinckrodt, Inc., 471 F.3d 277, 288 (1st Cir. 2006), *cert. denied*, 2007 WL 1479993 (S. Ct. Oct. 1, 2007); Parker v. Scrap Metal Processors, Inc., 386 F.3d 993, 1015 (11th Cir. 2004); Cox v. City of Dallas, 256 F.3d 281, 300 (5th Cir. 2001); Price v. U.S. Navy, 39 F.3d 1011, 1019 (9th Cir. 1994). On the other hand, one court held that "an exceedingly low risk of harm or only minor harm" is not "substantial." Citizens for a Better Env't. v. Caterpillar, Inc., 30 F. Supp. 2d 1053, 1073 (C.D. Ill. 1998).

of the words "health," "welfare," and the "environment." These words are separated in the statutes by the disjunctive "or," signifying that an endangerment to welfare alone or the environment alone is sufficient to warrant action, and the courts have applied the provisions accordingly.[421] The courts have, moreover, interpreted these individual words broadly.

1. *Health.*

The imminent hazard provision in each of the five statutes applies if there is an endangerment to "health," or the "public health," or the "health of persons." None of the statutes defines the term "health"; presumably Congress thought the term was straightforward and not in need of a definition.

The courts have found an imminent and substantial endangerment to health under a variety of circumstances. For example, one court found an endangerment to health under RCRA and the Clean Water Act where dioxin was escaping from a chemical plant into surface water "in quantities that under an acceptable but unproved theory may be considered as teratogenic, mutagenic, fetotoxic, and carcinogenic."[422] Another court found an endangerment to health under RCRA resulting from "widespread asbestos contamination" that could be "blown off-site."[423] In another RCRA case, the court found a health endangerment where mercury had accumulated in lobsters and mussels used for human consumption.[424] In still another RCRA case, the court found that an endangerment to human health may result from contact with PCBs in contaminated soils on an industrial site, or from ingestion of PCBs in contaminated fish taken from the adjacent river.[425] In the more typical case, several courts have found an endangerment where groundwater had been polluted with chemicals, contaminating or threatening drinking water supplies.[426] In many endangerment cases, the courts found it

421. *Conservation Chem.*, 619 F. Supp. at 175, 192.

422. United States v. Vertac Chem. Corp., 489 F. Supp. 870, 885 (E.D. Ark. 1980).

423. Wilson v. Amoco Corp. 989 F. Supp. 1159, 1176 (D. Wyo. 1998).

424. Me. People's Alliance v. Holtrachem Mfg. Co., 211 F. Supp. 2d 237, 249-50 (D. Me. 2002), *aff'd sub nom. Me. People's Alliance*, 471 F.3d 277.

425. United States v. Union Corp., 259 F. Supp. 2d 356, 382 (E.D. Pa. 2003).

426. Trinity Am. Corp. v. EPA, 150 F.3d 389, 393 (4th Cir. 1998) (Safe Drinking Water Act); Raymond K. Hoxsie Real Estate Trust v. Exxon Educ. Found., 81 F. Supp. 2d 359, 367 (D.R.I. 2000) (RCRA); Nashua Corp. v. Norton Co., 116 F. Supp. 2d 330, 357

significant that the chemicals were carcinogenic or otherwise toxic,[427] or that they exceeded federal or state health-based standards.[428] Notably, however, one court expressly rejected the notion that the plaintiff must show "the contaminant is present at levels above that considered acceptable by the state."[429] While such

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(N.D.N.Y. 2000) (RCRA); B.F. Goodrich Co. v. Murtha, 697 F. Supp. 89, 96-97 (D. Conn. 1988), *aff'd*, 958 F.2d 1192 (2d Cir. 1992) (CERCLA); *Conservation Chem.*, 619 F. Supp. at 175, 200 (RCRA); United States v. Ottati & Goss, Inc., 630 F. Supp. 1361, 1383-90, 1394 (D.N.H. 1985) (RCRA and CERCLA); United States v. Seymour Recycling Corp., 618 F. Supp. 1, 4-5 (S.D. Ind. 1984) (CERCLA); United States v. Price, 523 F. Supp. 1055, 1059-66 (D.N.J. 1981) (RCRA and Safe Drinking Water Act); Fairway Shoppes Joint Venture v. Dryclean U.S.A. of Fla., Inc., 27 Envtl. L. Rep. (Envtl. Law. Inst.) 21,069, 21,072, 21,073 (S.D. Fla. 1996) (RCRA); United States v. Hardage, 18 Env't Rep. Cas. (BNA) 1687, 1689-94 (W.D. Okla. 1982) (RCRA and CERCLA).

427. Interfaith Cmty. Org. v. Honeywell Int'l, Inc., 263 F. Supp. 2d 796, 816 (D.N.J. 2003) (stating that hexavalent chromium in soil and groundwater "is a known human carcinogen," "has been shown to cause mutation of mammalian cells," and "is toxic to virtually every environmental receptor"), *aff'd*, 399 F.3d 248 (3d Cir.), *cert. denied*, 545 U.S. 1129 (2005); *Me. People's Alliance*, 211 F. Supp. 2d at 245 (stating that "methylmercury is a highly toxic substance"; it "attacks the nervous system, the kidneys; the immune system, and the reproductive system"; "it is extremely toxic to the developing brain"); *Union Corp.*, 259 F. Supp. 2d at 382 (describing the toxicity of PCBs to humans); *B.F. Goodrich*, 697 F. Supp. at 96 (describing groundwater contaminated with benzene and bis (2-chloroethyl) ether, which "are known to be carcinogenic"); *Conservation Chem.*, 619 F. Supp. at 175, 200 (stating that substances leaking into groundwater "have been shown in scientific studies to have toxic, carcinogenic, mutagenic, or teratogenic effects); *Ottati & Goss*, 630 F. Supp. at 1384-86 (describing toxic and carcinogenic effects of substances in groundwater); *Price*, 523 F. Supp. at 1062-63 (describing toxic, carcinogenic, teratogenic, and mutagenic effects of contaminants found in monitoring wells and private wells); *Hardage*, 18 Env't Rep. Cas. (BNA) at 1689-93 (describing toxic and carcinogenic or suspected carcinogenic properties of substances detected in groundwater and drinking water); Lincoln Props., Ltd. v. Higgins, 36 Env't Rep. Cas. (BNA) 1228, 1235-36 (E.D. Cal. 1993) (stating that tetrachloroethylene and trichloroethylene have been linked to cancer in animal studies).

428. *Interfaith Cmty. Org.*, 399 F.3d at 261 ("[T]he amounts of hexavalent chromium . . . far exceeded all applicable [state] contamination standards for soil, groundwater, surface water, and river sediments."); *Trinity*, 150 F.3d at 393 (describing groundwater that was "contaminated with dichloroethene and trichloroethene in excess of the maximum allowed by EPA"); *Raymond K. Hoxsie*, 81 F. Supp. 2d at 367 (D.R.I. 2000) (describing groundwater "contaminated at levels exceeding state standards"); Wilson v. Amoco Corp., 989 F. Supp. 1159, 1175 (D. Wyo. 1998) ("[T]esting has indicated levels of lead contamination in excess of health-based residential land use standards; soil concentrations of antimony, benzo(a)pyrene, polynuclear aromatic hydrocarbons, and mercury in excess of residential soil ingestion standards."); *Price*, 523 F. Supp. at 1062 (describing contaminants found in monitoring wells and private wells "greatly in excess" of EPA water quality criteria); *Fairway Shoppes*, 27 Envtl. L. Rep. (Envtl. Law. Inst.) at 21,072, 21,073 (describeing groundwater samples that "disclose levels of contaminants far exceeding the safe drinking water standards promulgated by the state and federal government"); *Hardage*, 18 Env't Rep. Cas. (BNA) at 1689 (describing substances detected in groundwater and drinking water in excess of ambient water quality criteria).

429. *Interfaith Cmty. Org.*, 399 F.3d at 259-61; *see also* United States v. Hooker Chems. & Plastics Corp., 749 F.2d 968, 988 (2d Cir. 1984) (The "broad authority granted to the

evidence is relevant, it is not essential.[430] Another court astutely recognized the effects of multiple pollutants, noting that "[b]ecause multiple hazardous substances" are present, "the toxic effects of individual contaminants may be compounded."[431]

2. *Welfare.*

The imminent hazard provisions in the Clean Air Act, the Clean Water Act, and CERCLA apply if there is an endangerment to the "public welfare," or the "welfare of persons." The Clean Air Act defines the term "welfare" using very broad language:

> All language referring to effects on welfare includes, but is not limited to, effects on soils, water, crops, vegetation, manmade materials, animals, wildlife, weather, visibility, and climate, damage to and deterioration of property, and hazards to transportation, as well as effects on economic values and on personal comfort and well-being, whether caused by transformation, conversion, or combination with other pollutants.[432]

The Clean Water Act expressly and significantly limits the term "welfare," without fully defining it; under the Act's imminent hazard provision, "welfare" refers to "the livelihood of . . . persons, such as inability to market shellfish."[433] CERCLA does not define the term at all.[434]

Administrator extends . . . to defining what level of a given pollutant constitutes 'an imminent and substantial endangerment.'").

430. *Interfaith Cmty. Org.*, 399 F.3d at 261 n.6. The court held: "State standards do not define a party's liability under RCRA. However, we find New Jersey's standards relevant and useful in determining the existence of an imminent and substantial endangerment." *Id.*

431. *Union Corp.*, 259 F. Supp. 2d at 381. Although the court was discussing risks to aquatic organisms in the quoted passage, the concept is equally valid for risks to human health.

The synergistic effect of multiple pollutants is an important but often overlooked issue in environmental regulation. According to one commenter, "the need for greater attention to be paid to the possible synergistic effects of multiple pollutants" is a "problem[] long experienced whose time for regulatory redress is correspondingly long overdue." RICHARD J. LAZARUS, THE MAKING OF ENVIRONMENTAL LAW 208 (2004).

432. Clean Air Act § 302(h), 42 U.S.C. § 7602(h) (Westlaw 2007).

433. Clean Water Act § 504(a), 33 U.S.C. § 1364(a) (Westlaw 2007).

434. Shortly after President Carter signed CERCLA into law, Senator Robert Stafford, one of the sponsors of the bill, commented that the term "welfare" is intended to include "intangible or long-term benefits." He stated further that "the purpose of the bill

The only case law construing the term "welfare" is under CERCLA, and it is meager. According to one court, "the term 'public welfare' is exceptionally broad, and encompasses health and safety, recreational, aesthetic, environmental, and economic interests."[435]

3. *The environment.*

The imminent hazard provisions in the Clean Air Act, RCRA, and CERCLA also apply if there is an endangerment to the "environment." The term is defined only in CERCLA, and it is defined broadly in that statute:

> The term "environment" means (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-Stevens Fishery Conservation and Management Act, 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.[436]

Although RCRA does not define the term "environment," at least one court has looked to the CERCLA definition as guidance in construing the RCRA term.[437] The RCRA definition of "disposal" is also instructive, defining the term to include the discharge or leaking of waste "into or on any land or water" so that the wastes may "be emitted into the air or discharged into any waters, including ground waters."[438]

Many courts have interpreted the term "environment" under RCRA and CERCLA, and most have given it a broad construction.

. . is to protect the public health and welfare in its broadest possible sense." 126 CONG. REC. 33834 (1980), *reprinted in* 3 S. COMM. ON ENV'T & PUBLIC WORKS, 97TH CONG., A LEGISLATIVE HISTORY OF THE COMPREHENSIVE ENVIRONMENTAL RESPONSE, COMPENSATION, AND LIABILITY ACT OF 1980 (SUPERFUND) (PUBLIC LAW 95-510), at 344, 346 (1983).

435. United States v. Conservation Chem. Co., 619 F. Supp. 162, 175, 192 (W.D. Mo. 1985).

436. CERCLA § 101(8), 42 U.S.C. § 9601(8) (Westlaw 2007).

437. Lincoln Props., Ltd. v. Higgins, 36 Env't Rep. Cas. (BNA) 1228, 1241 (E.D. Cal. 1993).

438. RCRA § 1004(3), 42 U.S.C. § 6903(3) (Westlaw 2007); *see* Interfaith Cmty. Org. v. Honeywell Int'l, Inc., 399 F.3d 248, 263 (3d Cir.), *cert denied*, 545 U.S. 1129 (2005); *Lincoln Props.* 36 Env't Rep. Cas. (BNA) at 1240 n.28.

For example, several courts have found that the term includes wildlife, and therefore that an endangerment under RCRA may exist based on a threat to wildlife, such as benthic micro-invertebrates,[439] mollusks,[440] crustaceans,[441] fish,[442] birds,[443] and mammals.[444] One court held that contamination of a wildlife habitat was evidence of an endangerment.[445] Other courts have found an endangerment based on contamination of a wetland.[446] Another court ruled that a surface water stream is part of the environment.[447] Perhaps most significantly, several courts have explicitly found that the environment includes soil and groundwater.[448] Thus, an endangerment to the environment under

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439. *Interfaith Cmty. Org.*, 399 F.3d at 262; Me. People's Alliance v. Holtrachem Mfg. Co., 211 F. Supp. 2d 237, 249 (D. Me. 2002), *aff'd sub nom.* Me. People's Alliance v. Mallinckrodt, Inc., 471 F.3d 277 (1st Cir. 2006), *cert. denied*, 2007 WL 1479993 (S. Ct. Oct. 1, 2007).

440. *Interfaith Cmty. Org.*, 399 F.3d at 262 (clams and mussels); Conn. Coastal Fishermen's Ass'n v. Remington Arms Co., 989 F.2d 1305, 1317 (2d Cir. 1993) (mussels); United States v. Union Corp., 259 F. Supp. 2d 356, 379-80 (E.D. Pa. 2003) (Asiatic clams); *Me. People's Alliance*, 211 F. Supp. 2d at 250 (blue mussels).

441. *Interfaith Cmty. Org.*, 399 F.3d at 262 (crustaceans generally, crabs, and barnacles); *Union Corp.*, 259 F. Supp. 2d at 379-80 (amphipods); *Me. People's Alliance*, 211 F. Supp. 2d at 249 (lobsters).

442. *Interfaith Cmty. Org.*, 399 F.3d at 262 (unspecified fish); *Union Corp.*, 259 F. Supp. 2d at 380 (silvery minnow, channel catfish, sunfish, and striped bass); *Me. People's Alliance*, 211 F. Supp. 2d at 249 (killifish and bass); *cf.* Hudson Riverkeeper Fund, Inc. v. Atl. Richfield Co., 138 F. Supp. 2d 482, 489-90 (S.D.N.Y. 2001) (striped bass).

443. *Interfaith Cmty. Org.*, 399 F.3d at 262 (Canadian geese, seagulls, owls, and pigeons); *Conn. Coastal Fishermen*, 989 F.2d at 1317 (ducks); *Union Corp.*, 259 F. Supp. 2d at 380-81 (double-crested cormorants, black ducks, killdeer, spotted sandpipers, great black-backed gulls, ring-billed gulls, laughing gulls, Forster's terns, barn swallows, and common crows); *Me. People's Alliance*, 211 F. Supp. 2d at 250-51 (cormorants, ospreys, and eagles); Wilson v. Amoco Corp., 989 F. Supp. 1159, 1176 (D. Wyo. 1998) (unspecified aquatic birds); United States v. Valentine, 856 F. Supp. 621, 624, 626-27 (D. Wyo. 1984) (peregrine falcons and bald eagles).

444. *Interfaith Cmty. Org.*, 399 F.3d at 262 (mice); *cf. Hudson Riverkeeper Fund*, 138 F. Supp. 2d at 490-91 (mink).

445. *Interfaith Cmty. Org.*, 399 F.3d at 261-63; *see also Union Corp.*, 259 F. Supp. 2d at 381 (PCBs, PAHs, and heavy metals released at the site "represent an acute and chronic toxicity threat to aquatic organisms.").

446. *Union Corp.*, 259 F. Supp. 2d at 379 (mudflat on the Delaware River); Aiello v. Town of Brookhaven, 136 F. Supp. 2d 81, 115 (E.D.N.Y. 2001) (Motts Pond).

447. *Interfaith Cmty. Org.*, 399 F.3d at 263 ("[T]he Hackensack River . . . is part of the environment in and of itself.").

448. *E.g.*, Raymond K. Hoxsie Real Estate Trust v. Exxon Educ. Found., 81 F. Supp. 2d 359, 367 (D.R.I. 2000) ("Groundwater, potable or not, and soil are a part of the environment."); Fairway Shoppes Joint Venture v. Dryclean U.S.A. of Fla., Inc., 27 Envtl. L. Rep. (Envtl. Law. Inst.) 21,069, 21,072, 21,073 (S.D. Fla. 1996) ("The term 'environment' appears to include air, soil, and water."); Lincoln Props., Ltd. v. Higgins, 36 Env't Rep.

RCRA or CERCLA may exist from contamination of soil or groundwater, without more.[449] To illustrate this point, a few of these cases merit discussion.

In the first case, *Wilson v. Amoco Corp.*,[450] Amoco Corporation had operated a refinery and tank farm in Casper, Wyoming, which discharged petroleum contaminants into groundwater and the nearby North Platte River. Plaintiffs, citizens of Casper, sued the refinery under RCRA seeking a preliminary injunction requiring the defendants to contain the discharges and remediate the contamination.[451] In response, Amoco argued that the contamination posed no threat to human or ecological receptors.[452] Although the court identified several potential human and ecological receptors, it noted in particular that "groundwater otherwise suitable and in the past actually used for drinking has been and continues to be threatened by Amoco's contamination."[453] Further, the court continued, "[i]f left unabated migration of the contamination may impact what is currently uncontaminated, pristine groundwater."[454] The court concluded: "That threat alone is a sufficient basis for the issuance of an

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Cas. (BNA) 1228, 1240 (E.D. Cal. 1993) (Although "RCRA does not define the term 'environment,' . . . it presumably encompasses the air, soil and water, including groundwater.").

449. *E.g.*, United States v. Ne. Pharm. & Chem. Co., 810 F.2d 726, 730, 745 (8th Cir. 1986) (stating that an endangerment may exist based on high concentrations of dioxin, trichlorophenol, and toluene in water and soil samples); Marathon Oil Co. v. Tex. City Terminal Ry. Co., 164 F. Supp. 2d 914, 920-21 (S.D. Tex. 2001) (prima facie endangerment claim based on "uncontrollable migration or threatened migration of contaminants into the groundwater"); Wilson v. Amoco Corp., 989 F. Supp. 1159, 1174 (D. Wyo. 1998) (discussed *infra*); Singer v. Bulk Petroleum Corp., 9 F. Supp. 2d 916, 920 (N.D. Ill. 1998) (stating that endangerment claim was sufficient based on allegations "that petroleum products have migrated through the soil, that petroleum contamination remains in the soil, and that such contamination requires a response"); *Fairway Shoppes Joint Venture*, 27 Envtl. L. Rep. (Envtl. Law. Inst.) at, 21,072, 21,073 (discussed *infra*); *Lincoln Props. Ltd.*, 36 Env't Rep. Cas. (BNA) at 1240 (discussed *infra*). *But see* Me. People's Alliance v. Mallinckrodt, Inc., 471 F.3d 277, 282 (1st Cir. 2006) (asseverating that the lower court "wisely recognized that 'the mere presence of mercury contaminated sediments is alone not enough to constitute an endangerment.'"), *cert. denied*, 2007 WL 1479993 (S. Ct. Oct. 1, 2007); Davies v. Nat'l Coop. Ref. Ass'n., 963 F. Supp. 990, 999 (D. Kan. 1997) (stating, in *dicta*, that evidence of contaminated groundwater "does not establish or address the likelihood that any person will actually be exposed to it").

450. 989 F. Supp. 1159 (D. Wyo. 1998).

451. *Id.* at 1162-63.

452. *Id.* at 1176.

453. *Id.*

454. *Id.*

injunction."[455] In addition, further addressing the argument that the groundwater was not currently used for drinking purposes, the court found it significant that Wyoming law protects all groundwater for future use:

> Although Amoco notes there is little, if any, evidence that the groundwater is presently used for drinking purposes, that argument is relevant only with respect to threats to human receptors and ignores the position taken by the State of Wyoming that all groundwater in the State is important and should be protected for future consumptive uses.[456]

The court issued a preliminary injunction against Amoco.

In two other notable cases, the courts reached much the same conclusion. These cases, having very similar facts, involved groundwater contamination from dry cleaning establishments. In *Lincoln Properties Ltd. v. Higgins*,[457] several dry cleaners had released tetrachloroethylene (PCE)[458] and trichloroethylene (TCE) into groundwater at a shopping center in Stockton, California. Plaintiffs, owners of the shopping center, brought a citizen suit under RCRA against the dry cleaners to compel cleanup of the groundwater contamination. The dry cleaners argued that the plaintiffs had failed to establish an endangerment to the environment because there was no "threat that living organisms would be exposed to contaminants."[459] All that had been shown, according to the dry cleaners, was "mere groundwater contamination."[460] The court, "not persuaded" by this argument, observed that the "statute speaks of an endangerment to health *or* the environment," and that the environment includes water.[461] It concluded that "[n]either the statute nor the caselaw interposes an additional requirement that humans or other life forms be threatened."[462] The court granted the motion for injunctive relief.

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455. *Id.*

456. *Id.*

457. 36 Env't Rep. Cas. (BNA) 1228 (E.D. Cal. 1993).

458. Tetrachlorethylene, also known by the trade name "perchloroethylene," "perc," or "PCE," is a common chlorinated solvent used, among other purposes, for dry cleaning. It is often used at military bases.

459. *Lincoln Props.*, 36 Env't Rep. Cas. (BNA) at 1241.

460. *Id.* (internal quotation omitted).

461. *Id.* (emphasis added).

462. *Id.*

Similarly, in *Fairway Shoppes Joint Venture v. Dryclean U.S.A. of Florida, Inc.*,[463] a dry cleaning establishment had released PCE contamination into groundwater at a shopping center in Palm Beach Gardens, Florida. Quoting *Lincoln Properties*, the court held that the term "environment" in RCRA includes water, and that there is no additional requirement that humans or other organisms be threatened.[464] The court therefore held that "[t]he presence of excessive levels of [PCE] in the groundwater also establishes an imminent and substantial endangerment to the *environment*, independent of whether the dry cleaning chemicals may pose a threat to the public health."[465] The court issued the injunction.

C. *Resulting From the Emission, Discharge, Presence, Handling, or Release*

Another issue under the imminent hazard provisions is that the endangerment must result from some polluting action, or status. Generally, pollutants must be emitted into the air, discharged into water, or released into the environment, or they must be present in a drinking water supply, or they simply must be handled, such that they can create an endangerment. Under most of the statutes, the threat of such an occurrence may be sufficient. Each of the imminent hazard provisions approaches this issue in a different way.

1. *Emission of pollutants into air.*

Section 303 of the Clean Air Act generally applies to the "emission" of an air pollutant. The statute does not define the term "emission," but its meaning is fairly straightforward and does not create a significant issue.

a. Accidental release of regulated substances.

Under the second imminent hazard provision in the Clean Air Act, section 112(r)(9), the endangerment must result from the

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463. 27 Envtl. L. Rep. (Envtl. Law. Inst.) 21,069 (S.D. Fla. 1996). The decision in this case consists of a report and recommendation issued by the federal magistrate judge on March 7, 1996, and an order of the court adopting the report on August 2, 1996. *Id.* at 21,073. The report and recommendation of the magistrate judge is also available at 1996 WL 924705.

464. 27 Envtl. L. Rep. (Envtl. Law Inst.) at 21,072, 21,073.

465. *Id.* (emphasis added).

"accidental release or threatened release" of a regulated substance.[466] EPA regulations define "accidental release" as "an unanticipated emission of a regulated substance or other extremely hazardous substance into the ambient air from a stationary source."[467] Thus, section 112(r)(9) does not apply to the normal release of air pollutants during normal operations of a facility; its application is therefore limited.

2. *Discharge of pollutants into water.*

Section 504 of the Clean Water Act generally applies to the "discharge" of pollutants, which would seem to be straightforward, but it is not.[468] The effect of this phrase is, to a surprising degree, a limiting one. The Clean Water Act defines "discharge of pollutants" as either "any addition of any pollutant to navigable waters from any point source," or "any addition of any pollutant to waters of the contiguous zone or the ocean from any point source other than a vessel or other floating craft."[469] This rather cryptic definition is made sensible only by reference to other definitions in the Act, and it raises a multitude of complex issues.[470]

First, the term "point source" is defined as "any discernible, confined and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants are or may be discharged."[471] Other sources of water pollution, such as polluted stormwater runoff, are "non-point sources."

Second, the term "navigable waters" means "the waters of the United States, including the territorial seas."[472] The term is not limited to waters that are navigable in fact, but includes all "waters of the United States." By regulation, EPA has construed the term

466. Clean Air Act § 112(r)(9), 42 U.S.C. § 7412(r)(9) (Westlaw 2007), set forth *supra* text accompanying note 303.

467. 40 C.F.R. § 68.3 (Westlaw 2007).

468. Clean Water Act § 504, 33 U.S.C. § 1364 (Westlaw 2007) (emphasis added), set forth *supra* text accompanying note 309.

469. Clean Water Act § 502(12), 33 U.S.C. § 1362(12) (Westlaw 2007).

470. These issues, such as interpretation of the terms "navigable waters" and "point source," are addressed here only summarily; they are well beyond the scope of this Article.

471. Clean Water Act § 502(14), 33 U.S.C. § 1362(14) (Westlaw 2007). However, the term "does not include agricultural stormwater discharges and return flows from irrigated agriculture." *Id.*

472. Clean Water Act § 502(7), 33 U.S.C. § 1362(7) (Westlaw 2007).

"waters of the United States" to include all waters that have been used, or are susceptible to use in interstate or foreign commerce, all interstate waters, including interstate wetlands; all waters the degradation of which could affect interstate commence; tributaries of all such waters; and wetlands adjacent to all such waters.[473] The courts have generally followed EPA's interpretation, ruling that the term covers tributaries to navigable waters;[474] intermittent streams that flow into navigable waters or their tributaries;[475] man-made ditches or canals that flow into navigable waters or their tributaries;[476] and wetlands that are adjacent to navigable waters.[477] Some courts have gone further, holding that the term includes groundwater that discharges into navigable waters,[478] although other courts have declined to extend Clean Water Act jurisdiction that far.[479] A few years ago, the Supreme Court attempted to set

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473. 40 C.F.R. § 230.3(s) (Westlaw 2007). The United States Army Corps of Engineers has adopted similar regulations. *See* 33 C.F.R. § 328.3(a) (Westlaw 2007).

474. United States v. Texas Pipeline Co., 611 F.2d 345, 346-47 (10th Cir. 1979) (stating that Clean Water Act jurisdiction extends to unnamed tributary to Clear Boggy Creek, itself a tributary to the Red River); United States v. Ashland Oil & Transp. Co., 504 F.2d 1317 (6th Cir. 1974).

475. Quivira Mining Co. v. EPA, 765 F.2d 126, 129-30 (10th Cir. 1985) (stating that Clean Water Act jurisdiction extends to arroyo and creek in which "surface flow occasionally occurs"); United States v. Sheyenne Tool Mfg. Co., 952 F. Supp. 1414, 1417 (D.N.D. 1996) (stating that Clean Water Act jurisdiction extends to "a creek or stream which is intermittently dry"); Friends of Santa Fe County v. LAC Minerals, Inc., 892 F. Supp. 1333, 1355 (D.N.M. 1995) (stating that Clean Water Act jurisdiction extends to arroyo that is "dry most of the year . . ., as long as it flows on some occasions").

476. Treacy v. Newdunn Assocs., 344 F.3d 407 (4th Cir. 2003) (stating that Clean Water Act jurisdiction extends to man-made ditch that flows into navigable waters); United States v. Eidson, 108 F.3d 1336, 1340-43 (11th Cir. 1997) (same).

477. United States v. Riverside Bayview Homes, Inc., 474 U.S. 121 (1985) (stating that Clean Water Act jurisdiction extends to wetlands adjacent to navigable waters).

478. Wash. Wilderness Coalition v. Hecla Mining Co., 870 F. Supp. 983, 989-91 (E.D. Wash. 1994) (stating that Clean Water Act jurisdiction extends to discharge to ground waters which migrates into surface waters of the United States); Sierra Club v. Colo. Ref. Co., 838 F. Supp. 1428, 1434 (D. Colo. 1993) (stating that Clean Water Act jurisdiction extends to "discharge which reaches navigable waters through groundwater"); McClellan Ecological Seepage Situation v. Weinberger, 707 F. Supp. 1182, 1196 (E.D. Calif. 1988) (same), *vacated on other grounds sub. nom* McClellan Ecological Seepage Situation v. Perry, 47 F.3d 325 (9th Cir. 1995).

479. Vill. of Oconomowoc v. Dayton Hudson Corp., 24 F.3d 962, 975 (7th Cir.) (stating that Clean Water Act jurisdiction does not extend to ground waters, even if "hydrologically connected with surface waters"), *cert. denied*, 513 U.S. 930 (1994); Umatilla Water Quality Protective Ass'n v. Smith Frozen Foods, Inc., 962 F. Supp. 1312, 1318 (D. Ore. 1997) (stating that Clean Water Act jurisdiction does not extend to "even hydrologically-connected groundwater"); Kelley v. United States, 618 F. Supp. 1103 (W.D. Mich. 1985) (stating that Clean Water Act jurisdiction does not extend to groundwater).

some outer bounds on Clean Water Act jurisdiction, ruling that an isolated gravel pit used as a habitat by migratory birds, but not hydraulically connected to navigable waters, is not a water of the United States.[480] More recently, a sharply divided court held that a wetland adjacent to a non-navigable tributary is not a water of the United States unless it is shown to bear some "significant nexus" to a navigable water.[481] The Court nevertheless affirmed that the term "waters of the United States" applies to a wetland adjacent to a navigable water although the wetland is not navigable in fact.[482]

Given these definitions, section 504 of the Clean Water Act could be read to apply only if there is a "discharge" of a pollutant from a "point source" into a "navigable water." However, EPA has advanced a somewhat broader interpretation of section 504 based on a close reading of its terms. Section 504 provides that the endangerment must result from a "pollution source or combination of sources," not necessarily from a point source "discharge."[483] EPA may then bring an action restraining the person "causing or contributing to the alleged pollution" either "to stop the discharge of pollutants" or "to take such other action as may be necessary."[484] The broad second clause could apply in the absence of a "discharge." It could, for example, apply to a threatened discharge, an interpretation that EPA has adopted.[485] It could also apply to the emission of a pollutant (actual or threatened) from a non-point source. EPA has also advanced this interpretation,[486] noting that the statute elsewhere uses the term "source" to refer to both "point and non-point sources of

480. Solid Waste Agency of N. Cook County v. U.S. Army Corps of Eng'rs, 531 U.S. 159 (2001). The breadth of the so-called *SWANCC* holding is far from clear, and it has been the subject of lively debate. *Compare* Virginia S. Albrecht & Stephen M. Nickelsburg, *Could SWANCC Be Right? A New Look at the Legislative History of the Clean Water Act*, 32 Envtl. L. Rep. (Envtl. Law Inst.) 11,042 (2002), *with* Lance D. Wood, *Don't Be Misled: CWA Jurisdiction Extends to All Non-Navigable Tributaries of the Traditional Navigable Waters and to Their Adjacent Wetlands*, 34 Envtl. L. Rep. (Envtl. Law Inst.) 10,187 (2004).

481. United States v. Rapanos, 126 S. Ct. 2208, 2249 (2006) (Kennedy, J., concurring in the judgment).

482. *Id.* at 2220 (Scalia, J., concurring in the judgment), 2241 (Kennedy, J., concurring in the judgment).

483. Clean Water Act § 504, 33 U.S.C. § 1364 (Westlaw 2007), set forth *supra* text accompanying note 309.

484. *Id.*

485. EPA Guidance on Section 504 of the Clean Water Act, *supra* note 369, at 10.

486. *Id.* at 8-9.

pollution."[487]

3. *Presence of a contaminant in a drinking water supply.*

Under section 1431 of the Safe Drinking Water Act, the endangerment must result from "a contaminant which is *present in* or is *likely to enter* a public water system[488] or an underground source of drinking water."[489] Thus, as might be expected, the imminent hazard provision of this statute is limited in its application to cases involving public water supplies or potential underground water supplies.[490] A "public water system" is broadly defined in the statute as:

> [A] system for the provision to the public of water for human consumption through pipes or other constructed conveyances, if such system has at least fifteen service connections or regularly serves at least twenty-five individuals. Such term includes (i) any collection, treatment, storage, and distribution facilities under the control of the operator of such system and used primarily in connection with such system, and (ii) any collection or pretreatment storage facilities not under such control which are used primarily in connection with such system.[491]

Although the statute does not define the term "underground source of drinking water," EPA has defined the term in its regulations. Under the EPA definition, the term includes an aquifer that supplies a public water system, or that contains sufficient quantity of potable water to supply a public water system.[492]

4. *Handling, storage, treatment, transportation, or disposal of waste.*

Under the imminent hazard provisions of RCRA, sections 7002(a)(1)(B) and 7003, the endangerment must result from the

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487. *Id.* at 9 n.10 (citing Clean Water Act § 201(c), 33 U.S.C. § 1281 (Westlaw 2007)).

488. The federal government itself operates more than 5,000 public drinking water systems at military bases, national parks, and other federal facilities. S. REP. NO. 104-169, at 83 (1995).

489. Safe Drinking Water Act § 1431(a), 42 U.S.C. § 300i(a) (Westlaw 2007) (emphasis added), set forth *supra* text accompanying note 322.

490. United States v. Price, 688 F.2d 204, 214 (3d Cir. 1982).

491. Safe Drinking Water Act § 1401(4)(A), 42 U.S.C. § 300f(4)(A) (Westlaw 2007).

492. 40 C.F.R. § 144.3 (Westlaw 2007).

"handling, storage, treatment, transportation, or disposal" of any hazardous or solid waste. The terms "storage,"[493] "treatment,"[494] and "disposal"[495] are all broadly defined in RCRA, and the term "transportation"[496] is broadly defined in the RCRA regulations. The term "handling" is not defined in the statute or the regulations, but its common meaning is broad and comprehensive.[497] Together, these terms cover the gamut of possible hazardous and solid waste management, and mismanagement, activities. The provision implies some degree of active management, however. Thus, some courts have held that mere ownership of the contaminated property does not create liability.[498]

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493. Section 1004(33) of RCRA defines "storage" as "the containment of hazardous waste, either on a temporary basis or for a period of years, in such a manner as not to constitute disposal of hazardous waste." 42 U.S.C. § 6903(33) (Westlaw 2007). The term is given a very similar, but not identical, definition in the RCRA regulations. 40 C.F.R. § 260.10 (Westlaw 2007).

494. Section 1004(34) of RCRA defines "treatment" as:

> any method, technique, or process, including neutralization, designed to change the physical, chemical, or biological character or composition of any hazardous waste so as to neutralize such waste or so as to render such waste nonhazardous, safer for transport, amenable for recovery, or reduced in volume. Such term includes any activity or processing designed to change the physical form or chemical composition of hazardous waste so as to render it nonhazardous.

42 U.S.C. § 6903(34) (Westlaw 2007). The term is given a very similar, but not identical, definition in the RCRA regulations. 40 C.F.R. § 260.10 (Westlaw 2007).

495. Section 1004(3) of RCRA defines "disposal" as:

> the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste or any hazardous waste into or on any land or water so that such solid waste or hazardous waste or any constituent thereof may enter the environment or be emitted into the air or discharged into any waters, including ground waters.

42 U.S.C. § 6903(3) (Westlaw 2007). The term is given an identical definition in the RCRA regulations. 40 C.F.R. § 260.10 (Westlaw 2007).

496. The RCRA regulations define "transportation" as "the movement of hazardous waste by air, rail, highway, or water." 40 C.F.R. § 260.10 (Westlaw 2007).

497. One court, noting that "handling" is "the broadest of the statutory terms," applied the dictionary definition of the term, meaning "to manage, operate, or use with the hand or hands; . . . to manage, control, direct, train, etc." United States v. Union Corp., 259 F. Supp. 2d 356, 401 (E.D. Pa. 2003).

498. ABB Indus. Sys., Inc. v. Prime Tech., Inc., 120 F.3d 351, 359 (2d Cir. 1997); Interfaith Cmty. Org. v. Honeywell Int'l, Inc., 263 F. Supp. 2d 796, 843-46 (D.N.J. 2003), *aff'd on other grounds*, 399 F.3d 248 (3d Cir. 2005), *cert. denied*, 545 U.S. 1129 (2005); Delaney v. Town of Carmel, 55 F. Supp. 2d 237, 256 (S.D.N.Y. 1999); Marriott Corp. v.

5. *Release of a hazardous substance into the environment.*

Finally, under section 106 of CERCLA, the endangerment must result from a "*release or threatened release* of a hazardous substance."[499] The term "release" is defined very broadly in the statute 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 enclosed receptacles containing any hazardous substance. . . ."[500] Because this definition includes words that do not imply any active conduct, such as "leaking" and "escaping," at least one federal appellate court has held that liability could be imposed on a property owner for the passive migration of hazardous substances on that property.[501] Most other appellate courts have taken a contrary view, however.[502]

D. *Of Pollution*

Another very important issue in imminent hazard cases is the scope of pollutants covered under the various statutory provisions. Each of the federal imminent hazard provisions applies to a different spectrum of pollutants: "air pollutants" under the Clean Air Act, water "pollutants" under the Clean Water Act, drinking water "contaminants" under the Safe Drinking Water Act, "solid or hazardous wastes" under RCRA, and "hazardous substances" under CERCLA. While each of these terms is broadly defined in its respective statute, each also has its limitations. Moreover, application of these terms to pollution from federal facilities can be inordinately difficult and complex. The federal government has released into the environment a huge assortment of chemical and radioactive pollutants, including many that are unusual or exotic, and some that may even be unique to only a very few DOD or DOE

Simkins Indus., Inc., 929 F. Supp. 396, 398 n.2 (S.D. Fla. 1996); First San Diego Props. v. Exxon Co., 859 F. Supp. 1313, 1316 (S.D. Cal. 1994). *Contra* United States v. Price, 523 F. Supp. 1055, 1071 (D.N.J. 1981).

499. CERCLA § 106(a), 42 U.S.C. § 9606(a) (Westlaw 2007) (emphasis added), set forth *supra* text accompanying note 361.

500. CERCLA § 101(22), 42 U.S.C. § 9601(22) (Westlaw 2007).

501. Nurad, Inc. v. William E. Hooper & Sons Co., 966 F.2d 837, 844-47 (4th Cir.), *cert. denied sub nom* Mumaw v. Nurad, Inc., 506 U.S. 940 (1992).

502. Carson Harbor Vill., Ltd. v. Unocal Corp., 270 F.3d 863, 874-87 (9th Cir. 2001) (en banc); ABB Indus. Sys., Inc. v. Prime Tech., Inc., 120 F.3d 351, 357-59 (2d Cir. 1997); United States v. CDMG Realty Co., 96 F.3d 706, 714 (3d Cir. 1996); Joslyn Mfg. Co. v. Koppers Co., 40 F.3d 750, 761-63 (5th Cir. 1994).

facilities. An important consideration, therefore, is the effectiveness of the imminent hazard provisions in addressing the range of pollutants—some common, some extraordinarily uncommon—present at federal facilities. The application of the imminent hazard provision in each of the statutes to various categories of pollutants common at federal facilities, as discussed in this Section (IV.D), is summarized in Table 1 (page 206).

1. *Air pollutants.*

Section 303 of the Clean Air Act refers to sources of "pollution," and it allows EPA to bring an action to stop the emission of air "pollutants."[503] The reason for the use of these varying terms is unclear. The Clean Air Act does not define the term "pollution," but it does define the term "air pollutant," and the definition is sweeping:

> The term "air pollutant" means any air pollution agent or combination of such agents, including any physical, chemical, biological, radioactive (including source material, special nuclear material, and byproduct material) substance or matter which is emitted into or otherwise enters the ambient air. Such term includes any precursors to the formation of any air pollutant, to the extent the [EPA] Administrator has identified such precursor or precursors for the particular purpose for which the term "air pollutant" is used.[504]

As the Supreme Court pointedly asserted in a recent decision, "[o]n its face, the definition embraces all airborne compounds of whatever stripe, and underscores that intent through the repeated use of the word 'any.'"[505] Certainly the term covers those pollutants specifically regulated under the Clean Air Act, of which there are quite a few. EPA, in guidance, has assembled an inventory of "air pollutants" regulated under the Act.[506] The Clean Air Act regulates as "air pollutants" six criteria pollutants for which EPA has set

503. Clean Air Act § 303, 42 U.S.C. § 7603 (Westlaw 2007), set forth *supra* text accompanying note 302.

504. Clean Air Act § 302(g), 42 U.S.C. § 7602(g) (Westlaw 2007).

505. Massachusetts v. EPA, 127 S. Ct. 1438, 1460 (2007).

506. EPA has issued guidance interpreting the terms "regulated air pollutant" and "air pollutant" under other provisions of the Act. *See* Memorandum from Lydia N. Wegman, Deputy Director, EPA Office of Air Quality Planning & Standards, to Air Division Director, EPA Regions I-X (Apr. 26, 1993) (on file with the author).

National Ambient Air Quality Standards: carbon monoxide (CO), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), ozone (O_3), and fine particulates (PM-10 and PM-2.5).[507] In addition, it regulates volatile organic compounds (VOCs) and oxides of nitrogen (NO_x) as precursors to ozone. The Clean Air Act also authorizes the regulation of some 188 hazardous air pollutants, specifically listed in the statute.[508] This list includes asbestos, benzene, PCBs, TCE, beryllium, lead, mercury, radionuclides, and other pollutants that have created environmental and health problems at federal facilities. The Act also regulates the ozone-depleting substances chlorofluorocarbons and hydrochloro-fluorocarbons.[509] While it is beyond question that the term "air pollutant" includes these regulated pollutants, there is nothing in the imminent hazard provision or its legislative history to suggest that the term should be limited to these substances. The term covers all substances that fall within the capacious statutory definition.[510]

Significantly, the definition of "air pollutant" expressly *includes* "source material, special nuclear material, and byproduct material" under the AEA. The statute likewise lists "radionuclides (including radon)" as hazardous air pollutants. Thus, the preemption issue discussed in Section II[511] does not apply under section 303 of the Clean Air Act.

a. *Regulated substances.*

The second imminent hazard provision in the Clean Air Act, section 112(r)(9), allows EPA to take action to address an endangerment resulting from the release of a "regulated substance." The term regulated substance is defined in the statute as "substances which, in the case of an accidental release, are known to cause or may reasonably be anticipated to cause death, injury, or serious adverse effects to human health or the environment."[512] EPA has listed seventy-seven toxic substances[513]

507. Clean Air Act § 109, 42 U.S.C. § 7409 (Westlaw 2007).

508. Clean Air Act § 112(b)(1), 42 U.S.C. § 7412(b)(1) (Westlaw 2007).

509. Clean Air Act § 602, 42 U.S.C. § 7671a (Westlaw 2007).

510. *See Massachusetts*, 127 S. Ct. at 1462 (holding that EPA has the authority to regulate greenhouse gases that contribute to global warming, including carbon dioxide, methane, nitrous oxide, and hydrofluorocarbons, under the Clean Air Act given the Act's "capacious definition of 'air pollutant.'").

511. *See* discussion *supra* Section II.C.

512. Clean Air Act § 112(r)(2)(B), (r)(3), 42 U.S.C. § 7412(r)(2)(B), (r)(3)

and sixty-three inflammable substances[514] as "regulated substances" under this provision. Few of these substances are substances that have created significant environmental problems at federal facilities. Although EPA had initially listed explosive substances,[515] it subsequently deleted this category of substances from the list.[516] Moreover, the listed inflammable substances are excluded if used as a fuel.[517]

2. *Water pollutants.*

Section 504 of the Clean Water Act, like section 303 of the Clean Air Act, refers to "pollution," and allows EPA to bring a lawsuit to address "pollutants" presenting an endangerment or take other necessary action.[518] But unlike the Clean Air Act, the Clean Water Act defines both the term "pollution" and the term "pollutants," and it defines both terms broadly. The term "pollution" means "the man-made or man-induced alteration of the chemical, physical, biological, or radiological integrity of water."[519] The term "pollutant" means "dredged spoil, solid waste, incinerator residue, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water."[520] The definition excludes "sewage from vessels or a discharge incidental to the normal operation of a vessel of the Armed Forces."[521]

The term "pollutant" includes conventional pollutants, which EPA has listed by regulation.[522] It also covers toxic pollutants. The

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(Westlaw 2007).

513. 40 C.F.R. § 68.130, tbls.1, 2 (Westlaw 2007).

514. 40 C.F.R. § 68.130, tbls.3, 4 (Westlaw 2007).

515. List of Regulated Substances and Thresholds for Accidental Release Prevention, 59 Fed. Reg. 4478, 4486, 4494 (EPA Jan. 31, 1994) (formerly codified at 40 C.F.R. § 68.130(a) (1994)).

516. List of Regulated Substances and Thresholds for Accidental Release Prevention, 63 Fed. Reg. 640, 641 (EPA Jan. 6, 1998).

517. 40 C.F.R. § 68.126 (Westlaw 2007).

518. Clean Water Act § 504, 33 U.S.C. § 1364 (Westlaw 2007), set forth *supra* text accompanying note 309.

519. Clean Water Act § 502(19), 33 U.S.C. § 1362(19) (Westlaw 2007).

520. Clean Water Act § 502(6), 33 U.S.C. § 1362(6) (Westlaw 2007).

521. Clean Water Act § 502(6)(A), 33 U.S.C. § 1362(6)(A) (Westlaw 2007).

522. The five conventional pollutants that EPA has listed under the Clean Water Act are biochemical oxygen demand, total suspended solids, pH, fecal coliform, and oil and

Act defines "toxic pollutant" to mean:

> [T]hose pollutants, or combination of pollutants, including disease-causing agents, which after discharge and upon exposure, ingestion, inhalation or assimilation into any organism, either directly from the environment or indirectly by ingestion through food chains, will, on the basis of information available to the [EPA] Administrator, cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunctions (including malfunctions in reproduction) or physical deformations, in such organisms or their offspring.[523]

EPA has published a list of sixty-five toxic pollutants, which includes asbestos, benzene, PCBs, TCE, beryllium, lead, mercury, and other pollutants common at federal facilities.[524]

The courts have given the tem "pollutant" a broad interpretation. As one court of appeals stated, the definition of pollutant "is meant to leave out very little."[525] Further, "while the listing of a specific substance in the definition of pollutant may be significant, the fact that a substance is not specifically included does not remove it from the coverage of the statute."[526] Thus, courts have ruled that gasoline,[527] oil-based sludge,[528] and pesticides[529] are "pollutants," although none of these substances is expressly enumerated in the statutory definition.

Significantly, the statutory definition of the term "pollutant" in the Clean Water Act expressly includes "munitions." In at least one case, the term was applied to military munitions, specifically the firing of ordnance into navigable waters.[530]

The statutory definition of "pollutant" also expressly includes

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grease. 40 C.F.R. § 401.16 (Westlaw 2007).

523. Clean Water Act § 502(13), 33 U.S.C. § 1362(13) (Westlaw 2007).

524. 40 C.F.R. § 401.15 (Westlaw 2007).

525. Lone Star Chapter, Sierra Club v. Cedar Point Oil Co., 73 F.3d 546, 566 (5th Cir. 1996) (quoting 2 RODGERS, *supra* note 306, at 144); *accord* U.S. Pub. Interest Research Group v. Atl. Salmon of Me., L.L.C., 215 F. Supp. 2d 239, 247 (D. Me. 2002).

526. *Cedar Point Oil*, 73 F.3d at 566 (footnote omitted).

527. United States v. Hamel, 551 F.2d 107 (6th Cir. 1977).

528. United States v. Eidson, 108 F.3d 1336, 1343 (11th Cir. 1997).

529. League of Wilderness Defenders v. Forsgren, 309 F.3d 1181, 1185 (9th Cir. 2002).

530. Romero-Barcelo v. Brown, 478 F. Supp. 646, 664 (D.P.R. 1979), *aff'd in part, rev'd in part on other grounds*, 643 F.2d 835 (1st Cir. 1981), *rev'd sub nom.* Weinberger v. Romero-Barcelo, 456 U.S. 305 (1982).

"radioactive materials." Congress, however, has largely nullified Clean Water Act jurisdiction over radioactive materials. Recall from a previous discussion[531] that EPA has interpreted the definition of "pollutant" in the Clean Water Act as excluding those radioactive materials regulated under the AEA—that is, source, special nuclear, and byproduct material—and EPA has incorporated this interpretation in its regulations.[532] The Supreme Court has followed this interpretation.[533] The derivation of this interpretation is the House Report on the Clean Water Act of 1972, which states:

> The term "pollutant" as defined in the bill includes "radioactive materials." These materials are those not encompassed in the definition of source, byproduct, or special nuclear materials as defined by the Atomic Energy Act of 1954, as amended, and regulated pursuant to that Act. "Radioactive materials" encompassed by this bill are those beyond the jurisdiction of the Atomic Energy Commission. Examples of radioactive material not covered by the Atomic Energy Act, and, therefore, included within the term "pollutant," are radium and accelerator produced isotopes.[534]

This legislative history seems to make clear that certain types of radioactive materials, such as radium and radionuclides produced by particle accelerators, are beyond the scope of the AEA and thus covered by the term "pollutant."[535] Until recently, they were. In the Energy Policy Act of 2005, [536] however, Congress expanded the definition of "byproduct material" in the AEA to include radium-226 and radioactive material produced in a particle accelerator. Those materials therefore no longer fall under the Clean Water Act definition of "pollutant."[537]

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531. *See* discussion *supra* text accompanying notes 245-247.

532. 40 C.F.R. § 122.2 (Westlaw 2007).

533. Train v. Colo. Pub. Interest Research Group, Inc., 426 U.S. 1 (1976).

534. H.R. REP. NO. 92-911, at 131 (1972), *reprinted in* 1 A LEGISLATIVE HISTORY OF THE CLEAN WATER ACT OF 1972, *supra* note 124, at 753, 818.

535. The regulation of radioactive materials produced by particle accelerators is discussed *infra* text accompanying notes 599-600.

536. Pub. L. No. 109-58, § 651(e)(1), 119 Stat. 594, 806-07 (2005). This legislation is discussed *supra* text accompanying note 237.

537. *But see infra* note 606, noting that the Governor of New Mexico has requested that Congress change the law.

One possible construction of section 504 would reach radionuclides discharged into

3. *Drinking water contaminants.*

Section 1431 of the Safe Drinking Water Act applies to "contaminants."[538] The statute defines the term "contaminant" quite broadly and quite simply as "any physical, chemical, biological, or radiological substance or matter in water."[539]

EPA has set drinking water standards for more than seventy contaminants under the Safe Drinking Water Act, covering some of the more common contaminants found at federal facilities. EPA has set standards for fifty-four organic contaminants including benzene, TCE, PCBs, toluene, and xylene;[540] eighteen inorganic contaminants including arsenic, asbestos, barium, beryllium, cadmium, chromium, cyanide, lead, mercury, and selenium;[541] and radionuclides including uranium and beta particle radioactivity, such as tritium.[542] All of these substances are plainly "contaminants" as defined in the Safe Drinking Water Act.

Many other substances, although not currently regulated under the Safe Drinking Water Act, nevertheless fall within the statute's broad definition of "contaminant." For example, EPA is considering, although it has not promulgated, drinking water standards for ammonium perchlorate.[543] Ammonium perchlorate, commonly called simply perchlorate, is a primary ingredient in solid rocket propellant and other explosives. It has polluted groundwater, including drinking water supplies, at several federal facilities. According to a recent federal government report, perchlorate has contaminated drinking water supplies in significant levels at eight DOD facilities.[544] Perchlorate is a

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surface water. Recall that section 504 applies to "pollution," not strictly to "pollutants," and the Act defines pollution to include alteration of the "radiological integrity of water." Section 504 can therefore be read to apply to any radioactive water pollution, and EPA can require any person contributing to the pollution to "take such other action as may be necessary" to address the pollution.

538. Safe Drinking Water Act § 1431(a), 42 U.S.C. § 300i(a) (Westlaw 2007), set forth *supra* text accompanying note 322.

539. Safe Drinking Water Act § 1401(6), 42 U.S.C. § 300f(6) (Westlaw 2007).

540. 40 C.F.R. § 141.61 (Westlaw 2007).

541. 40 C.F.R. §§ 141.62, 141.80 (Westlaw 2007).

542. 40 C.F.R. § 141.66 (Westlaw 2007).

543. Drinking Water Contaminant Candidate List 2, Final Notice, 70 Fed. Reg. 9071, 9073 (EPA Feb. 24, 2005); NAT'L RESEARCH COUNCIL, HEALTH IMPLICATIONS OF PERCHLORATE INGESTION 20-22 (2005).

544. GOV'T ACCOUNTABILITY OFFICE, PERCHLORATE: A SYSTEM TO TRACK SAMPLING AND CLEANUP RESULTS IS NEEDED (GAO-05-462), at 29-44 (2005). The eight facilities are: the Yuma Marine Corps Air Station in Yuma, Arizona (4 parts per billion [ppb] detected

"chemical . . . substance . . . in water," which meets the definition of "contaminant" in the Safe Drinking Water Act. Countless other unregulated substances, if found in drinking water supplies, would likewise meet the definition.

4. *Hazardous or solid waste.*

The imminent hazard provisions of RCRA apply to "hazardous or solid wastes."[545] RCRA defines both these terms quite broadly. First, it defines "solid waste" as:

> [A]ny garbage, refuse, sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility and other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from industrial, commercial, mining, and agricultural operations, and from community activities, but does not include solid or dissolved materials in irrigation return flows or industrial discharges which are point sources subject to permits under section 1342 of Title 33, or source, special nuclear, or byproduct material as defined by the [AEA], as amended.[546]

Significantly, solid waste under RCRA includes liquids[547] and contained gases.[548] Further, EPA interprets the definition of solid waste to include material that has leaked or spilled into the environment and become a contaminant in soil, surface water, or groundwater,[549] as have several courts.[550] RCRA defines the second

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in drinking water); the El Centro Naval Air Facility in Imperial County, California (5 ppb); the Mather Air Force Base, Rancho Cordova, California (120 ppb); the National Aeronautics and Space Administration Jet Propulsion Laboratory in Pasadena, California (13,300 ppb); the Navy Firing Range on San Nicholas Island in Ventura County, California (20 ppb); former Camp Butner in Granville and Durham Counties, North Carolina (10 ppb); Cannon Air Force Base in Clovis, New Mexico (46 ppb); and Wright-Patterson Air Force Base in Greene County, Ohio (17 ppb). *Id.*

545. RCRA §§ 7002(a)(1)(B), 7003(a), 42 U.S.C. §§ 6972(a)(1)(B), 6973(a) (Westlaw 2007), set forth *supra* text accompanying notes 343 and 345.

546. RCRA § 1004(27), 42 U.S.C. § 6903(27) (Westlaw 2007).

547. Ass'n of Battery Recyclers, Inc. v. EPA, 208 F.3d 1047, 1056 n.5 (D.C. Cir. 2000) ("Under RCRA a 'solid waste' may be a liquid."); United States v. Union Corp., 259 F. Supp. 2d 356, 401 (E.D. Pa. 2003) ("RCRA's definition of 'solid waste' includes any 'discarded material' including a liquid.").

548. *See, e.g.*, Hazardous Waste Management System: Identification and Listing of Hazardous Waste CERCLA Substance Designation, 54 Fed. Reg. 50968, 50972-73 (EPA Dec. 11, 1989) (discussing EPA authority to regulate containerized or condensed gases under RCRA).

549. EPA Guidance on Section 7003 of RCRA, *supra* note 371, at 15 (listing "gasoline

term, "hazardous waste," as:

> [A] solid waste, or combination of solid wastes, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may—
>
> (A) cause or significantly contribute to an increase in mortality or an increase in serious irreversible, or incapacitating reversible illness; or
>
> (B) pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, or disposed of, or otherwise managed.[551]

Thus, "hazardous waste" is a subset of the broader term "solid waste" under RCRA.[552]

While these statutory definitions are relatively straightforward, both terms are defined again, and quite differently, in the EPA regulations implementing the RCRA hazardous waste management program. The regulatory definitions are somewhat narrower and much more complex than the statutory definitions.[553] Before

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that has leaked from tanks" as an example of solid waste that could be addressed under section 7003).

550. Agric. Excess & Surplus Ins. Co. v. A.B.D. Tank & Pump Co., 878 F. Supp. 1091, 1095 (N.D. Ill. 1995) ("[O]nce gasoline leaked into the soil, the gasoline itself was no longer a useful material and instead became abandoned or discarded material."); Craig Lyle Ltd. P'ship v. Land O'Lakes, Inc., 877 F. Supp. 476, 482 (D. Minn. 1995) ("[S]pilt or leaked petroleum from commercial operations satisfies RCRA's definition of 'solid waste.'"); Zands v. Nelson, 779 F. Supp. 1254, 1262 (S.D. Cal. 1991) ("[G]asoline is no longer a useful product after it leaks into, and contaminates, the soil"; rather, "the gasoline has been abandoned via the leakage . . . into the soil."); *accord* Dydio v. Hesston Corp., 887 F. Supp. 1037, 1048 (N.D. Ill. 1995) (following *Zands*, 779 F. Supp. 1254).

551. RCRA § 1004(5), 42 U.S.C. § 6903(5) (Westlaw 2007).

552. Conn. Coastal Fishermen's Ass'n v. Remington Arms Co., 989 F.2d 1305, 1313 (2d Cir. 1993); EPA Guidance on Section 7003 of RCRA, *supra* note 371, at 15; *see also* United Techs. Corp. v. EPA, 821 F.2d 714, 716 n.1 (D.C. Cir. 1987) (noting that "although all hazardous wastes are solid wastes, not all solid wastes are hazardous wastes").

553. *See generally* Adam Babich, *RCRA Imminent Hazard Authority: A Powerful Tool for Businesses, Governments, and Citizen Enforcers*, 24 Envtl. L. Rep. (Envtl. Law Inst.) 10,122, 10,124-27 (1994) (describing the complexities of the RCRA statutory and regulatory definitions of "solid waste" and "hazardous waste").

One court disparagingly referred to the complex, shifting definitions of "solid waste" as "mind-numbing." Am. Mining Cong. v. EPA, 824 F.2d 1177, 1189 (D.C. Cir. 1987). Another court reviewing these definitions professed that "RCRA has an 'Alice in Wonderland' air about it," and quoted Lewis Carroll's Alice and Humpty Dumpty:

> "When *I* use a word," Humpty Dumpty said in a rather scornful tone, "it means just what I choose it to mean—neither more nor less."

describing the regulatory definitions, it is important to understand that the broader and simpler *statutory* definitions apply in imminent hazard cases, not the more complex regulatory definitions. The RCRA imminent hazard provisions, sections 7002(a)(1)(B) and 7003(a), are in a portion of the statute (subtitle G) that is separate from the portion of the statute (subtitle C) containing the hazardous waste management provisions under which the regulations were promulgated.[554] Therefore, the generally applicable statutory definitions are the legally relevant and controlling definitions in imminent hazard cases. EPA regulations expressly state that the regulatory definitions identify "*only some* of the materials which are solid wastes and hazardous wastes under section . . . 7003 of RCRA," and that the statutory definition applies in such cases.[555] Several courts, deferring to EPA's interpretation, have acknowledged the dichotomy in the definitions of "solid waste" and "hazardous waste."[556]

> "The question is," said Alice, "whether you *can* make words mean so many different things."
>
> "The question is," said Humpty Dumpty, "which is to be master—that's all."

Conn. Coastal Fishermen's Ass'n v. Remington Arms Co., 989 F.2d 1305, 1308 (2d Cir. 1993) (quoting LEWIS CARROLL, THROUGH THE LOOKING-GLASS 106-09 (Schocken Books 1987) (1872)).

554. Sections 7002 and 7003 were enacted as part of subtitle G of RCRA, codified in the United States Code at title 42, chapter 82, subchapter VII. Sections 3001-3013, which establish the hazardous waste management program, were enacted as subtitle C of RCRA, codified in the United States Code as title 42, chapter 82, subchapter III.

555. 40 C.F.R. § 261.1(b)(2) (Westlaw 2007) (emphasis added); *see also* EPA Guidance on Section 7003 of RCRA, *supra* note 371, at 14 ("It is EPA's position . . . that the broad statutory definitions, not the regulatory definitions, govern in Section 7003 actions.").

556. One court explained the dichotomy succinctly:

> Although EPA has narrowed the definition of solid waste for purposes of Subtitle C, the statute itself still provides the relevant definition for purposes of Subtitle G, which authorizes the Administrator (§ 7003)—or indeed "any person" (§ 7002(a)(1)(B))—to bring suit in order to force such action as may be necessary to abate "an imminent and substantial endangerment to health or the environment" caused by solid waste.

Military Toxics Project v. EPA, 146 F.3d 948, 951 (D.C. Cir. 1998); *see also* Conn. Coastal Fishermen's Ass'n v. Remington Arms Co., 989 F.2d 1305, 1314-15 (2d Cir 1993) ("[T]he statutory definition of solid waste . . . applies to imminent hazard lawsuits brought by the United States under § 7003" and to citizen suits brought under § 7002(a)(1)(B).); United States v. Valentine, 856 F. Supp. 621, 627 (D. Wyo. 1994) ("Section 7003 is not in subtitle C, but in a separate portion of RCRA that is governed by the statutory definitions of

Because it is the statutory definitions that control, the regulatory definitions are of rather less significance. Indeed, the regulatory definition of "solid waste" has very little importance for our purposes.[557] However, the regulatory definition of "hazardous waste" can be of considerable importance in imminent hazard cases. It is often far simpler, and more persuasive, to demonstrate an imminent and substantial endangerment if it can be shown to result from wastes that EPA has listed or identified in its regulations as "hazardous waste" in need of regulation, rather than from wastes covered only by the general statutory term "hazardous waste" or the more generic and sometimes benign statutory term "solid waste." The regulatory definition of "hazardous waste," therefore, should not be ignored.

The regulations define "hazardous waste" as either any solid waste that exhibits a *characteristic* of hazardous waste as set forth in the regulations, or any solid waste that is *listed* as a hazardous waste in the regulations.[558] In addition, any waste that is a mixture of a solid waste and a listed hazardous waste is also a hazardous waste.[559]

A characteristic hazardous waste is one that is ignitable, corrosive, reactive, or toxic under the EPA regulations.[560] An ignitable waste is a waste that has a flash point of less than 60 degrees C. (140 degrees F.), is capable of spontaneous combustion, is an ignitable compressed gas, or is an oxidizer.[561] A corrosive waste is a waste having a pH of greater than 12.5 or less than 2.0 standard units.[562] A reactive waste is one that is explosive or capable of detonation, is unstable and undergoes violent

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hazardous waste."); Sierra Club v. U.S. Dep't of Energy, 734 F. Supp. 946, 948 (D. Colo. 1990) ("RCRA has statutory and regulatory definitions of 'hazardous waste,'" and "[t]he broad statutory definition . . . primarily governs actions to abate imminent and substantial risks to the public and environment.").

While the courts have accepted this dichotomy, they have often done so grudgingly. In the *Connecticut Coastal Fishermen's* case, the court noted "the anomaly of using different definitions for the term 'solid waste' and that such view further complicates an already complex statute." 989 F.2d at 1315; *see also* discussion *supra* note 553.

557. The regulatory definition of "solid waste" serves, primarily, to distinguish wastes from certain materials that will be legitimately recycled. 40 C.F.R. § 261.2(a)(1), (2) (Westlaw 2007).

558. *Id.* § 261.3(a).

559. *Id.* § 261.3(a)(2)(iv); *see also* Am. Chemistry Council v. EPA, 337 F.3d 1060 (D.C. Cir. 2003) (upholding EPA's so-called "mixture rule").

560. 40 C.F.R. §§ 261.20-261.24 (Westlaw 2007) ("D" wastes).

561. *Id.* § 261.21.

562. *Id.* § 261.22.

change without detonation, reacts violently or forms explosive mixtures with water, or generates toxic gases, vapors, or fumes.[563] A toxic waste is one that is either a liquid containing more than specified levels of any of forty specified toxic constituents, or a solid capable of leaching any of the specified toxic constituents at above the specified levels.[564]

A listed hazardous waste is one that is included under any one of several lists in the EPA regulations.[565] EPA has listed some twenty-eight hazardous wastes from non-specific sources,[566] and another 120 hazardous wastes from specific sources.[567] EPA has also listed some 588 substances that are hazardous waste if they are discarded commercial chemical products, off-specification species, container residues, or spill residues.[568]

In addition, EPA regulations list 582 "hazardous waste constituents"[569] that are subject to the corrective action cleanup requirements applicable to hazardous waste treatment, storage, and disposal facilities.[570] Again, it may be helpful in an imminent hazard case, though not necessary, to show that an alleged endangerment results from one or more substances on EPA's list of "hazardous waste constituents."

The imminent hazard provisions of RCRA, through their references to the broad statutory definitions of "solid waste" and "hazardous waste," cover a wide spectrum of environmental pollutants, including most of the pollutants—even the more exotic ones—that may threaten health and the environment at federal facilities. Many of these pollutants are also "hazardous waste" as defined in the RCRA regulations, and either contain or are themselves hazardous waste constituents. It is instructive to examine in some detail the application of these definitions to the

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563. *Id.* § 261.23.

564. *Id.* § 261.24. The propensity of a solid waste to leach toxic constituents is determined by subjecting a representative sample of the waste to the toxicity characteristic leaching procedure, or TCLP, a standard EPA analytical method. *Id.*

565. *Id.* §§ 261.30-261.35.

566. *Id.* § 261.31 ("F" wastes).

567. *Id.* § 261.32 ("K" wastes).

568. *Id.* § 261.33. These substances are in one of two lists, depending on their toxicity. The first list comprises 239 substances that are acute hazardous wastes. *Id.* § 261.33(e) ("P" wastes). The second list comprises 349 substances that are non-acute hazardous wastes. *Id.* § 261.33(f) ("U" wastes).

569. *Id.* pt. 261, app. VIII.

570. *See* RCRA §§ 3004(u)-(v), 3008(h), 42 U.S.C. §§ 6924(u)-(v), 6928(h) (Westlaw 2007).

assortment of pollutants common at federal facilities. The application of these definitions to various categories of pollutants is summarized in Table 2 (page 207).

Explosive compounds. First, the imminent hazard provisions of RCRA cover explosive compounds, such as TNT, RDX, and HMX. These compounds present contamination problems at many DOD facilities, particularly firing ranges, and munitions dumps. Ordinarily, such explosive compounds, once discarded, are characteristic hazardous wastes, exhibiting the characteristic of reactivity. In some instances, however, explosive compounds may be mixed and diluted with wastewater, or soil or debris prior to being discarded, so that they no longer exhibit the characteristic.[571] Such wastes are nevertheless solid waste and subject to the RCRA imminent hazard provisions. In addition, four specific wastes that are byproducts from the manufacture and processing of explosives are listed hazardous wastes.[572]

Ammonium perchlorate. The RCRA imminent hazard provisions also cover ammonium perchlorate. As noted above, perchlorate is a primary ingredient in solid rocket propellant and other explosives. It has contaminated soil and groundwater at more than sixty DOD facilities.[573] It has also contaminated groundwater at Los Alamos National Laboratory in New Mexico.[574] Perchlorate is a reactive hazardous waste under the RCRA regulations.[575] Given its

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571. According to testing conducted by the United States Army, soil containing up to twelve percent explosives is not reactive under RCRA. U.S. ARMY TOXIC & HAZARDOUS MATERIALS AGENCY, TESTING TO DETERMINE RELATIONSHIP BETWEEN EXPLOSIVE-CONTAMINATED SLUDGE COMPONENTS AND REACTIVITY 1 (AMXTH-TE-CR-86096) (Jan. 1987).

572. 40 C.F.R. § 261.32 (Westlaw 2007). The listed wastes are: wastewater treatment sludges from the manufacturing and processing of explosives (K044); spent carbon from the treatment of wastewater containing explosives (K045); wastewater treatment sludges from the manufacturing, formulation and loading of lead-based initiating compounds (K046); and pink/red water from TNT operations (K047). *Id.*

573. GOV'T ACCOUNTABILITY OFFICE, *supra* note 544, at 29-44. For example, according to the GAO, perchlorate has been found in groundwater at the Longhorn Army Ammunition Plant in Harrison County, Texas at 320,000 parts per billion (ppb); at the Redstone Army Arsenal in Alabama at 220,000 ppb; at the Naval Surface Warfare Center in Indian Head, Maryland at 276,000 ppb; at Edwards Air Force Base, Jet Propulsion Laboratory in Kern County, California at 160,000 ppb; and at the Army White Sands Missile Range near Alamogordo, New Mexico at 32,900 ppb. *Id.* at 29, 32, 36, 37, 41.

574. *LANL Discovers Pollutants in Well*, ALBUQUERQUE J. (North), Jan. 11, 2003, at 1.

575. Castaic Lake Water Agency v. Whittaker Corp, 272 F. Supp. 2d 1053, 1059-61 (C.D. Cal. 2003).

toxic and carcinogenic properties,[576] it also meets the statutory definition of hazardous waste. More generally, it is also a solid waste.

Nerve Agents. The RCRA imminent hazard provisions cover nerve agents and other chemical weapons. An example of one such chemical is DIMP, a by-product of nerve gas production, which has contaminated groundwater adjacent to the Rocky Mountain Arsenal.[577] Although such agents generally are not listed or characteristic hazardous wastes, given their inherently toxic properties they clearly meet the statutory definition of hazardous waste. They are also solid wastes.

Military munitions. The RCRA imminent hazard provisions cover discarded used and unused military munitions. Various forms of military munitions have created environmental hazards at military firing ranges, proving grounds, and munitions dumps. Once discarded, such military munitions are often reactive, and therefore characteristic hazardous waste; and once discarded they are also solid wastes. However, the point at which a used military munition becomes discarded, and thus subject to RCRA imminent hazard authority, has been blurred by regulatory skirmishing between EPA and DOD and is not always clear. Nevertheless, two sources of law are helpful in determining whether a used military munition has become discarded: EPA's military munitions rule, and RCRA case law involving recreational shooting ranges.

EPA's military munitions rule governs the regulation of military munitions under RCRA.[578] Prior to promulgation of the rule in February 1997,[579] DOD maintained that the military use and deposition of munitions was not subject to RCRA regulation. One court accepted this view.[580] In 1992, as part of the Federal Facility

576. *See* NAT'L RESEARCH COUNCIL, *supra* note 543.

577. *See supra* notes 75-83 and accompanying text.

578. 40 C.F.R. pt. 266, subpt. M (Westlaw 2007); *see also* Military Toxics Project v. EPA, 146 F.3d 948, 950, 951-53 (D.C. Cir. 1998) (describing the military munitions rule, and denying a petition for review of the rule); Joshua E. Latham, Note, *The Military Munitions Rule and Environmental Regulation of Munitions*, 27 B.C. ENVTL. AFF. L. REV. 467 (2000) (describing the military munitions rule).

579. Military Munitions Rule, 62 Fed. Reg. 6622 (EPA Feb. 12, 1997).

580. Romero-Barcelo v. Brown, 478 F. Supp. 646, 669 (D.P.R. 1979), *aff'd in part, rev'd in part on other grounds*, 643 F.2d 835 (1st Cir. 1981), *rev'd sub nom.* Weinberger v. Romero-Barcelo, 456 U.S. 305 (1982); *see also* Conn. Coastal Fishermen's Ass'n v. Remington Arms Co., 777 F. Supp. 173, 192 (D. Conn. 1991) (distinguishing *Romero-Barcelo* in that it involved "military operations").

Compliance Act,[581] Congress amended RCRA to require EPA to publish regulations, by October 1994, identifying when military munitions become hazardous waste under RCRA.[582] EPA responded in February 1997 with the military munitions rule.

The military munitions rule sets forth the circumstances under which a military munition becomes a solid waste for regulatory purposes, that is, under the regulatory definition of solid waste. The rule is important because a military munition that is a regulatory solid waste is, necessarily, also a statutory solid waste for purposes of sections 7002 and 7003. The rule addresses military munitions both before they are used and after they are used for their intended purpose. First, as with any commercial product, an *unused* military munition is not a solid waste if it is stored for future use. An unused military munition becomes a solid waste when it is abandoned or disposed of, removed from storage for the purpose of disposal, damaged or deteriorated so that it cannot be put into serviceable condition, or declared a solid waste by an authorized military official.[583] Second, a *used* military munition is not a solid waste when it is used for its intended purpose, including training and testing, and also including destruction of unexploded ordnance during range-clearance activities.[584] However, a used military munition becomes a solid waste when it is transported off the range or other site for the purpose of storage, reclamation, treatment, or disposal, or when it is collected and disposed of by burial or placement in a landfill on- or off-site.[585]

In addition, the EPA rule sets forth one circumstance under which a used military munition becomes a solid waste for purposes of sections 7002 and 7003, that is, a statutory solid waste. If a military munition lands off-range and is not immediately retrieved or otherwise rendered safe, it is a statutory solid waste.[586]

Used munitions also become statutory solid waste if they are left in the environment for long enough to be considered discarded. Thus, in *Connecticut Coastal Fisherman's Ass'n v. Remington Arms Co.*,[587] the federal court of appeals held that lead shot from a

581. Pub. L. No. 102-386, § 107, 106 Stat. 1505, 1513 (1992).
582. RCRA § 3004(y), 42 U.S.C. § 6924(y) (Westlaw 2007).
583. 40 C.F.R. § 266.202(b) (Westlaw 2007).
584. 40 C.F.R. § 266.202(a) (Westlaw 2007).
585. 40 C.F.R. § 266.202(c) (Westlaw 2007).
586. 40 C.F.R. § 266.202(d) (Westlaw 2007).
587. 989 F.2d 1305 (2d Cir. 1993).

trap and skeet shooting club, accumulating in Long Island Sound for nearly seventy years,[588] had "accumulated long enough to be considered solid waste."[589] Significantly, EPA affirmatively advocated such an interpretation in that case.[590] The court declined, however, to decide "how long materials must accumulate before they become discarded."[591] At least one court has concluded that this reasoning applies to military munitions.[592]

In the final military munitions rule, EPA did not address the issue of used munitions accumulating in the environment over time.[593] However, in the proposed rule, EPA stated that "spent munitions left in the environment may at some point become 'discarded' in a RCRA statutory sense, and therefore may be potentially subject to various RCRA remedial statutory authorities [including] RCRA section 7003."[594] The proposed rule identified two circumstances in which spent military munitions become discarded. First, spent munitions remaining at a closed military range, meaning one taken out of service and put to a new use incompatible with range activities, are solid wastes. Second, spent munitions remaining at a military range that is transferred to another entity are solid wastes. Although the final EPA rule did not codify this interpretation, neither did it repudiate the interpretation. Moreover, EPA reaffirmed its interpretation in an October 2005 enforcement memorandum, stating that "the Military Munitions Rule does *not* exempt munitions used for their

588. *Id.* at 1308.

589. *Id.* at 1316.

590. Brief for the United States as Amicus Curiae at 25, Conn. Coastal Fishermen's Ass'n v. Remington Arms Co., 989 F.2d 1305 (2d Cir. 1993) (Nos. 92-7191L, 92-7193XAP) (on file with the author).

591. *Conn. Coastal Fishermen's Ass'n*, 989 F.2d at 1316; *see also* Water Keeper Alliance v. U.S. Dep't of Def., 152 F. Supp. 2d 163, 167 (D.P.R. 2001) (stating that "munitions must 'accumulate' for an unspecified amount of time before they can be considered discarded material and thus solid waste"); Simsbury-Avon Pres. Soc'y, LLC v. Metacon Gun Club, Inc., No. Civ. 3:04CV803JBA, 2005 WL 1413183, at *6 (D. Conn. June 14, 2005) ("At some point after the bullet is left on the ground or in the water it may become 'discarded' and subject to RCRA's remediation provisions.").

592. *Water Keeper Alliance*, 152 F. Supp. 2d 163.

593. Military Munitions Rule, 62 Fed. Reg. 6622, 6632 (EPA Feb. 12, 1997). EPA stated its reason for "postpon[ing] action" on the issue was that DOD had not yet issued its range cleanup rule then under development. *Id.* As of late 2005, however, DOD had yet to promulgate a range cleanup rule, and was unlikely to do so in the near future. Telephone interview with Kenneth Shuster, Eng'r, Office of Solid Waste, EPA (Oct. 25, 2005).

594. Military Munitions Rule (Proposed Rule), 60 Fed. Reg. 56,468, 56,475-76, 56,492 (EPA Nov. 8, 1995) (proposed to be codified at 40 C.F.R. § 261.2(g)(4)(i)).

intended purpose on closed ranges from the imminent hazard authorities of RCRA."[595] EPA goes on to confirm that "DOD has an obligation at closed ranges to clean up munitions pursuant to state and federal statutory environmental cleanup authorities."[596]

Thus, at a minimum, a military munition is a statutory solid waste subject to sections 7002 and 7003 of RCRA if it is discarded under any of the circumstances set forth in the EPA military munitions rule, if it is left on a military range that is closed or transferred to another entity, or if it is left in the environment for a sufficient, although unspecified, period of time.

Radionuclides. The RCRA imminent hazard provisions do not cover radionuclides, and this is the largest gap in RCRA jurisdiction. Most of the DOE nuclear weapons facilities are contaminated with radioactive wastes, some of them quite severely. Recall that the RCRA statutory definition of solid waste excludes source, special nuclear, and byproduct material as defined in the AEA.[597] Such radioactive materials are largely beyond the grasp of RCRA.[598]

Radionuclides have not always been out of the bounds of RCRA imminent hazard authority, at least not completely. Prior to the enactment of the Energy Policy Act of 2005,[599] RCRA, like the Clean Water Act, extended to naturally occurring and, more importantly, accelerator-produced radioactive materials. These materials were not then covered by the AEA definitions and were not exempt under RCRA. Significantly, DOE had expressly recognized this legal distinction. In a 1997 report, DOE stated:

> NARM [the acronym DOE uses for naturally occurring or accelerator-produced radioactive materials] wastes are currently not regulated by any federal agency. Responsibility for regulating the disposal of NARM is not addressed in the [AEA]. Regulation of NARM disposal currently rests with the states as part of their

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595. Memorandum from David J. Kling, Dir., Fed. Facilities Enforcement Office, EPA, to EPA Regional Enforcement Managers 2 (Oct. 21, 2005) (emphasis in original) (on file with the author).

596. *Id.*

597. *See* discussion *supra* text accompanying notes 241-242.

598. However, source, special nuclear, and byproduct material may be regulated under RCRA to the extent necessary to address solid waste issues. *See* United States v. New Mexico, 32 F.3d 494 (10th Cir. 1994).

599. Pub. L. No. 109-58, § 651(e)(1), 119 Stat. 594, 806-07 (2005). This legislation is discussed *supra* text accompanying note 237.

> authority for ensuring the protection of public health and safety.[600]

In another report, DOE stated that although "[s]ome naturally occurring and accelerator-produced radioactive materials are also managed as radioactive waste . . . they are not subject to the AEA."[601] Moreover, at least one federal district court recognized that tritium, a common radionuclide, was not necessarily covered by the AEA. Tritium can be produced in a nuclear reactor, in which case it is and has always been byproduct material under the AEA and exempt under RCRA. Tritium also can be produced in a particle accelerator, in which case it was, before 2005, neither source, special nuclear, nor byproduct material and, once discarded, met the RCRA definition of solid waste. As the court correctly stated, "[i]f tritium is produced in a nuclear reactor, it is 'byproduct material' within the meaning of" the AEA; though "not all tritium is byproduct material."[602] Other examples of radionuclides that are commonly produced in accelerators, include cobalt-60, sodium-22, and krypton-81.[603] Radioactive material from particle accelerators has contaminated land and water at several DOE facilities.[604] Tritium is a particular problem because, although it has a relatively short half-life of only 12.4 years, it is highly mobile in groundwater. Before Congress added accelerator-produced radioactive material to the AEA definition of "byproduct material," discarded accelerator-produced radionuclides were RCRA solid waste. Because of their harmful

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600. U.S. DEP'T OF ENERGY, INTEGRATED DATA BASE REPORT—1996: U.S. SPENT NUCLEAR FUEL AND RADIOACTIVE WASTE INVENTORIES, PROJECTIONS, AND CHARACTERISTICS 7-1 (Revision 13 Dec. 1997).

601. DOE, LINKING LEGACIES, *supra* note 20, at 32.

602. Gassie v. SMH Swiss Corp., No. Civ. A. 97-3557, 1999 WL 539489 at *2 (E.D. La. July 22, 1999).

603. *See, e.g.*, U.S. DEP'T OF ENERGY, *supra* note 600, at 7-8.

604. For example, DOE and its predecessor agencies have operated several particle accelerators at Los Alamos National Laboratory at various times during its 60-year history. Soil and groundwater at the facility, including disposal Area G in Technical Area 54, is contaminated with tritium and other radionuclides produced in part by particle accelerators. Interview with John Young, *supra* note 61. Particle accelerators operated at Brookhaven National Laboratory on Long Island in New York have also caused soil contamination with tritium, sodium-22, beryllium-7, iron-55, manganese-54, europium-152, and cobalt-60. Brookhaven Nat'l Lab. & U.S. Dep't of Energy, Action Memorandum: Brookhaven LINAC Isotope Producer (BLIP) Removal Action 5-6 (Mar. 10, 2000) (on file with the author). Particle accelerators have also been operated at the Lawrence Livermore National Laboratory, site 300, in California. DOE, LINKING LEGACIES, *supra* note 20, at 207.

properties,[605] they were also statutory hazardous waste. As of August 2005, that is no longer the case.[606]

Mixed waste. The RCRA imminent hazard provisions cover "mixed waste," or more precisely the non-radioactive portion of mixed waste. Mixed waste is waste that contains both RCRA hazardous waste and source, special nuclear, or byproduct material subject to regulation under the AEA.[607] Mixed waste is a common source of contamination within the DOE nuclear weapons complex.

Prior to 1986, whether RCRA applied to mixed waste was an unresolved question.[608] The RCRA statute itself is not clear on the issue,[609] and its legislative history sheds little light on congressional intent.[610] In the early 1980s, as we have seen, DOE maintained that all its nuclear weapons activities were exempt from RCRA.[611] The district court in the *Legal Environmental Assistance Foundation* case[612] rejected that view. DOE then attempted to settle the mixed waste issue by proposing an interpretive rule broadly construing "byproduct material" under the AEA to cover most mixed wastes.[613] The rule would have defined byproduct material to include all radioactive wastes that are "either directly yielded in the process of producing or utilizing special nuclear material, or have been made radioactive as a direct and necessary consequence of that

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605. *See* EUGENE MEYER, CHEMISTRY OF HAZARDOUS MATERIALS 566-69 (3d ed. 1998). Meyer describes some of the adverse health effects of harmful doses of ionizing radiation, including nausea, hair loss, decrease in white blood cells, hemorrhaging, necrotic or ulcerating tissues, burns, the growth of tumors, and leukemia. *Id.*

606. There is some chance that the law may be changed to restore RCRA (and Clean Water Act) jurisdiction at least over accelerator-produced radioactive materials. New Mexico Governor Bill Richardson has written to members of Congress requesting such a change in the law. John Arnold, *Terror Law Hamstrings Officials*, ALBUQUERQUE J. (Santa Fe), Oct. 21, 2006, at 1.

607. 40. C.F.R. § 266.210 (Westlaw 2007).

608. According to EPA, "Historically, substantial confusion and uncertainty have surrounded the applicability of RCRA to hazardous wastes containing radioactive materials (i.e., source, special nuclear or byproduct material as defined by the [AEA].)" Clarification of Interim Status Qualification Requirements for the Hazardous Components of Radioactive Mixed Waste, 53 Fed. Reg. 37,045, 37,045 (EPA Sept. 23, 1988).

609. New Mexico v. Watkins, 969 F.2d 1122, 1130 (D.C. Cir. 1992) (stating that "the statute is not crystalline on the coverage of radioactive mixed wastes").

610. *See* Finamore *supra* note 255, at 135 n.324.

611. *See supra* text accompanying notes 255-256.

612. Legal Envtl. Assistance Found. v. Hodel, 586 F. Supp. 1163 (E.D. Tenn. 1984), discussed *supra* text accompanying notes 267-273.

613. Notice of Proposed Rulemaking: Byproduct Material, 50 Fed. Reg. 45,736 (DOE Nov. 1, 1985).

process."[614] Such wastes would be considered byproduct material, and excluded under RCRA, even though they contain hazardous chemical constituents.[615] On the other hand, wastes containing radioactivity "that is an indirect result . . . from [sic] the process of producing and utilizing special nuclear material" would not be considered byproduct material in their entirety.[616] Rather, if they also contained hazardous wastes, the wastes would be "mixed waste" and subject to RCRA regulation.[617] Under DOE's proposal, most mixed wastes would have been exempt from RCRA regulation.[618] DOE never made this proposed rule final, however.

In 1986, EPA finally resolved the issue in a notice definitively stating that "wastes containing both hazardous waste and radioactive waste are subject to the RCRA regulation."[619] EPA issued the notice to clarify that state hazardous waste programs must regulate mixed waste to receive and maintain RCRA authorization.[620] As EPA later explained, mixed waste is subject to dual regulation: "a single radioactive waste stream is subject to regulation by two separate Federal agencies," EPA under RCRA and DOE under the AEA.[621] DOE subsequently agreed with EPA, dropping its earlier proposal and stating that "the definitional exclusion and the language of section 1006(a) [of RCRA] are correctly understood to provide for the regulation under RCRA of all hazardous waste, including waste that is also radioactive."[622] The courts, moreover, have deferred to EPA's interpretation that

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614. *Id.* at 45,736.

615. *Id.* DOE listed two examples of such wastes: "high-level radioactive waste emanating from the chemical processing of spent fuel for the production of plutonium, and radioactive waste cutting oil used for the machining of plutonium to a usable configuration." *Id.*

616. *Id.* at 45,736-37.

617. *Id.* at 45,737.

618. Finamore, *supra* note 255, at 136 (stating that "DOE's proposal could remove much of its hazardous mixed waste from the RCRA statutory scheme").

619. State Authorization To Regulate the Hazardous Components of Radioactive Mixed Wastes Under the Resource Conservation and Recovery Act, 51 Fed. Reg. 24,504, 24,504 (EPA July 3, 1986).

620. *Id.* Section 3006 of RCRA, 42 U.S.C. § 6926, allows states to receive from EPA authorization to operate a state program in lieu of the federal program. Such program must be "equivalent to" the federal program. RCRA § 3006(b), 42 U.S.C. § 6926(b) (Westlaw 2007).

621. Clarification of Interim Status Qualification Requirements for the Hazardous Components of Radioactive Mixed Waste, 53 Fed. Reg. 37,045, 37,048 (EPA Sept. 23, 1988).

622. Radioactive Waste, 52 Fed. Reg. 15,937, 15,940 (DOE May 1, 1987).

"RCRA covers radioactive mixed wastes."[623]

Petroleum. The imminent hazard provisions of RCRA also cover discarded petroleum products, such as gasoline, kerosene, jet fuel, and diesel fuel. Spilled, leaked, and otherwise discarded petroleum products are common pollutants at DOD facilities.

Many petroleum products, once discarded, are characteristic hazardous wastes; some such as gasoline are ignitable,[624] and some contain benzene at toxic levels. Virtually all petroleum products contain listed hazardous constituents,[625] including benzene and toluene.[626] Because they contain toxic constituents such as benzene, discarded petroleum products fall within the statutory definition of hazardous waste. They are also statutory solid waste.

EPA affirmatively states that the RCRA imminent hazard provisions apply to petroleum in its enforcement guidance.[627] EPA encourages its enforcement officials to rely on section 7003 of RCRA as a means to compel cleanup of sites that might otherwise be subject to the petroleum exclusion in CERCLA.[628] Furthermore, a long series of decisions by several federal courts have likewise held that petroleum products released from leaking storage tanks or pipelines are solid wastes subject to the imminent hazard provisions of RCRA.[629] Although there is one published decision to

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623. New Mexico v. Watkins, 969 F.2d 1122, 1132 (D.C. Cir. 1992); *see also* Sierra Club v. U.S. Dep't of Energy, 734 F. Supp. 946, 949 (D. Colo. 1990) ("[T]he hazardous component of 'mixed waste' must be managed as hazardous waste whether or not the radioactive component of the mixed waste is subject to regulation.").

624. MEYER, *supra* note 605, at 459.

625. For the list of RCRA hazardous constituents, see 40 C.F.R. pt. 261, app. VIII (Westlaw 2007).

626. EPA, PROFILE OF THE PETROLEUM REFINING INDUSTRY 49 (EPA 310-R-95-013) (1995); *see also* Dydio v. Hesston Corp., 887 F. Supp. 1037, 1039 (N.D. Ill. 1995) ("The petroleum-contaminated soil contains known carcinogens including benzene and ethylbenzene as well as suspected carcinogens including toluene and xylene.").

627. EPA Guidance on Section 7003 of RCRA, *supra* note 371, at 6, 15.

628. *Id.* at 6. The CERLA petroleum exclusion is discussed *infra* text accompanying notes 661 and 668-677.

629. Albany Bank & Trust Co. v. Exxon Mobil Corp., 310 F.3d 969, 973-74 (7th Cir. 2002) (petroleum product leaking from underground storage tank); Bologna v. Kerr-McGee Corp., 95 F. Supp. 2d 197, 200-02 (S.D.N.Y. 2000) (leaks of No. 2 and No. 6 fuel oil); Kara Holding Corp. v. Getty Petroleum Mktg., Inc., 67 F. Supp. 2d 302, 309-11 (S.D.N.Y. 1999) (gasoline spill); Singer v. Bulk Petroleum Corp., 9 F. Supp. 2d 916, 919-20 (N.D. Ill. 1998) (petroleum products leaking from underground storage tank); Aurora Nat'l Bank v. Tri Star Mktg, Inc., 990 F. Supp. 1020 (N.D. Ill. 1998) (gasoline and kerosene leaking from underground storage tanks); Waldschmidt v. Amoco Oil Co., 924 F. Supp. 88, 90-92 (C.D. Ill. 1996) (gasoline leaking from underground storage tanks); *Dydio*, 887 F. Supp. at 1045-49 (petroleum product leaking from underground storage tanks); Craig

the contrary, a 1994 decision in *Winston v. Shell Oil Co.*,[630] it is no longer viable precedent. The district court in *Winston* observed, correctly, that underground storage tanks are regulated under subtitle I of RCRA.[631] Because RCRA section 7002(a)(1)(B) is in a different subtitle, subtitle C, the court went on to conclude—erroneously—that section 7002 does not cover petroleum leaking from an underground storage tank.[632] The *Winston* decision was criticized, and other courts declined to follow it.[633] Two years later, ruling in another case, *Waldschmidt v. Amoco Oil Co.*,[634] the same judge reversed himself; he acknowledged that the *Winston* case had been wrongly decided, "abandoned" the *Winston* decision, and ruled that section 7002 of RCRA does indeed cover leaking underground storage tanks.[635]

Organic solvents. The imminent hazard provisions of RCRA also cover organic solvents, which are soil and groundwater contaminants at many federal facilities. Most chlorinated and non-chlorinated organic solvents, including benzene, ethylbenzene, toluene, xylene, PCE, TCE, and carbon tetrachloride, are listed as hazardous wastes.[636] Further, benzene, toluene, and xylenes are characteristic hazardous wastes because they are ignitable,[637] and benzene, PCE, TCE, and carbon tetrachloride, among others, are characteristic hazardous wastes because they are toxic.[638] Each of

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Lyle Ltd. P'ship v. Land O'Lakes, Inc., 877 F. Supp. 476, 480-82 (D. Minn. 1995) (same); Agric. Excess & Surplus Ins. Co. v. A.B.D. Tank & Pump Co., 878 F. Supp. 1091, 1094-99 (N.D. Ill. 1995) (same); Petropoulos v. Columbia Gas of Ohio, Inc., 840 F. Supp. 511, 516 (S.D. Ohio 1993) (motor fuels and waste oil leaking from underground storage tanks); Paper Recycling, Inc. v. Amoco Oil Co., 856 F. Supp. 671, 675 (N.D. Ga. 1993) (diesel fuel leaking from pipeline); Zands v. Nelson, 779 F. Supp. 1254, 1261-64 (S.D. Cal. 1991) (gasoline leaking from tanks). *Contra* Winston v. Shell Oil Co., 861 F. Supp. 713 (C.D. Ill. 1994), *abrogated by Waldschmidt*, 924 F. Supp. at 90-92.

630. 861 F. Supp. 713 (C.D. Ill. 1994).

631. Subtitle I of RCRA is codified in the United States Code at title 42, chapter 82, subchapter IX, 42 U.S.C. §§ 6991 to 6991i (Westlaw 2007). The imminent hazard provisions, as we have seen, are in subchapter G of RCRA. *See supra* note 554 and accompanying text.

632. 861 F. Supp. at 716-18 (C.D. Ill. 1994).

633. *E.g.*, *Dydio*, 887 F. Supp. at 1045 ("[W]e decline to follow *Winston*" because it "misinterpreted" applicable law.); Agric. Excess & Surplus Ins. Co. v. A.B.D. Tank & Pump Co., 878 F. Supp. 1091, 1095-96 (N.D. Ill. 1995) (disagreeing with the *Winston* court's reasoning).

634. 924 F. Supp. 88 (C.D. Ill. 1996).

635. 924 F. Supp. at 90-92.

636. 40 C.F.R. § 261.31(a) (Westlaw 2007) (waste codes F001, F002, F003, and F004).

637. MEYER, *supra* note 605, at 453-55.

638. 40 C.F.R. § 261.24 (Westlaw 2007) (waste codes D018, D019, D039, and D040).

these solvents is also listed as a hazardous waste constituent.[639]

Polychlorinated biphenyls. The imminent hazard provisions of RCRA cover polychlorinated biphenyls, or PCBs. PCBs were once widely used as an insulator and fire retardant in electrical equipment, such as transformers and capacitors, and as a hydraulic fluid.[640] They have been disposed of at many federal facilities.

PCBs are not listed as hazardous wastes under RCRA; rather they are regulated under the federal Toxic Substances Control Act (TSCA).[641] Nevertheless, PCBs are listed as hazardous waste constituents,[642] and are subject to RCRA corrective action cleanup requirements. Because of their toxic properties,[643] PCBs also meet the statutory definition of hazardous waste. Finally, they meet the statutory definition of solid waste.

Although the applicability of the RCRA imminent hazard provisions to PCBs should be obvious, the case law on the issue is uneven. In a 1980 case, *United States v. Burns*, the district court ruled that EPA could not address PCBs under section 7003 of RCRA.[644] The court found that EPA had promulgated "comprehensive regulations" addressing PCBs under TSCA, and that allowing EPA to proceed under both TSCA and RCRA would result in regulatory "duplication."[645] In another case, citing *Burns*, the district court dismissed a citizen suit under section 7002(a)(1)(B) of RCRA because PCBs "are not 'hazardous wastes' under RCRA."[646] Although the *Burns* case has never been

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639. For the list of RCRA hazardous constituents, see 40 C.F.R. pt. 261, app. VIII (2006).

640. MEYER, *supra* note 605, at 466.

641. 15 U.S.C. §§ 2601-2692 (Westlaw 2007).

642. 40 C.F.R. pt. 261, app. VIII (Westlaw 2007).

643. *See* MEYER, *supra* note 605, at 466. Meyer writes: "In the 1960s it was discovered that PCBs and the byproducts resulting from their manufacture could cause adverse health problems, including cancer, birth defects, liver damage, acne, impotence, and death." *Id.*; *see also* United States v. Union Corp., 259 F. Supp. 2d 356, 374-76 (E.D. Pa. 2003) (discussing the toxic effects of PCBs).

644. 512 F. Supp. 916 (W.D. Pa. 1981).

645. 512 F. Supp. at 919. The court cited section 1006(b) of RCRA, 42 U.S.C. § 6905(b), which requires EPA to integrate RCRA for purposes of administration and enforcement, and avoid duplication with the appropriate provisions of the Clean Air Act, the Clean Water Act, the Safe Drinking Water Act, and federal statutes regulating pesticides and ocean dumping. Section 1006(b) of RCRA does not mention TSCA, however.

646. Brewer v. Ravan, 680 F. Supp. 1176, 1181 (M.D. Tenn. 1988). The plaintiffs in *Brewer* had brought a citizen suit under section 7002(a)(1)(B) of RCRA alleging an endangerment resulting from the disposal of hazardous and solid waste, namely PCBs. *Id.*

overruled, more recent cases have declined to follow it. A case decided in 2001 held that a citizen suit under section 7002(a)(1)(B) alleging an endangerment from PCB contamination was not preempted by TSCA, notwithstanding the defendant's reliance on *Burns*.[647] In a 2003 case, the court held that an EPA action under section 7003 alleging an endangerment from PCB contamination was not preempted by TSCA.[648] In another RCRA case in which the defendant made a similar "duplication" argument, the court found that *Burns* "was wrongly decided" and rejected the argument.[649]

Moreover, the legislative history of RCRA makes clear that Congress intended for RCRA to address PCB contamination problems. For example, the report accompanying the original House bill that became RCRA[650] cited several examples of damage caused by hazardous waste disposal practices, including a PCB disposal incident in Waynesboro, Tennessee: "Waste [PCBs] have been deposited in the city dumpsite by a local firm," and the "waste was then pushed into a spring that emptied into Beech Creek where wildlife and aquatic life were destroyed."[651]

Heavy metals. The RCRA imminent hazard provisions cover heavy metals. Many DOD and DOE facilities have been polluted with an assortment of heavy metals. Recall, for example, that the Oak Ridge National Laboratory released more than 730,000 pounds of metallic mercury into the environment.[652] Toxic hexavalent chromium has contaminated groundwater at Los Alamos National Laboratory.[653]

Metal-bearing wastes from electroplating operations—

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at 1180. The court dismissed the suit, finding that PCBs are not hazardous waste under RCRA. *Id.* at 1182. The court did not address the question whether PCBs are solid waste under RCRA, a clear error.

647. Hudson Riverkeeper Fund, Inc. v. Atl. Richfield Co., 138 F. Supp. 2d 482, 486 (S.D.N.Y. 2001).

648. *Union Corp.*, 259 F. Supp. 2d at 401-03.

649. United States v. Vineland Chem. Co., 692 F. Supp. 415, 420 (D.N.J. 1988).

650. Resource Conservation and Recovery Act of 1976, H.R. 14496, 94th Cong. (June 22, 1976), *reprinted in* 1 A LEGISLATIVE HISTORY OF RCRA, *supra* note 331, at 440.

651. H.R. REP. NO. 94-1491, at 22 (1976), *reprinted in* 1 A LEGISLATIVE HISTORY OF RCRA, *supra* note 331, at 558, 583.

652. *See supra* note 52 and accompanying text.

653. John Arnold, *High Chromium Levels Found*, ALBUQUERQUE J. (Santa Fe), Dec. 24, 2005, at 1; interview with Darlene Goering, Envtl. Specialist, Hazardous Waste Bureau, N.M. Env't Dep't, in Santa Fe, N.M. (June 26, 2006) (confirming that the chromium is hexavalent).

conducted at many federal facilities—are listed hazardous waste.[654] Wastes containing toxic levels of arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver are characteristic hazardous wastes.[655] All of these metals, as well as beryllium, nickel, tetraethyl lead, and thallium, and many other metal compounds, are listed hazardous waste constituents.[656] Many metals are toxic,[657] and are therefore statutory hazardous waste. They are also statutory solid waste.

Asbestos. Finally, the imminent hazard provisions of RCRA cover asbestos. Asbestos insulation is a problem in old buildings at many military installations.[658] Although asbestos is neither a listed nor a characteristic hazardous waste under the regulations, nor is it listed as a hazardous waste constituent, it is a carcinogen and therefore meets the statutory definition of "hazardous waste."[659] At least one court has found that the statutory definition of "hazardous waste" under RCRA applies to asbestos.[660] Asbestos is also a RCRA "solid waste."

5. *Hazardous substances.*

Finally, the imminent hazard provision of CERCLA, section 106, applies to "hazardous substances." The statute broadly defines the term "hazardous substance" by reference to other federal

654. 40 C.F.R. § 261.31(a) (Westlaw 2007) (waste code F006).

655. 40 C.F.R. § 261.24 (Westlaw 2007) (waste codes D004, D005, D006, D007, D008, D009, D010 and D011).

656. 40 C.F.R. pt. 261, app. VIII (Westlaw 2007).

657. *See* MEYER, *supra* note 605, at 387-88. Meyer writes that "arsenic, beryllium, cadmium, lead, mercury, and thallium" are "toxic substances." He further notes that "[t]he consumption of even minute amounts of their compounds can cause illness or death." *Id.* at 387. Regarding lead, Meyer states that lead exposure "primarily impacts the human blood-forming, nervous, and kidney systems, but it also harms the reproductive, endocrine, hepatic, cardiovascular, immunologic, and gastrointestinal processes." *Id.* at 388. *See also* NAT'L RESEARCH COUNCIL, ARSENIC IN DRINKING WATER (1999); NAT'L RESEARCH COUNCIL, ARSENIC IN DRINKING WATER: 2001 UPDATE (2001).

658. Interview with V. Ann Strickland, Attorney, Office of Enforcement & Compliance Assurance, EPA, in Wash., D.C. (Feb. 21, 2006); *see also* James V. Cannizo, *Asbestos: A Legal Primer for Air Force Installation Attorneys*, 54 A.F.L. REV. 39, 39 (2004) ("At virtually all military installations, asbestos will sooner or later create environmental, safety and legal issues.").

659. *See* MEYER, *supra* note 605, at 389-90. According to Meyer, "exposure to asbestos causes a number of serious health problems, including cancer." *Id.*; *see also* Metal Trades, Inc. v. United States, 810 F. Supp. 689, 698 (D.S.C. 1992) (discussing asbestos toxicology and the symptoms of asbestos exposure-related disease).

660. *Metal Trades*, 810 F. Supp. at 697-700.

statutes:

> The term "hazardous substance" means (A) any substance designated pursuant to section [311(b)(2)(A) of the Clean Water Act], (B) any element, compound, mixture, solution, or substance designated pursuant to section [102 of CERCLA], (C) any hazardous waste having the characteristics identified under or listed pursuant to section 3001 of [RCRA] (but not including any waste the regulation of which under [RCRA] has been suspended by act of Congress), (D) any toxic pollutant listed under section [307(a) of the Clean Water Act], (E) any hazardous air pollutant listed under section 112 of the Clean Air Act, and (F) any imminently hazardous chemical substance or mixture with respect to which the [EPA] Administrator has taken action pursuant to section [7 of TSCA]. The term does not include petroleum, including crude oil or any fraction thereof which is not otherwise specifically listed or designated as a hazardous substance under subparagraphs (A) through (F) of this paragraph, and the term does not include natural gas, or synthetic gas usable for fuel (or mixtures of natural gas and such synthetic gas).[661]

EPA has separately listed each of the substances covered by this definition in its CERCLA regulations.[662]

The CERCLA definition of "hazardous substance," while not as broad as the RCRA definition of "solid waste," covers most of the substances causing environmental problems at federal facilities. First, because this definition encompasses hazardous air pollutants under the Clean Air Act, it covers radionuclides.[663] Thus, as with the Clean Air Act, there is no question of preemption by the AEA.[664] Further, the definition of "hazardous substance" includes all listed and characteristic hazardous waste under RCRA. CERCLA therefore covers all of the common chemical hazardous wastes, such as organic solvents and heavy metals, and all the ignitable, corrosive, reactive, and toxic hazardous wastes, discussed in the previous section on RCRA.[665] The definition covers PCBs because

661. CERCLA § 101(14), 42 U.S.C. § 9601(14) (Westlaw 2007).

662. 40 C.F.R. § 302.4, tbl.302.4 (Westlaw 2007).

663. *Id.* (listing "radionuclides (including radon)" as hazardous substances under CERCLA); *see also* Amoco Oil Co. v. Borden, 889 F.2d 664, 668-69 (5th Cir. 1989) (stating that radionuclides are designated as hazardous substances under CERCLA and listed as hazardous air pollutants under the Clean Air Act).

664. *See* discussion *supra* Section II.C.3.

665. 40 C.F.R. § 302.4, tbl.302.4 (Westlaw 2007) (listing as hazardous substances

PCBs are both hazardous air pollutants under the Clean Air Act and toxic pollutants under the Clean Water Act.[666] The definition also covers asbestos, which is likewise both a hazardous air pollutant under the Clean Air Act and a toxic pollutant under the Clean Water Act.[667]

The definition of "hazardous substance" contains one very prominent exception, however. Under the so-called petroleum exclusion, CERCLA does not cover petroleum, including crude oil or any fraction of crude oil. EPA has interpreted this provision to exclude from CERCLA petroleum and petroleum fractions, including hazardous substances that are indigenous to those petroleum substances, such as benzene.[668] EPA further interprets the provision to exclude hazardous substances that are added to petroleum products during the refining process.[669] Lastly, under EPA's interpretation, hazardous substances that are added to petroleum or increased in concentration through use, such as metal contamination in used oil, are not excluded.[670] Courts have largely deferred to EPA's interpretation. For example, courts have ruled that the CERCLA petroleum exclusion covers leaded gasoline including the tetraethyl lead additive.[671] It also covers benzene, ethylbenzene, toluene, and xylene as indigenous constituents of gasoline.[672] The exclusion covers fuel oil,[673] undoubtedly including jet fuel.[674] On the other hand, courts have ruled that the exclusion does not cover used oil contaminated with heavy metals,[675] used oil contaminated with creosote,[676] or

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under CERCLA all listed and characteristic hazardous wastes under RCRA).

666. *Id.* (listing "PCBs," "polychlorinated biphenyls," and "arochlors" as hazardous substances under CERCLA).

667. *Id.* (listing asbestos as a hazardous substance under CERCLA).

668. Memorandum from Francis S. Blake, EPA Gen. Counsel, to J. Winston Porter, EPA Assistant Adm'r for Solid Waste and Emergency Response 3 (July 31, 1987), *available at* 1987 WL 123926 (E.P.A.G.C.).

669. *Id.*

670. *Id.* at 4; *see also* Notification Requirements, 50 Fed. Reg. 13,456, 13,460 (EPA Apr. 4, 1985) ("EPA does not consider materials such as waste oil to which listed CERCLA substances have been added to be within the petroleum exclusion.").

671. Wilshire Westwood Assocs. v. Atl. Richfield Corp., 881 F.2d 801 (9th Cir. 1989).

672. Niecko v. Emro Mktg. Co., 769 F. Supp. 973, 980-82 (E.D. Mich. 1991).

673. Two Rivers Terminal LP v. Chevron USA, Inc., 96 F. Supp. 2d 432, 443-44 (M.D. Pa. 2000).

674. *Cf.* New York v. United States, 620 F. Supp. 374, 385-86 (E.D.N.Y. 1985) (discussing without deciding the applicability of the petroleum exclusion to J-4 jet fuel).

675. United States v. Alcan Aluminum Corp., 755 F. Supp. 531, 539 (N.D.N.Y. 1991), *rev'd in part on other grounds*, 990 F.2d 711 (2d Cir. 1993); City of New York v. Exxon Corp.,

petroleum tank bottoms containing heavy metals.[677]

E. *May Bring an Action*

Another issue is the type of legal action that may be authorized to address an imminent hazard. The federal imminent hazard provisions authorize various types of legal actions by various parties under various circumstances. EPA (or the President under CERCLA) may either bring an action in federal district court seeking injunctive relief or, under most of the provisions, it may issue an administrative order to address the endangerment. In addition, RCRA empowers citizens, under certain circumstances, to bring an action in federal court seeking injunctive relief to address the endangerment.

1. *Judicial action.*

Upon making an endangerment finding, EPA's first option is to bring a judicial action in federal district court seeking injunctive relief to restrain the person causing the endangerment. Because EPA cannot bring a judicial action against another federal agency under the unitary executive theory,[678] this authority has no application to a federal agency causing an endangerment.[679] However, the authority to bring a judicial action might be used against the federal contractor operating a federal facility.[680]

2. *Administrative order.*

EPA's second option under most of the imminent hazard provisions is to issue an administrative order to address the endangerment. Because EPA is powerless to use judicial authority against other federal agencies, it must rely entirely on its administrative order authority. Not all of the imminent hazard provisions convey such authority, and those that do are remarkably

766 F. Supp. 177, 185-88 (S.D.N.Y. 1991); Washington v. Time Oil, Inc., 687 F. Supp. 529, 531-32 (W.D. Wash. 1988).

676. United States v. Amtreco, Inc., 846 F. Supp. 1578, 1584-85 (M.D. Ga. 1994).

677. Cose v. Getty Oil Co., 4 F.3d 700 (9th Cir. 1993); United States v. W. Processing Co., 761 F. Supp. 713 (W.D. Wash. 1991).

678. Discussed *supra* Section II.B.

679. Of course, a state environmental agency may have the authority to bring a judicial action against a federal facility under the imminent hazard provision of state law.

680. *See infra* text following note 758.

dissimilar in the authority they convey.

Section 303 of the Clean Air Act authorizes EPA to issue an administrative order to address an endangerment resulting from air pollution. Yet this provision is of limited usefulness. It allows EPA to issue an order only if "it is not practicable to assure prompt protection of public health or welfare or the environment" through a judicial action.[681] Further, it allows the administrative order to remain in effect for no more than sixty days, unless EPA brings a judicial action within that time, and even then the order can be extended only for another fourteen days unless the court grants a longer extension.[682] Thus, the administrative order authority of section 303 can be effective against federal facilities only if it is fully implemented within sixty days—an atypical situation. Section 112(r)(9) of the Clean Air Act also authorizes EPA to issue administrative orders to address an endangerment resulting from an accidental release of a regulated substance, but without these limitations.[683]

Section 504 of the Clean Water Act is the least useful of the federal imminent hazard provisions. It gives EPA no administrative order authority at all.[684] In this respect, section 504 of the Clean Water Act is unique among the federal imminent hazard provisions. Without administrative order authority, section 504 is of little use in addressing water pollution at federal facilities.

Section 1431 of the Safe Drinking Water Act conveys much broader and much more useful administrative order authority. It authorizes EPA to issue an administrative order of unlimited duration to address an endangerment to a public water supply.[685] EPA has concluded, moreover, that it can use this administrative order authority against other federal agencies,[686] and it has

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681. Clean Air Act § 303, 42 U.S.C. § 7603 (Westlaw 2007), set forth *supra* text accompanying note 302.

682. *Id.*

683. Clean Air Act § 112(r)(9), 42 U.S.C. § 7412(r)(9) (Westlaw 2007), set forth *supra* text accompanying note 303.

684. *See* Clean Water Act § 504, 33 U.S.C. § 1364 (Westlaw 2007), set forth *supra* text accompanying note 309.

685. Safe Drinking Water Act § 1431(a), 42 U.S.C. § 300i(a) (Westlaw 2007), set forth *supra* text accompanying note 322.

686. Memorandum from Steven A. Herman, EPA Assistant Adm'r for Enforcement and Compliance Assurance, to Sylvia Lowrance, EPA, 5 (May 29, 1998) (on file with the author).

successfully done so.[687]

Section 7003 of RCRA provides the most useful authority; it conveys to EPA broad administrative order authority that is plainly applicable to federal facilities. Section 7003 of RCRA authorizes EPA to issue administrative orders of unlimited duration to address an endangerment from the management of solid or hazardous waste.[688] Moreover, as amended by the Federal Facility Compliance Act,[689] RCRA expressly authorizes EPA to commence administrative enforcement actions against "any department, agency, or instrumentality . . . of the Federal Government pursuant to the enforcement authorities contained in this chapter."[690] The reference to "this chapter" means all of RCRA,[691] including section 7003.

Lastly, the administrative order authority in section 106 of CERCLA, though broadly written on its face, is nevertheless severely limited in its applicability to federal facilities. Section 106 of CERCLA authorizes the President to issue an administrative order to address an endangerment from the release of a hazardous substance,[692] authority that EPA has used often at private facilities.[693] However, because of the structure of the statute, and the way that the statutory authorities have been delegated, EPA cannot use the administrative order authority of section 106 against federal facilities. Under CERCLA, the federal agencies that are authorized to implement cleanup actions are, incredibly, the very agencies that caused the pollution in the first place. CERCLA expressly provides that for federal facilities listed on the NPL, the

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687. *In re* Training Range and Impact Area, Mass. Military Reservation, Nat'l Guard Bureau, Proceeding Under Section 1431(a) of the Safe Drinking Water Act, Admin. Order for Response Action, No. SDWA I-97-1019 (EPA Region I, Feb. 27, 1997) (on file with the author); *In re* Training Range and Impact Area, Mass. Military Reservation, Nat'l Guard Bureau & Mass. Nat'l Guard, Proceeding Under Section 1431(a) of the Safe Drinking Water Act, Admin. Order for Response Action, as Modified, No. SDWA I-97-1030 (EPA Region I, July 25, 1997) (on file with the author).

688. RCRA § 7003(a), 42 U.S.C. § 6973(a) (Westlaw 2007), set forth *supra* text accompanying note 343.

689. Pub. L. No. 102-386 § 103(b), 106 Stat. 1505, 1506 (1992).

690. RCRA § 6001(b), 42 U.S.C. § 6961(b) (Westlaw 2007), set forth *supra* note 190.

691. RCRA, formally the Solid Waste Disposal Act, is chapter 82, title 42 of the United States Code.

692. CERCLA § 106(a), 42 U.S.C. § 9606(a) (Westlaw 2007), set forth *supra* text accompanying note 361.

693. For example, in fiscal year 1999, EPA issued 52 unilateral administrative orders under section 106 of CERCLA. ENVTL. PROT. AGENCY, ANNUAL REPORT ON ENFORCEMENT AND COMPLIANCE ASSURANCE ACCOMPLISHMENTS IN 1999 at 30 (EPA 300-R-00-005) (2000).

"department, agency, or instrumentality which owns or operates such facility" is required to conduct the remedial investigation and feasibility study,[694] and the remedial action;[695] EPA is given only an oversight role.[696] Moreover, unlike the other environmental statutes, CERCLA does not place the legal authority to administer and implement the law in the EPA Administrator; rather, it places that authority in the President. In turn, the President has delegated that authority by executive order to various federal agencies, primarily EPA, but not entirely so. Under Executive Order 12580, signed by President Reagan on January 23, 1987, the functions vested in the President under the cleanup provisions of CERCLA "are delegated to the Secretaries of Defense and Energy, with respect to releases or threatened releases [of hazardous substances] where either the release is on or the sole source of the release is from any facility or vessel under the jurisdiction, custody, or control of their departments, respectively."[697] Thus, once again, the polluting federal agencies are allowed the privilege of self-regulation.[698]

3. *Citizen suit.*

Additionally, and of particular importance given EPA's handicaps in federal facility enforcement, section 7002 of RCRA authorizes citizen suits to address an imminent and substantial endangerment.[699] RCRA is unique among the federal environmental statutes in this respect. The other statutes all have citizen suit provisions to address violations of the law, as does RCRA in section 7002(a)(1)(A),[700] but only RCRA also authorizes a citizen suit to address an imminent and substantial endangerment,

694. CERCLA § 120(e)(1), 42 U.S.C. § 9620(e)(1) (Westlaw 2007).

695. CERCLA § 120(e)(2), 42 U.S.C. § 9620(e)(2) (Westlaw 2007).

696. CERCLA requires the responsible federal agency to enter into an interagency agreement with EPA for expeditions completion of the remedial action by the responsible federal agency. CERCLA § 120(e)(2), (3), (4), 42 U.S.C. § 9620(e)(2), (3), (4) (Westlaw 2007).

697. Exec. Order No. 12580 § 2(d), 3 C.F.R. § 193 (1988).

698. For a case study describing the shortcomings of federal agency self-regulation under CERCLA and other environmental laws, see Michael W. Grainey & Dirk A. Dunning, *Federal Sovereign Immunity: How Self-Regulation Became No Regulation at Hanford and Other Nuclear Weapons Facilities*, 31 GONZ. L. REV. 83 (1995-96).

699. RCRA § 7002(a)(1)(B), 42 U.S.C. § 6972(a)(1)(B) (Westlaw 2007), set forth *supra* text accompanying note 345.

700. 42 U.S.C. § 6972(a)(1)(A) (Westlaw 2007).

in section 7002(a)(1)(B). This provision allows any person to bring such a suit in the federal district court for the district in which the alleged endangerment may occur.[701] The court may issue an order "to restrain any person who is contributing or who has contributed to the handling, storage, transportation, treatment or disposal of any hazardous waste or solid waste" that results in the endangerment.[702]

As with the other federal imminent hazard provisions, the courts have interpreted the terms of section 7002(a)(1)(B) broadly. Indeed, several courts have recognized that Congress, in enacting section 7002(a)(1)(B), intended to give citizens the same broad authority that was given to EPA under the earlier enacted section 7003.[703] The legislative history of RCRA section 7002 supports this view. The Senate Report on the 1984 RCRA amendments, which added section 7002(a)(1)(B), states:

> These amendments are intended to allow citizens *exactly the same* broad substantive and procedural claim for relief which is already available to the United States under section 7003. . . . Any differences in language between these amendments and section 7003 are not intended to reflect a difference in such claims, but to merely clarify that citizens will have the same claim presently available to the United States.[704]

Although section 7002 of RCRA is commonly referred to as the "citizen suit" provision, the text of that section does not use the term "citizen." Rather, it provides that "*any person* may commence a civil action on his own behalf. . . ."[705] RCRA defines the term "person" expansively as "an individual, trust, firm, joint stock company, corporation (including a government corporation), partnership, association, State, municipality, commission, political subdivision of a State, or any interstate body, and . . . each

701. RCRA § 7002(a), 42 U.S.C. § 6972(a) (Westlaw 2007).

702. *Id.*

703. Middlesex County Bd. of Chosen Freeholders v. N.J. Dep't of Envtl. Prot., 645 F. Supp. 715, 721 (D.N.J. 1986) (Section 7002(a)(1)(B) "is designed to provide a private means of obtaining the same relief that the EPA Administrator has previously been authorized to seek under [section] 7003.").

704. S. REP. NO. 98-284, at 56-57 (1983), *reprinted in* 2 A LEGISLATIVE HISTORY OF RCRA, *supra* note 331, at 2023, 2082-83 (1991) (emphasis added).

705. RCRA § 7002(a), 42 U.S.C. § 6972(a) (Westlaw 2007) (emphasis added), set forth *supra* text accompanying note 345.

department, agency, and instrumentality of the United States."[706] Thus, citizen suits have been successfully prosecuted not only by the more familiar environmental and citizen activist groups, but by private companies,[707] states,[708] and municipalities,[709] as well.

While the citizen suit authority under section 7002(a)(1)(B) of RCRA is quite broad, the authority is subject to several significant limitations. Congress placed certain sensible restrictions on the commencement of such citizen suits in the statute. In addition, the Constitution, as interpreted by the courts, further limits who may bring a citizen suit.

The first limitation in the RCRA citizen suit provision is a notice requirement. An action under section 7002(a)(1)(B) may only be commenced ninety days after the plaintiff has given notice of the endangerment to the EPA Administrator, the state in which the alleged endangerment may occur, and the person or persons whose action is contributing to the alleged endangerment.[710] The statute contains an exception to the ninety-day notice requirement, however. If the complaint alleges a violation of subtitle C of RCRA—that is, a violation of the hazardous waste management requirements—an action may be commenced immediately after the plaintiff has given notice to the stated parties.[711]

The courts have identified two reasons for the notice requirements in federal citizen suit provisions such as RCRA section 7002. First, notice may prompt federal and state

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706. RCRA § 1004(15), 42 U.S.C. § 6903(15) (Westlaw 2007), set forth *infra* note 752.

707. *E.g.*, Lincoln Props., Ltd. v. Higgins, 36 Env't Rep. Cas. (BNA) 1228 (E.D. Cal. 1993).

708. *E.g.*, New Mexico v. Sparton Tech., Inc., No. CIV-97-0208-JC (D.N.M. filed Feb. 19, 1997) (in which State of New Mexico brought a claim for injunctive relief under section 7002(a)(1)(B) of RCRA).

709. *E.g.*, City of Albuquerque v. Sparton Tech., Inc., No. CIV-97-0206-LH (D.N.M. filed Feb. 19, 1997) (in which City of Albuquerque brought a claim for injunctive relief under section 7002(a)(1)(B) of RCRA).

710. RCRA § 7002(b)(2)(A), 42 U.S.C. § 9672(b)(2)(A) (Westlaw 2007), set forth *supra* text accompanying notes 346-348.

711. *Id.*; *see also* Dague v. City of Burlington, 935 F.2d 1343, 1349-52 (2d Cir. 1991) (discussing the exception to the ninety-day notice requirement). As one court explained, "Congress reasoned when violations of hazardous waste regulations have been alleged, the threat of greater harm to health and the environment posed by a delay outweighs the benefits of allowing EPA an opportunity to assume the lead role and the alleged violator a chance to avoid litigation." AM Int'l, Inc. v. Datacard Corp., 106 F.3d 1342, 1350 (7th Cir. 1997).

government agencies "to take responsibility for enforcing environmental regulations, thus obviating the need for citizen suits."[712] Second, notice may give the violator "an opportunity to bring itself into complete compliance . . . and thus likewise render unnecessary a citizen suit."[713] Curiously, the courts have not always interpreted the notice provision in a manner that furthers these stated purposes.

Despite the rule that remedial statutes such as RCRA should be liberally construed,[714] and sometimes ignoring the purposes behind the notice requirements,[715] since 1989 the courts have applied citizen suit notice requirements quite strictly. Prior to that time, the courts were split on the interpretation of the notice requirements. Some courts held that strict compliance with notice provisions was necessary before the court had subject matter jurisdiction over the case.[716] Other courts adopted a more flexible approach, upholding jurisdiction if the defendant had received notice-in-fact.[717] In 1989, the Supreme Court stepped in with its decision in *Hallstrom v. Tillamook County*,[718] which is still regarded as the leading case on the issue. The plaintiff in *Hallstrom* brought a citizen suit under section 7002(a)(1)(A) of RCRA alleging violations of the statute. The plaintiff failed to give advance notice of the suit to EPA or the state, despite the requirement in the statute. The Court ruled that the notice and delay requirements of RCRA "are mandatory conditions precedent to commencing suit under the RCRA citizen suit provisions," and that "a district court may not disregard these requirements at its discretion."[719] Thus, the Court ordered that the action be dismissed as "barred by the

712. Hallstrom v. Tillamook County, 493 U.S. 20, 29 (1989).

713. *Id.* (quoting Gwaltney of Smithfield, Ltd. v. Chesapeake Bay Found., Inc., 484 U.S. 49, 60 (1987)).

714. *See supra* notes 373-377and accompanying text.

715. In *Hallstrom*, the Court ordered that the citizen suit be dismissed due to plaintiff's failure to provide advance notice to EPA and the state agency, although the agencies received notice shortly after the suit was filed and expressed no interest in taking any action. 493 U.S. at 24, 30.

716. *E.g.*, Garcia v. Cecos Int'l, Inc., 761 F.2d 76, 83 (1st Cir. 1985) (The failure to provide notice "forecloses the possibility of jurisdiction under RCRA.").

717. *E.g.*, Proffitt v. Comm'rs of Bristol, 754 F.2d 504, 506 (3d Cir. 1985) (A showing of notice-in-fact "was sufficient to defeat the contention" that failure to provide notice "deprived the district court of subject matter jurisdiction.").

718. 493 U.S. 20 (1989).

719. *Id.* at 31.

terms of the statute."[720]

It may be noted that the *Hallstrom* case was an action under section 7002(a)(1)(A) alleging violations of RCRA, rather than an action under section 7002(a)(1)(B) alleging an endangerment and, strictly speaking, the Court's holding addresses only the notice requirement for suits under subparagraph (A). Yet the Court's reasoning applies equally to suits under subparagraph (B). The notice provisions for the two types of citizen suits are substantially the same, except that a sixty-day notice is required for a suit under subparagraph (A), while a ninety-day notice is required for a suit under subparagraph (B).[721] Several lower courts have applied the *Hallstrom* holding to citizen suits brought under subparagraph (B) alleging an endangerment, and required strict adherence to the notice provisions.[722]

Moreover, the courts may apply the notice requirements even more strictly in citizen suits against the federal government. One court, citing "concerns about sovereign immunity," held that the notice provisions must "be particularly strictly enforced where the federal government is the defendant in a citizen suit."[723]

The second limitation in the RCRA citizen suit provision is a bar on such an action if the federal or state government is already taking some form of action to address the environmental contamination causing the endangerment. Thus, a citizen action under section 7002(a)(1)(B) may not be commenced under the following circumstances: 1) if EPA "has commenced and is diligently prosecuting an action" under section 7003 of RCRA or section 106 of CERCLA;[724] 2) if a state "has commenced and is diligently prosecuting an action" under section 7002(a)(1)(B) of RCRA;[725] if EPA or a state is "actually engaging in a removal

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720. *Id.* at 33.

721. *Compare* RCRA § 7002(b)(1)(A), 42 U.S.C. § 6972(b)(1)(A) (Westlaw 2007), *with* RCRA § 7002(b)(2)(A), 42 U.S.C. § 6972(b)(2)(A) (Westlaw 2007).

722. K.C. 1986 Ltd. P'ship v. Reade Mfg., 33 F. Supp. 2d 1143, 1154-56 (W.D. Mo. 1998); Agric. Excess & Surplus Ins. Co. v. A.B.D. Tank & Pump Co., 878 F. Supp. 1091, 1100-01 (N.D. Ill. 1995); Supporters to Oppose Pollution, Inc. v. Heritage Group, 760 F. Supp. 1338, 1340-42 (N.D. Ind. 1991).

723. McClellan Ecological Seepage Situation v. Weinberger, 707 F. Supp. 1182, 1203 (E.D. Cal. 1988), *vacated on other grounds sub nom.* McClellan Ecological Seepage Situation v. Perry, 47 F.3d 325 (9th Cir. 1995).

724. RCRA § 7002(b)(2)(B)(i), 42 U.S.C. § 6972(b)(2)(B)(i) (Westlaw 2007), set forth *supra* text accompanying note 351.

725. RCRA § 7002(b)(2)(C)(i), 42 U.S.C. § 6972(b)(2)(C)(i) (Westlaw 2007), set forth *supra* text accompanying note 353.

action"[726] under CERCLA;[727] 3) if EPA or a state "has incurred costs to initiate" a remedial investigation and feasibility study (RI/FS)[728] under CERCLA, and is diligently proceeding with a remedial action[729] under CERCLA;[730] and 4) if EPA "has obtained a court order (including a consent decree) or issued an administrative order" under section 106 of CERCLA or section 7003 of RCRA "pursuant to which a responsible party is diligently conducting" a removal action or an RI/FS, or is "proceeding with a remedial action,"[731] unless the citizen suit differs from the EPA action in duration or in scope.

Most courts have read these limitations strictly, allowing a citizen suit to proceed despite a pending EPA or state action if that action is not precisely listed in the statute. Note that the statute

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726. A "removal" action under CERCLA is "the cleanup or removal of released hazardous substances from the environment," as well as action taken to address the threat of a release, action taken to "monitor, assess, and evaluate" the release, and any other action taken "to prevent, minimize, or mitigate damage to the public health or welfare or to the environment" that might "otherwise result" from the release. CERCLA § 101(23), 42 U.S.C. § 9601(23) (Westlaw 2007).

727. RCRA § 7002(b)(2)(B)(ii), 42 U.S.C. § 6972(b)(2)(B)(ii) (Westlaw 2007), set forth *supra* text accompanying note 351; RCRA § 7002(b)(2)(C)(ii), 42 U.S.C § 6972(b)(2)(C)(ii) (Westlaw 2007), set forth *supra* text accompanying note 353.

728. A remedial investigation and feasibility study, or "RI/FS," is an important preliminary step in the cleanup process under CERCLA. A remedial investigation is conducted "to collect data necessary to adequately characterize the site for the purpose of developing and evaluating effective remedial alternatives." 40 C.F.R. § 300.430(d)(1) (Westlaw 2007). A feasibility study is conducted to develop and evaluate "appropriate remedial alternatives . . . such that relevant information concerning" the site "can be presented to a decision-maker and an appropriate remedy selected." 40 C.F.R. § 300.430(e)(1) (Westlaw 2007). *See generally* National Oil and Hazardous Substances Pollution Contingency Plan, 40 C.F.R. pt. 300 (Westlaw 2007).

729. A "remedial" action under CERCLA is "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," including "storage, confinement, perimeter protection using dikes, trenches, or ditches, clay cover, neutralization, cleanup of released hazardous substances and associated contaminated materials, recycling or reuse, diversion, destruction, segregation of reactive wastes, dredging or excavation, repair or replacement of leaking containers, collection of leachate and runoff, onsite treatment or incineration, provision of alternative water supplies, . . . [and] monitoring," It also includes "the costs of permanent relocation of residents and businesses and community facilities" and "offsite transport and offsite storage, treatment, destruction, or secure deposition of hazardous substances." CERCLA § 101(24), 42 U.S.C. § 9601(2423) (Westlaw 2007).

730. RCRA § 7002(b)(2)(B)(iii), 42 U.S.C. § 6972(b)(2)(B)(iii) (Westlaw 2007), set forth *supra* text accompanying note 351; RCRA § 7002(b)(2)(C)(iii), 42 U.S.C. § 6972(b)(2)(C)(iii) (Westlaw 2007), set forth *supra* text accompanying note 353.

731. RCRA § 7002(b)(2)(B)(iv), 42 U.S.C. § 6972(b)(2)(B)(iv) (Westlaw 2007), set forth *supra* text accompanying note 351.

lists only actions under federal law. Thus, a state administrative action does not bar a subsequent citizen suit,[732] nor does a state lawsuit brought under a state statute.[733] According to one court, a citizen suit is not barred by an RI/FS initiated under state law.[734] Moreover, an EPA administrative order bars a subsequent citizen suit only if it is of the same duration and scope. Thus, another court held that a citizen suit to address contaminated groundwater is not barred by an EPA order under section 106 of CERCLA that addresses a different portion of the contaminated groundwater.[735] Note also that the statute refers to cleanup actions taken under CERCLA by EPA, not by other federal agencies. Nevertheless, one court has found that an RI/FS initiated under CERCLA by the polluting federal agency (the Bureau of Land Management) barred a subsequent RCRA citizen suit.[736]

The third limitation on citizen suits is a constitutional one. In order to proceed with an action under section 7002(a)(1)(B), a party must have "standing" to sue. The basis of the standing requirement is Article III, section 2 of the Constitution, which

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732. Kara Holding Corp. v. Getty Petroleum Mktg., 67 F. Supp. 2d 302, 307 (S.D.N.Y. 1999); Gilroy Canning Co. v. Cal. Canners & Growers, 15 F. Supp. 2d 943, 946-47 (N.D. Cal. 1998); Orange Env't, Inc. v. County of Orange, 860 F. Supp. 1003, 1024-25 (S.D.N.Y. 1994); Murray v. Bath Iron Works Corp., 867 F. Supp. 33, 41 (D. Me. 1994); Echternach v. D.H. Martin Petroleum Co., No. 97 C 3802, 1997 WL 627646, at *2 (N.D. Ill. Sept. 30, 1997); Goe Eng'g Co. v. Physicians Formula Cosmetics, Inc., No. CV 94-3576-WDK, 1997 WL 889278, at *8 (C.D. Cal. June 4, 1997).

733. Mejdreck v. Lockformer Co., No. 01 C 6107, 2002 WL 1838141, at *9 (N.D. Ill. Aug. 12, 2002) (RCRA bars a citizen suit "only when the state . . . agency brings suit *under the same section of RCRA*" (emphasis in original).).

734. Interfaith Cmty. Org. v. AlliedSignal, Inc., 928 F. Supp. 1339, 1348 (D.N.J. 1996) (An "RI/FS conducted solely pursuant to State law does not bar a citizen suit brought pursuant to" RCRA.).

735. *Goe Eng'g*, 1997 WL 889278, at *7-8.

736. Reynolds v. Lujan, 785 F. Supp. 152, 154-55 (D.N.M. 1992). Furthermore, if a removal or remedial action selected under section 104 of CERCLA is underway, CERCLA itself bars a challenge to that action, except in limited circumstances. CERCLA § 113(h), 42 U.S.C. § 9613(h) (Westlaw 2007). The courts have been rather inconsistent in applying the section 113(h) bar to cleanup actions at federal facilities. *Compare* Fort Ord Toxics Project, Inc. v. Cal. Envtl. Prot. Agency, 189 F.3d 828 (9th Cir. 2000) (action not barred), *and* United States v. Colorado, 990 F.2d 1565, 1569 (10th Cir. 1993) (same), *with* McClellan Ecological Seepage Situation v. Perry, 47 F.3d 325 (9th Cir. 1995) (action barred), Heart of Am. Nw. v. Westinghouse Hanford Co., 820 F. Supp. 1265 (E.D. Wash. 1993) (same), *Reynolds*, 785 F. Supp. at 153-54 (same), *and* Werlein v. United States, 746 F. Supp. 887, 891-95 (D. Minn. 1990) (same). *See generally* Ingrid Brunk Wuerth, *Challenges to Federal Facility Cleanups and CERCLA Section 113(h)*, 8 TUL. ENVTL. L.J. 353 (1995); Peters et al., *supra* note 76.

extends judicial authority to "Cases" and "Controversies."[737] The cases or controversies must be real disputes "of the sort traditionally amenable to and resolved by the judicial process."[738] The standing requirement "ensures that a plaintiff has a sufficient personal stake in a dispute to render judicial resolution appropriate."[739] The Supreme Court has devised a three-pronged test of "injury," "traceability," and "redressability" that a citizen plaintiff must meet to satisfy the standing requirement.[740] First, the plaintiff must show that it has suffered an "injury in fact." The injury must be concrete and particularized and it must be actual or imminent, not conjectural or hypothetical. Second, the plaintiff must show that the injury is fairly traceable to the challenged action of the defendant. Third, the plaintiff must show that it is likely, not merely speculative, that the injury will be redressed by a favorable decision.[741] The Court has further stated that if the plaintiff is an organization or association acting on behalf of its members, it must meet additional hurdles to establish standing. It must show that some of its members would have standing to sue in their own right, that the issues at stake are germane to the organization's purpose, and that neither the claim asserted nor the relief requested requires the participation of individual members in the lawsuit.[742]

The courts have applied these tests to find standing in a variety of circumstances. A citizen plaintiff can establish "injury-in-fact" by showing economic harm.[743] More significantly, an individual plaintiff may establish injury-in-fact by showing harm to the individual's recreational or aesthetic interests.[744] An injury-in-fact

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737. Article III of the Constitution provides that "[t]he judicial Power [of the United States] shall extend to" enumerated "Cases," including "all Cases, in Law and Equity, arising under this Constitution, the Laws of the United States, and Treaties made, or which shall be made, under their Authority," and to enumerated "Controversies," including "Controversies to which the United States shall be a Party." U.S. CONST. art. III., § 2, cl. 1.

738. Steel Co. v. Citizens for a Better Env't, 523 U.S. 83, 102 (1998).

739. Friends of the Earth, Inc. v. Gaston Copper Recycling Corp., 204 F.3d 149, 153 (4th Cir. 2000) (en banc).

740. Lujan v. Defenders of Wildlife, 504 U.S. 555 (1992).

741. *Id.* at 560-61.

742. Friends of the Earth, Inc. v. Laidlaw Envtl. Servs. (TOC), Inc., 528 U.S. 167, 181 (2000) (citing Hunt v. Wash. State Apple Adver. Comm'n, 432 U.S. 333 (1977)).

743. *E.g.*, Assoc. of Data Processing Serv. Orgs. v. Camp, 397 U.S. 150, 152 (1970).

744. *Laidlaw*, 528 U.S. at 183 ("aesthetic and recreational values"); *Lujan*, 504 U.S. at 562-63 ("purely aesthetic" interests); Sierra Club v. Morton, 405 U.S. 727, 734 (1972) ("[a]esthetic and environmental well-being"); *Camp*, 397 U.S. at 154 ("'aesthetic,

can also be a threatened harm[745]—which an endangerment is by definition[746]—so long as it is not based on "unbridled speculation."[747] To establish "traceability," the plaintiff need not show "to a scientific certainty" that the defendant's pollution caused the precise harm alleged.[748] Rather, the plaintiff "must merely show that a defendant discharges a pollutant that causes or contributes to the kinds of injuries alleged."[749]

F. *Against Any Person*

Another issue that may arise in imminent hazard cases pertains to the identity of the liable parties. The statutes identify quite definitively those parties or "persons" who can be liable under the imminent hazard provisions. The Clean Air Act, the Clean Water Act, the Safe Drinking Water Act, and RCRA all place liability on "any person" whose actions cause or contribute to the endangerment. CERCLA, somewhat differently, places liability on the four classes of "persons."

Each of the environmental statutes define the term "person" comprehensively, if not entirely consistently, to include every imaginable form of legal entity. With one exception—the Clean Water Act—these statutes also define the term "person" to include the United States government. Thus, the Clean Air Act defines "person" to include an individual, corporation, partnership, association, municipality, and the federal government.[750] The Safe Drinking Water Act,[751] RCRA,[752] and CERCLA[753] all have similar

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conservational, and recreational' as well as economic values").

745. Friends of the Earth, Inc. v. Gaston Copper Recycling Corp., 204 F.3d 149, 160 (4th Cir. 2000) (en banc).

746. *See supra* text accompanying notes 384-93.

747. *Gaston Copper*, 204 F.3d at 155; *see also* Covington v. Jefferson County, 358 F.3d 626, 638 (9th Cir. 2004).

748. *Gaston Copper*, 204 F.3d at 161.

749. *Id.* (quoting Natural Res. Def. Council, Inc. v. Watkings, 954 F.2d 974, 980 (4th Cir. 1992)).

750. Clean Air Act § 302(e), 42 U.S.C. § 7602(e) (Westlaw 2007). In its entirety, section 302(e) provides: "The term 'person' includes an individual, corporation, partnership, association, State, municipality, political subdivision of a State, and any agency, department, or instrumentality of the United States and any officer, agent, or employee thereof." *Id.*

751. Safe Drinking Water Act § 1401(12), 42 U.S.C. § 300f(12) (Westlaw 2007). In its entirety, section 1401(12) provides: "The term 'person' means an individual, corporation, company, association, partnership, State, municipality, or Federal agency (and includes officers, employees, and agent, of any corporation, company, association, State,

definitions. The Clean Water Act, which Congress has not overhauled since 1987,[754] prior to the Supreme Court's decision in *DOE v. Ohio*,[755] is different. It defines "person" much like the other statutes, except that the definition does not include the United States.[756] This omission seriously limits—yet again[757]—the applicability of section 504 of the Clean Water Act to federal facilities.[758]

In most cases, liability under these provisions is simple and straightforward. The federal government is a "person" whose polluting activities are the cause of the endangerment. It has waived its sovereign immunity. Its liability is clear and should not be contested. In addition, sometimes other parties may also be liable. For instance, government contractors operate many federal facilities, including most DOE facilities. In some cases, a supplier or other outside contractor may be involved. Or the contaminated property may have been leased or transferred to another entity. These parties are also "persons" under the statute.

G. *Causing or Contributing to the Pollution*

A final set of issues that may arise in imminent hazard cases pertains to the scope of liability. The federal imminent hazard provisions extend liability to persons whose conduct is "causing" or "contributing to" the pollution creating the endangerment or, under CERCLA, persons whose conduct resulted in the disposal of

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municipality, or Federal agency)."

752. RCRA § 1004(15), 42 U.S.C. § 6903(15) (Westlaw 2007). In its entirety, section 1004(15) provides: "The term 'person' means an individual, trust, firm, joint stock company, corporation (including a government corporation), partnership, association, State, municipality, commission, political subdivision of a State, or any interstate body and shall include each department, agency, and instrumentality of the United States."

753. CERCLA § 101(2), 42 U.S.C. § 9601(21) (Westlaw 2007). In its entirety, section 101(21) provides: "The term 'person' means an individual, firm, corporation, association, partnership, consortium, joint venture, commercial entity, United States Government, State, municipality, commission, political subdivision of a State, or any interstate body."

754. *See supra* note 308.

755. 503 U.S. 607 (1992), discussed *supra* text accompanying notes 160-168.

756. Clean Water Act § 502(5), 33 U.S.C. § 1362(5) (Westlaw 2007). In its entirety, section 502(5) provides: "The term 'person' means an individual, corporation, partnership, association, State, municipality, commission, or political subdivision of a State, or any interstate body." *Id.*

757. *See supra* text accompanying note 684.

758. *See* U.S. Dep't of Energy v. Ohio, 503 U.S. 607, 617-18 (1992) (stating that the omission of the United States from the definition of "person" in the Clean Water Act "has to be seen as a pointed one").

hazardous substances. In several respects, the scope of that liability is further defined by case law.

First, liability under the imminent hazard provisions is not dependent on a showing of negligence or wrongful conduct. Liability is strict. A person who falls within the scope of the statutory language is liable regardless of fault. Courts have applied strict liability in imminent hazard cases most frequently and most famously under CERCLA.[759] Courts have also applied strict liability in imminent hazard cases under RCRA,[760] finding support in the statute's legislative history.[761]

Second, a person need not be the sole cause, or even the primary cause, of the endangerment to be liable. Most of the imminent hazard provisions—with the exception of the CERCLA provision—place liability on any person causing or *contributing to* the pollution or *contributing to* the endangerment. Both section 303 of the Clean Air Act[762] and section 504 of the Clean Water Act[763] place liability on "any person causing or contributing to" the pollution. Section 1431 of the Safe Drinking Water Act places liability on persons who "caused or contributed to" the endangerment.[764] Section 7003 of RCRA assigns liability to any

759. *E.g.*, United States v. Hardage, 982 F.2d 1436, 1443 (10th Cir. 1992); B.F. Goodrich Co. v. Murtha, 958 F.2d 1192, 1198 (2d Cir. 1992); Dedham Water Co. v. Cumberland Farms Dairy, Inc., 889 F.2d 1146, 1150 (1st Cir. 1989); United States v. Monsanto Co., 858 F.2d 160, 167 (4th Cir. 1988).

760. United States v. Aceto Agric. Chems. Corp., 872 F.2d 1373, 1377 (8th Cir. 1989); United States v. Ne. Pharm. & Chem. Co., 810 F.2d 726 (8th Cir. 1986); United States v. Valentine, 885 F. Supp. 1506, 1511 (D. Wyo. 1995).

761. The House report accompanying the 1984 amendments to RCRA states that the "amendments clearly provide that anyone who has contributed or is contributing to the creation, existence, or maintenance of an imminent and substantial endangerment is subject to the equitable authority of [the statute], *without regard to fault or negligence*." H.R. REP. NO. 98-198, pt. 1, at 48 (1983), *reprinted in* 2 A LEGISLATIVE HISTORY OF RCRA, *supra* note 331, at 1477, 1524 (emphasis added).

762. Clean Air Act § 303, 42 U.S.C. § 7603 (Westlaw 2007), set forth *supra* text accompanying note 295. Section 112(r)(9) of the Clean Air Act does not identify the liable persons. It merely authorizes EPA "to secure such relief as may be necessary to abate such danger or threat." 42 U.S.C. § 7412(r)(9) (Westlaw 2007), set forth *supra* text accompanying note 303.

763. Clean Water Act § 504, 33 U.S.C. § 1364 (Westlaw 2007), set forth *supra* text accompanying note 309.

764. Safe Drinking Water Act § 1431(a), 42 U.S.C. § 300i(a) (Westlaw 2007), set forth *supra* text accompanying note 322. A careful and literal reading of section 1431(a) of the Safe Drinking Water Act suggests that EPA must show that the defendant (or respondent in the administrative forum) is a person who caused or contributed to the endangerment only if EPA is seeking the provision of an alternative water supply. EPA can seek other forms of relief from persons whose connection to the endangerment is more

person "who has contributed or who is contributing to" the handling, storage, treatment, or disposal of wastes.[765] Section 7002 of RCRA, the citizen suit provision, uses nearly identical language.[766] The phrase "contributing to" is not defined in any of the statutes, but the courts have construed it broadly.[767] Under one decision, for example, the company that designed and manufactured an underground storage tank that ultimately leaked its contents could be a person who "contributed to" the resulting endangerment.[768] However, other courts have held that contributing to an endangerment under RCRA means more than mere ownership of the contaminated property.[769]

Third, liability in imminent hazard cases involving more than one liable party is joint and several. Thus, a defendant who is liable under the statute is liable for the entire amount of the injunctive relief, unless the defendant can prove the harm is divisible. Again, the greatest body of case law applying joint and several liability in imminent hazard cases is under CERCLA,[770] but courts have also applied joint and several liability in imminent hazard cases under RCRA.[771] Joint and several liability may be important if a contractor

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tenuous. At least one court has read the statute this way. Trinity Am. Corp. v. EPA, 150 F.3d 389, 396 (4th Cir. 1998).

765. RCRA § 7003(a), 42 U.S.C. § 6973(a) (Westlaw 2007), set forth *supra* text accompanying note 343.

766. RCRA § 7002(a)(1)(B), 42 U.S.C. § 6972(a)(1)(B) (Westlaw 2007), set forth *supra* text accompanying note 345.

767. Cox v. City of Dallas, 256 F.3d 281, 294 n.22 (5th Cir. 2001) (noting that the dictionary definition indicates a "'non-narrow' construction of 'contribute'"); United States v. Aceto Agric. Chem. Co., 872 F.2d 1373, 1383 (8th Cir. 1989) ("The relevant legislative history supports a broad, rather than a narrow, construction of the phrase 'contributed to.'"); Aiello v. Town of Brookhaven, 136 F. Supp. 2d 81, 112 (E.D.N.Y. 2001) (stating that the words "contributing to" should be "liberally construed").

768. Agric. Excess & Surplus Ins. Co. v. A.B.D. Tank & Pump Co., 878 F. Supp. 1091, 1099-1100 (N.D. Ill. 1995). *But see* Zands v. Nelson, 779 F. Supp. 1254, 1264 (S.D. Cal. 1991) (stating in *dicta* that a person "who provided the materials for an underground storage tank" would not be a person who "contributed to" the endangerment resulting from the tank leaking).

769. *See* cases cited *supra* note 498.

770. *E.g.*, United States v. Alcan Aluminum Co., 96 F.3d 1434 (3d Cir. 1996); B.F. Goodrich Co. v. Murtha, 958 F.2d 1192, 1198 (2d Cir. 1992); United States v. R.W. Meyer, Inc., 889 F.2d 1497, 1507-08 (6th Cir. 1989), *cert. denied*, 494 U.S. 1057 (1990); O'Neil v. Picillo, 883 F.2d 176, 178-79 (1st Cir. 1989); United States v. Monsanto Co., 858 F.2d 160, 171-73 (4th Cir. 1988), *cert. denied*, 490 U.S. 1106 (1989). *But see In re* Bell Petroleum Servs., 3 F.3d 889 (5th Cir. 1993) (stating that parties were not jointly and severally liable because harm was divisible).

771. Me. People's Alliance v. Mallinckrodt, Inc., 471 F.3d 277, 298 (1st Cir. 2006) ("RCRA liability, generally speaking, is joint and several."), *cert. denied*, 2007 WL 1479993

or a land transferee is liable in addition to the federal government.

VI. PREPARATION AND LITIGATION OF IMMINENT HAZARD ACTION TO COMPEL CLEANUP OF FEDERAL FACILITIES

Now that we have examined the imminent hazard provisions, and reviewed their interpretation and application, we are ready to look at the provisions from a more practical perspective. As the foregoing examination suggests, some of the imminent hazard provisions can be very useful in compelling cleanup of federal facilities, while others are much less so. Yet irrespective of the specific statutory provision used, several practical considerations are requisite to the preparation and litigation of a successful imminent hazard action. This section addresses those considerations. It provides some guidelines for practitioners—whether they be EPA enforcement attorneys, state assistant attorneys general, or lawyers representing citizen activists or environmental organizations—who may be faced with a dangerously polluting yet uncooperative federal facility.

Before proceeding further, a word or two of caution is in order. As should be obvious, alleging that an imminent and substantial endangerment to the public health or welfare or the environment exists, or may exist, is a serious undertaking whether alleged by a government or a private citizen plaintiff. It should not be taken lightly. A court will not entertain an allegation of an endangerment that is remote in time, speculative in nature, or *de minimis* in degree.[772] Nor will a court consider an endangerment that is no longer present.[773] An endangerment allegation not supported either by evidence in the agency's administrative record or evidence admitted at trial likewise will not succeed.[774]

These considerations are of even keener importance in cases brought on behalf of private citizen plaintiffs. Although the courts normally defer to government environmental agencies over matters within their areas of expertise, private plaintiffs get no such deference. Such lack of deference to private citizen plaintiffs

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(S. Ct. Oct. 1, 2007); *accord* City of Bangor v. Citizens Commc'ns Co., 437 F. Supp. 2d 180, 218 (D. Me. 2006); Aurora Nat'l Bank v. Tri Star Mktg., Inc., 990 F. Supp. 1020, 1028 (N.D. Ill. 1998); United States v. Valentine, 856 F. Supp. 627, 634 (D. Wyo. 1994); United States v. Conservation Chem. Co., 619 F. Supp. 162, 175, 199 (W.D. Mo. 1985).

772. *See* cases cited *supra* note 378.

773. *See* case cited *supra* note 379.

774. *See* cases cited *infra* note 803.

is sometimes well warranted. An examination of the case law suggests that a high percentage of the judicial decisions adverse to plaintiffs alleging an imminent hazard result from cases brought by tort or insurance lawyers unfamiliar with the complexities of environmental laws and regulations.[775] In some cases, the imminent hazard claims seem to have merely been added onto a panoply of more traditional tort claims with little thought given to their inclusion.[776] The outcome of an inadequately prepared or poorly pled case can be that the pollution problem is not addressed, and troublesome precedent is set for future cases.

A. *Agency Action*

Most imminent hazard actions are commenced by federal and state government agencies, usually EPA, or the analogous state agency. As we have seen, EPA cannot bring a judicial action against another federal agency because of the unitary executive, although EPA may bring a judicial action against a private government contractor. EPA may also issue an administrative order under most of the federal imminent hazard provisions, including an order against a federal agency. A state agency proceeding under the imminent hazard provision of state law may, if authorized under the state statute, bring a judicial action against the federal government or a contractor, or issue an administrative order. Several important considerations in such an action are discussed below.

1. *Administrative record.*

To a federal or state agency lawyer, a crucial consideration in preparing an imminent hazard action is the compilation of the administrative record supporting the action. If the agency action is legally challenged, the agency action is likely to prevail, or not, based on the adequacy of the administrative record supporting it. Moreover, if the administrative record is adequate and complete, the reviewing court will normally defer to the agency decision.

Under well-established principles of administrative law, judicial

775. *E.g.*, Leister v. Black & Decker, Inc., 117 F.3d 1414 (table), 1997 WL 378046 (4th Cir. July 8, 1997); Two Rivers Terminal, L.P. v. Chevron USA, Inc., 96 F. Supp. 2d 432 (M.D. Pa. 2000); Delaney v. Town of Carmel, 55 F. Supp. 2d 237 (S.D.N.Y. 1999); Vernon Vill., Inc. v. Gottier, 755 F. Supp. 1142 (D. Conn. 1990).

776. *E.g.*, Singer v. Bulk Petroleum Corp., 9 F. Supp. 2d 916 (N.D. Ill. 1998).

review of an agency action is generally limited to a review of the administrative record supporting that action.[777] This common procedure is called "review on the record" or "record review," in contrast to "de novo" review. In a record review proceeding, the court reviews the agency decision based entirely on the record that was before the agency at the time it made the decision. It is a paper review. No evidentiary hearing is usually necessary, although the court may sometimes allow limited expert testimony to help explain the administrative record.[778] Likewise, no discovery is usually necessary.[779] Moreover, the court reviews the agency decision on a standard very deferential to the agency. Recognizing the agency's specialized expertise, the court will not disturb the agency decision unless it is found to be arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law. If the court finds that the record is incomplete because the agency has not considered all relevant factors or the record does not support the agency decision, the court will normally remand the matter back to the agency for additional investigation or explanation.[780]

Record review is provided for under the Administrative Procedure Act, which states that the court reviewing an agency action "shall review the whole record or those parts of it cited by a party."[781] The court must set aside an agency action if it is "arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law."[782] Among the imminent hazard provisions of environmental laws, CERCLA expressly requires record review of agency actions.[783] It provides: "In any judicial action under this

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777. *E.g.*, Citizens to Pres. Overton Park v. Volpe, 401 U.S. 402, 420 (1971).

778. Elf Atochem N. Am., Inc. v. United States, 882 F. Supp. 1499, 1502-03 (E.D. Pa. 1995).

779. *E.g.*, United States v. Wastecontrol of Fla., Inc., 730 F. Supp. 401, 404 (M.D. Fla. 1989); United States v. Nicolet, 17 Envtl. L. Rep. (Envtl. Law. Inst.) 21,091, 21,092 (1987). *But see* cases cited *infra* note 799 (allowing discovery under limited exceptions to record review).

780. Fla. Power & Light Co. v. Lorion, 470 U.S. 729, 744 (1985); W.R. Grace & Co. v. EPA, 261 F.3d 330, 338 (3d Cir. 2001); Asarco, Inc. v. EPA, 616 F.2d 1153, 1160 (9th Cir. 1980).

781. 5 U.S.C. § 706 (Westlaw 2007).

782. *Id.* § 706(2)(A). The court must also set aside agency action that is "contrary to constitutional right, power, privilege, or immunity; in excess of statutory jurisdiction, authority, or limitations, or short of statutory right; [or] without observance of procedure required by law . . ." *Id.* § 706(1)(B)-(D).

783. According to the House report on the 1986 CERCLA amendments, which added the record review provision, "limiting judicial review of response actions to the administrative record expedites the process of review, avoids the need for time-consuming

chapter [CERCLA], judicial review of any issues concerning the adequacy of any response action taken or ordered by the President shall be limited to the administrative record."[784] CERCLA further provides that in such judicial actions, "the court shall uphold the President's decision in selecting the response action unless the objecting party can demonstrate, on the administrative record, that the decision was arbitrary and capricious or otherwise not in accordance with law."[785] Curiously, in a few early decisions, courts declined to apply record review or the "arbitrary and capricious" standard of review in judicial actions seeking injunctive relief under section 106 of CERCLA. For example, in *United States v. Hardage*[786] the district court opined that it would not be reviewing the adequacy of any response action "taken or ordered by the President." Rather, the United States was invoking the court's jurisdiction to order the defendants to take a response action. Any response action would be "ordered by the court," not by the President.[787] Another federal district court,[788] and one federal court of appeals,[789] adopted similar reasoning. In more recent decisions, however, the courts have consistently applied record review in CERCLA cases, under a variety of circumstances.[790] They have also

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and burdensome discovery, reduces litigation costs, and ensures that the reviewing court's attention is focused on the criteria used in selecting the response." H.R. REP. NO. 99-253, pt. 1, at 81, *reprinted in* 1986 U.S.C.C.A.N. 2835, 2863, *and in* 3 A LEGISLATIVE HISTORY OF SARA, *supra* note 2, at 1764, 1844.

784. CERCLA § 113(j)(1), 42 U.S.C. § 9613(j)(1) (Westlaw 2007).

785. CERCLA § 113(j)(2), 42 U.S.C. § 9613(j)(2) (Westlaw 2007).

786. 25 Env't Rep. Cas. (BNA) 1343 (W.D. Okla. 1986), *motion for reconsideration denied*, 663 F. Supp. 1280 (W.D. Okla. 1987). The court later reaffirmed its holding in a third decision. United States v. Hardage, 28 Env't Rep. Cas. (BNA) 1485 (W.D. Okla. 1988).

787. *Hardage*, 663 F. Supp. at 1284.

788. United States v. Conservation Chem. Co., 661 F. Supp. 1416, 1424-31 (W.D. Mo. 1987).

789. United States v. Ottati & Goss, 900 F.2d 429, 432-36 (1st Cir. 1990).

790. *E.g.*, United States v. W.R. Grace & Co., 429 F.3d 1224, 1233 (9th Cir. 2005) (action for cost recovery under section 107); United States v. Akzo Coatings of Am., Inc., 949 F.2d 1409, 1425 (6th Cir. 1991) (action approving a consent decree); Elf Atochem N. Am., Inc. v. United States, 882 F. Supp. 1499, 1502 (E.D. Pa. 1995) (action for cost recovery under section 107); United States v. Gurley Ref. Co., 788 F. Supp. 1473, 1481 (E.D. Ark. 1992) (same); Kelley v. Thomas Solvent Co., 790 F. Supp. 719, 725 (W.D. Mich. 1990) (same); *In re* Acushnet River & New Bedford Harbor, 722 F. Supp. 888, 891 (D. Mass. 1989) (action for injunctive relief under section 106); United States v. Wastecontrol of Fla., Inc., 730 F. Supp. 401, 405 (M.D. Fla. 1989) (action approving a consent decree); United States v. Bell Petroleum Servs., Inc., 718 F. Supp. 588, 591 (W.D. Tex. 1989) (action for cost recovery under section 107); United States v. Seymour Recycling Corp., 679 F. Supp. 859, 863, 866 (S.D. Ind. 1987) (action for injunctive relief under section 106).

reviewed the record on the "arbitrary and capricious" standard.[791] Several of these courts have overtly criticized the *Hardage* decision.[792] Moreover, other courts have applied record review in RCRA cases[793] and Safe Drinking Water Act cases,[794] although neither of these statutes includes an express record review provision.

As might be expected, there are recognized exceptions to the application of record review.[795] The courts may consider matters outside the record to determine if the record is incomplete, if it does not disclose the factors that the agency considered, if the agency failed to consider relevant factors,[796] if the agency did not adequately explain the reasons for its decision,[797] or if there is a strong showing that the agency engaged in improper behavior or acted in bad faith.[798] Limited discovery may also be allowed on these issues.[799]

The advantages of record review are obvious: it dispenses with potentially protracted discovery and evidentiary hearings on

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791. *E.g.*, *Akzo Coatings*, 949 F.2d at 1431; *Gurley Ref.*, 788 F. Supp. at 1481; *Thomas Solvent*, 790 F. Supp. at 725; *Acushnet River*, 722 F. Supp. at 890-91; *Wastecontrol*, 730 F. Supp. at 405; *Bell Petroleum*, 718 F. Supp. at 591; *Seymour Recycling*, 679 F. Supp. at 866.

792. *Akzo Coatings*, 949 F.2d at 1425 ("The *Hardage* distinction is without merit, and we believe the court improperly engaged in a de novo review of the remedy in that case."); *Acushnet River*, 722 F. Supp. at 891 n.7 ("The Court notes that United States v. Hardage is to the contrary, but considers it unpersuasive."); *Bell Petroleum*, 718 F. Supp. at 591 (The "distinctions made in the *Hardage* case are hypertechnical and inconsistent with the plain meaning of the statutory language."); United States v. Rohm & Haas Co., 669 F. Supp. 672, 677 (D.N.J. 1987) ("We are not persuaded by the decisions in Hardage and Ottati & Goss."); *Seymour Recycling*, 679 F. Supp. at 864 n.6 ("This Court finds . . . [*Hardage*] to be unpersuasive.").

793. United States v. Seafab Metal Corp., 28 Env't Rep. Cas. (BNA) 1231, 1233 (W.D. Wash. 1988). *Contra* United States v. Hardage, 663 F. Supp. 1280, 1286 (W.D. Okla. 1987).

794. W.R. Grace & Co. v. EPA, 261 F.3d 330, 338 (3d Cir. 2001); Trinity Am. Corp. v. EPA, 150 F.3d 389, 395 (4th Cir. 1998).

795. Although section 113(j)(1) of CERCLA expressly mandates record review, it also provides: "Otherwise applicable principles of administrative law govern whether any supplemental materials may be considered by the court." 42 U.S.C. § 9613(j)(1) (Westlaw 2007).

796. *Akzo Coatings*, 949 F.2d at 1428; Asarco, Inc. v. EPA, 616 F.2d 1153, 1160 (9th Cir. 1980).

797. *Akzo Coatings*, 949 F.2d at 1428.

798. Citizens to Pres. Overton Park v. Volpe, 401 U.S. 402, 420 (1971).

799. *See, e.g.*, United States v. Bell Petroleum Servs., Inc., 718 F. Supp. 588, 591 (W.D. Tex. 1989) (allowing discovery "to determine whether the administrative record is complete"); United States v. Monsanto Co., No. 86-2862-4A, 1991 WL 533765, at *3 (W.D. Tenn. Aug. 7, 1991) (allowing discovery "regarding the issue of whether the administrative record is complete").

complex technical issues, and it provides a standard of review that is highly deferential to agency decisions. It follows that record review is almost always preferred by an agency seeking to compel environmental investigation or cleanup, except in some emergencies. Often the agency will file a motion asking the court for a ruling on the scope and standard of review, advocating record review on the arbitrary and capricious standard.[800] Usually such a motion is filed early in the proceeding, to forestall any discovery requests.

Consequently, the compilation of a comprehensive and complete administrative record is critical. The administrative record should include all documents in whatever form that the agency in any way relied on or otherwise considered in making the finding of an imminent and substantial endangerment to health, welfare, or the environment, and in selecting the relief the agency seeks.[801] Typically, the administrative record should include all available information on the emission, discharge, or other release of pollutants into the environment. It should include all environmental monitoring data, including laboratory analyses and chain-of-custody records. It should include information on fate and transport of pollutants. It should include information on pathways by which pollutants may reach, or are reaching, humans, wildlife, sensitive ecosystems, or natural resources, including any formal risk assessments. It should include toxicological data on the pollutants released into the environment. It should include the reports of any environmental investigations or cleanup work. It should include any expert reports. It may also include relevant scientific literature. The record should include all correspondence between the agency and the federal facility or its contractors. It should also include correspondence, reports, and other information submitted by the facility, and by citizen groups and

800. *E.g.*, Elf Atochem N. Am., Inc. v. United States, 882 F. Supp. 1499, 1500 (E.D. Pa. 1995); *In re* Acushnet River & New Bedford Harbor, 722 F. Supp. 888, 889-90 (D. Mass. 1989); *Bell Petroleum*, 718 F. Supp. at 588-89; United States v. Seymour Recycling Corp., 679 F. Supp. 859, 860 (S.D. Ind. 1987); United States v. Hardage, 28 Env't Rep. Cas. (BNA) 1485, 1485 (W.D. Okla. 1988).

801. EPA has published guidance on the compilation of the administrative record for response actions under CERCLA and for imminent hazard actions under RCRA. *See* 40 C.F.R. pt. 300, subpt. I (Westlaw 2007); EPA, Final Guidance on Administrative Records for Selecting CERCLA Response Actions, OSWER Directive No. 9833.3A-1 (Dec. 3, 1990) (on file with the author); EPA Guidance on Section 7003 of RCRA, *supra* note 371, at 36-37 & Attachment 3.

other members of the public. Drafts of reports or correspondence, however, generally should not be included in the record, nor should documents subject to attorney-client privilege. The administrative record should usually include relevant agency policy or guidance documents. However, the record usually does not need to include statutes or published regulations of which a court can take judicial notice.[802]

In addition to compiling the record, measures need to be taken to manage the record effectively. At a minimum, the agency should prepare an index to the record. If time and resources allow, it is often advisable, especially in a complex case, to scan the documents comprising the record electronically and load them into a computer database. With such a database in place, attorneys, paralegals, and experts working on the case, and perhaps ultimately the reviewing court, can access and search the record electronically. Additionally, the administrative record should be made available to the public.

2. *Endangerment finding.*

Another important consideration for the agency lawyer is preparation of the endangerment finding. Recall that action under each of the federal imminent hazard provisions (except the RCRA citizen suit provision) is predicated on a determination by the EPA Administrator that pollution may present an imminent and substantial endangerment to public health or welfare or the environment. Imminent hazard provisions under many state laws require a similar determination. Any such endangerment finding should be in writing, signed by the Administrator or other agency official with delegated authority.

A conclusory or unsupported allegation of an imminent and substantial endangerment is not sufficient. Several courts have dismissed endangerment cases for failure to aver more than "the mere allegation" of an endangerment.[803] The endangerment

802. FED. R. EVID. 201(b); *see also, e.g.*, 44 U.S.C. § 1507 (Westlaw 2007) ("The contents of the Federal Register shall be judicially noticed.").

803. *E.g.*, Vernon Vill., Inc. v. Gottier, 755 F. Supp. 1142, 1155 (D. Conn. 1990); ("[I]n the absence of any suggestion beyond the mere allegation of 'imminent and substantial endangerment,' . . . there is no genuine issue" of fact.); Chem. Weapons Working Group v. U.S. Dep't of Def., 61 F. App'x 556, 561 (10th Cir. 2003) (An "open-ended allegation" that "'it is expected that such incidents will continue to occur' . . . does not satisfy the standards in RCRA.").

determination should be supported by detailed, specific findings of fact, with each finding referencing evidence in the administrative record. The endangerment determination and the findings of fact that support it can be set forth in the administrative order or the complaint that commences the action. However, given the preference in the federal courts and many state courts for "notice pleading,"[804] reciting in the complaint the endangerment determination and each of the findings of fact that support it may be needlessly cumbersome. Alternatively, the findings can be set forth in a separate document which becomes part of the administrative record.

The findings of fact that support the endangerment determination should reflect the material in the administrative record. Individual findings of fact should identify the polluting facility, its location, and its owner and operator or other person alleged to be contributing to the endangerment. A set of specific findings should describe the activities of the facility that result in the emission, discharge, or other release of pollutants. They should include the type of pollutants and, if possible, the quantity of pollutants released or the rate of their release, and the time and duration of each release. Recall that under RCRA it is preferable to show the release of hazardous waste or hazardous constituents rather than merely solid waste, and preferable to show the release of listed or characteristic hazardous waste under the regulations, rather than hazardous waste as more generically defined in the statute.[805] Another set of findings should list the level of pollutants detected in air, surface water, groundwater, soil, sediment, or biological samples. As we have seen, it is useful, though not necessary, to show that federal or state environmental standards, such as water quality standards or drinking water standards, have been exceeded.[806] A set of findings should describe the pathways by which pollution may migrate, or has migrated, to human or ecological receptors, such as nearby residences, down-gradient

804. *See* FED. R. CIV. P. 8(a) ("A pleading which sets forth a claim for relief . . . shall contain . . . a short and plain statement of the claim showing that the pleader is entitled to relief."); 2 JAMES WM. MOORE ET AL., MOORE'S FEDERAL PRACTICE ¶ 8.04 (3d ed. 1997) ("A claimant does not have to set out in detail the facts on which the claim for relief is based."). However, the complaint should allege more than merely that an endangerment exists.

805. *See supra* text following note 557.

806. Interfaith Cmty. Org. v. Honeywell Int'l, Inc., 399 F.3d 248, 261 n.6 (3d Cir.), *cert. denied*, 545 U.S. 1129 (2005); *see supra* notes 428-430 and accompanying text.

drinking water wells, or a downstream wetland that supports wildlife. These findings should also describe any commercial or recreational value of threatened ecological receptors that can be established, such as a commercial fishery or a forest frequented by hunters or birdwatchers. Another set of findings should describe the potential toxic, carcinogenic, mutagenic, or teratogenic effects of the pollutants on the potential receptors.[807] A set of findings should also be included to support the relief the agency is seeking. As an example of comprehensive findings, the administrative order that the New Mexico Environment Department issued for the investigation and cleanup of environmental contamination at Los Alamos National Laboratory contained some 231 detailed findings of fact to support the determination of an imminent and substantial endangerment to health and the environment.[808]

3. *Due process.*

Ensuring that the defendant or respondent is afforded due process is another consideration for agency lawyers. Due process issues rarely if ever arise in a de novo proceeding as the defendant is afforded a full hearing; but because a record review proceeding obviates any evidentiary hearing, due process issues can sometimes arise. If the agency anticipates a record review proceeding, it should take measures to ensure that the defendant or the respondent has an opportunity, at a minimum, to provide meaningful comment on the agency action at some stage in the proceedings. The constitutional requirement of due process is flexible,[809] and will vary from case to case. Due process "calls for such procedural protections as the particular situation demands."[810] For example, due process requirements will generally be greatest for agency selection of a final cleanup action, somewhat less for the selection of an interim cleanup action or for a preventive action, even less for an environmental investigation, and least of all for an emergency action. In an imminent hazard case, due process can be afforded in myriad ways, the most

807. *See supra* notes 427, 431 and accompanying text.

808. *In re* U.S. Dep't of Energy & Univ. of Cal.: Order, Proceeding Under the N.M. Hazardous Waste Act §§ 74-4-10.1 & 74-4-13, at 3-38 (N.M. Env't Dep't Nov. 26, 2002) [hereinafter In re *U.S. Dep't of Energy*] (on file with the author).

809. United States v. Seymour Recycling Corp., 679 F. Supp. 859, 863 (S.D. Ind. 1987).

810. *Id.* at 863-64 (quoting Matthews v. Eldridge, 424 U.S. 319, 334 (1976)).

common of which are discussed below.

One approach is to allow the public, including the federal agency or contractor that has caused or contributed to the endangerment, to comment on the proposed cleanup action before the environmental agency selects the cleanup action or commences a legal proceeding. The CERCLA process usually follows this approach for final cleanup actions, or "remedial actions." CERCLA provides that interested persons, including the liable parties, must have an opportunity to participate in the development of the administrative record on which the remedial action is based, including the right to comment on the proposed action.[811] EPA normally issues an administrative order or commences a judicial action alleging an imminent hazard under section 106 only after it has selected the remedy.

A second approach is to make a draft of the administrative order available for public comment, and to respond to any comments received. EPA and analogous state agencies rarely solicit public comment in enforcement actions. Notably, none of the imminent hazard provisions require that an endangerment finding or an administrative order be noticed for public comment. In many cases, the agency will want to move quickly, without a public comment period. However, in some circumstances it might be advantageous for the agency to allow public comment.[812] Affording the public, including the would-be defendant or respondent, an opportunity to comment on the draft findings or draft order may serve to avoid issues that would otherwise be litigated, or at least to narrow the issues. It also affords the would-be defendant or respondent with due process. Of course, allowing public comment and responding to those comments will delay the proceeding in the short run, but it may also eliminate time-consuming litigation. Allowing a public comment period will also open the agency to the argument that endangerment is not really all that imminent. The retort to such an argument is that the agency is seeking to avoid protracted litigation over the case, and thus hasten its resolution. If the agency accepts public comment, it must respond to the

811. CERCLA § 113(k)(2)(B), 42 U.S.C. § 9613(k)(2)(B) (Westlaw 2007).

812. The New Mexico Environment Department allowed a 90-day period for public comment on the imminent hazard order it issued to DOE and the University of California for comprehensive investigation and cleanup of Los Alamos National Laboratory. During that period, the Environment Department also held four public meetings to provide the public with information on the draft order. In re *U.S. Dep't of Energy*, *supra* note 808, at 41.

comments in writing. The comments and the responses should be included in the administrative record.

A third approach is to afford the respondents an opportunity to confer with the issuing agency after the order has been issued. EPA routinely includes a provision in its imminent hazard orders offering the respondents an opportunity to confer with the agency to discuss the appropriateness of the terms of the order and the applicability of the order to the respondents,[813] and many state agencies do the same. If the agency holds such a conference with the respondents, it should prepare a written summary of the conference. One court has held that an opportunity to confer is sufficient to meet the requirements of due process.[814]

A fourth approach is to allow public comment on final cleanup as the order is implemented. In some cases, the order may require an environmental investigation and prescribe a procedure for selecting a cleanup option based on that investigation. As part of that procedure, the public would have an opportunity to comment on the proposed cleanup option prior to its final selection.[815] The order would require the cleanup option to be implemented once it has been selected.

4. *Notice or consultation.*

Another consideration for the agency lawyer—at least the EPA lawyer—is consulting with or giving notice to the state in which the endangerment may occur. The imminent hazard provisions of the federal environmental laws are oddly inconsistent in these requirements.

Two imminent hazard provisions require consultation with the affected state before EPA commences an action. Section 303 of the Clean Air Act provides that "[p]rior to taking any action under this section, [EPA] shall consult with appropriate state and local authorities and attempt to confirm the accuracy of the information on which the action proposed to be taken is based."[816] Section

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813. *See* EPA Guidance on Section 7003 of RCRA, *supra* note 371, at 37-38. Under section 6001(b)(2) of RCRA, set forth *supra* note 190, before EPA can issue an administrative order to a federal agency, EPA must meet and confer with that agency. 42 U.S.C. § 6961(b)(2) (Westlaw 2007).

814. United States v. Valentine, 856 F. Supp. 621, 627 (D. Wyo. 1994).

815. *E.g.*, In re *U.S. Dep't of Energy*, *supra* note 808, at 186 (allowing public comment on the remedy selection).

816. Clean Air Act § 303, 42 U.S.C. § 7603 (Westlaw 2007), set forth *supra* text

1431(a) of the Safe Drinking Water Act provides that EPA "shall consult with the State and local authorities . . . to confirm the correctness of the information" on which the action is based, and "to ascertain the action which such authorities are or will be taking."[817] Such consultation is only necessary, however, "[t]o the extent [EPA] determines it to be practical in light of [the] imminent endangerment."[818] Three imminent hazard provisions require EPA to give notice to the affected state. Section 112(r)(9) of the Clean Air Act requires EPA to give "notice to the State" prior to taking "other action," but notice of a lawsuit is not required.[819] Section 7003(a) of RCRA requires that EPA "provide notice to the affected State" of any lawsuit, and that EPA give "notice to the affected State" prior to taking "other action."[820] Section 106(a) of CERCLA requires EPA to give "notice to the affected State" prior to taking "other action," but does not require notice of a lawsuit.[821] One imminent hazard provision, section 504 of the Clean Water Act, requires neither consultation nor notice.[822]

An agency attorney should consider these consultation or notice requirements well in advance of commencing an imminent hazard action. Consultation may be accomplished with a simple telephone call, although more extensive discussion may be appropriate. A written record of the consultation should be prepared and included in the administrative record. EPA should normally consult with state and local agencies regarding a pending imminent hazard action regardless whether it is required by law. Such consultation can often have beneficial consequences. For example, consultation may reveal important facts not previously known to the federal agency, or it may result in the federal and state or local agencies agreeing to bring a joint action.[823]

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accompanying note 302.

817. Safe Drinking Water Act § 1431(a), 42 U.S.C. § 300i(a) (Westlaw 2007), set forth *supra* text accompanying note 322.

818. *Id.*

819. Clean Air Act § 112(r)(9), 42 U.S.C. § 7412(r)(9) (Westlaw 2007), set forth *supra* text accompanying note 303.

820. RCRA § 7003(a), 42 U.S.C. § 6973(a) (Westlaw 2007), set forth *supra* text accompanying note 343.

821. CERCLA § 106(a), 42 U.S.C. § 9606(a) (Westlaw 2007), set forth *supra* text accompanying note 361.

822. *See* Clean Water Act § 504, 33 U.S.C. § 1364 (Westlaw 2007), set forth *supra* text accompanying note 309.

823. The *Sparton Technology* litigation is a good example of federal, state, and local agencies cooperating to address an imminent hazard. On the same day, the governments

Notice should be in writing, and it should be sent to the state governor. A courtesy copy should be sent to the head of the state environmental agency having jurisdiction over the matter. If a lawsuit is planned, a courtesy copy should also be sent to the state attorney general, or the assistant attorney general in charge of environmental matters. Although the agency can only take action after providing notice, no minimum time period between providing notice and taking action is prescribed,[824] unlike the requirements for notice of a citizen suit under RCRA. An action can be brought immediately upon providing notice.

5. *Order or complaint.*

Another possible consideration for the agency lawyer is whether to issue an administrative order or file a complaint in the appropriate court seeking an injunction. A state agency often has both options, as many state laws authorize state agencies to issue an administrative order or bring a lawsuit, even against the federal government.[825] EPA's options are more limited, however. Although most of the federal imminent hazard provisions authorize an administrative order or a lawsuit, for federal facilities EPA has both of these options only against government contractors. Under the unitary executive theory,[826] EPA can issue an order, but cannot bring a lawsuit, against other federal agencies. In addition, EPA's order authority is limited under some of the statutes.[827]

Issuance of an administrative order can have several advantages

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filed three imminent hazard actions against Sparton Technology, Inc., a former federal government contractor, to require investigation and cleanup of TCE contamination in the regional aquifer in the North Valley of Albuquerque. The plaintiffs carefully choreographed the filing of their complaints to avoid the bar on citizen suits if EPA or a state is "diligently prosecuting" an action. First, the City of Albuquerque and Bernalillo County filed a joint complaint alleging an imminent hazard under section 7002(a)(1)(B) of RCRA. City of Albuquerque v. Sparton Tech., Inc., No. CIV-97-0206-LH/JHG (D.N.M. filed 9:15 a.m., Feb. 19, 1997). Second, the State of New Mexico filed a complaint alleging an imminent hazard under state law and section 7002(a)(1)(B) of RCRA. New Mexico v. Sparton Tech., Inc., No. CIV-97-0208-JC/RLP (D.N.M. filed 9:32 a.m., Feb. 19, 1997). Finally, the United States, on behalf of EPA, filed a complaint alleging an imminent hazard under section 7003 of RCRA and section 1431 of the Safe Drinking Water Act. United States v. Sparton Tech., Inc., No. CIV-97-0210-M/DJS (D.N.M. filed 1:41 p.m., Feb. 19, 1997). The plaintiffs then successfully moved to consolidate the actions.

824. EPA guidance recommends that notice be given to the state at least one week in advance of taking action. EPA Guidance on Section 7003 of RCRA, *supra* note 371, at 33.

825. *E.g.*, N.M. STAT. ANN. § 74-4-13(A) (Westlaw 2007).

826. Discussed *supra* Section II.B.

827. *See supra* Section IV.E.2.

over a lawsuit. First, the issuing agency usually writes an administrative order, and has control over its content. The agency also decides when to issue the order. If, on the other hand, the agency files a complaint seeking an injunction, assuming it prevails, the court will decide the content and timing of the injunctive order. Second, issuance of an administrative order is procedurally much faster than filing a lawsuit. An administrative order is effective immediately, and under most statutes civil penalties accrue for noncompliance. Obtaining judicial relief, even upon moving for a preliminary injunction, can take many months or even years. Third, under some statutes, an imminent hazard order is not susceptible to judicial review until the agency enforces the order in court. CERCLA expressly bars "pre-enforcement review" of an order issued under section 106,[828] and the Clean Air Act contains a similar provision.[829] At least one court has held that pre-enforcement review of an administrative order under RCRA is not available.[830]

On the other hand, the filing of a lawsuit can have significant advantages. A lawsuit may be taken more seriously than an administrative order. Once a lawsuit is filed, the plaintiff can seek a preliminary injunction.[831] Moreover, once a preliminary or permanent injunction is in place, it remains under the continuing jurisdiction of the court to ensure that it is properly and fully implemented.

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828. Section 113(h) of CERCLA provides that "[n]o federal court shall have jurisdiction . . . to review any order issued under section [106] in any action except . . . [a]n action to enforce an order issued under section [106] or to recover a penalty for violation of such order." 42 U.S.C. § 9613(h) (Westlaw 2007).

829. Section 307(e) of the Clean Air Act provides that "[n]othing in this chapter shall be construed to authorize judicial review of regulations or orders of the Administrator under this chapter, except as provided in this chapter." 42 U.S.C. § 7607(e) (Westlaw 2007). Nothing in "this chapter," meaning the Clean Air Act, authorizes judicial review of orders issued under section 303. *Cf.* Solar Turbines, Inc. v. Seif, 879 F.2d 1073, 1077 (3d Cir. 1989). However, section 307(b) authorizes review in the appropriate federal court of appeals of an order under section 112(r)(9). 42 U.S.C. § 7607(b) (Westlaw 2007).

830. Amoco Oil v. EPA, 959 F. Supp. 1318 (D. Colo. 1997) (Pre-enforcement review of administrative order for corrective action under section 3008(h) of RCRA is not available.). *But cf.* E.I. DuPont de Nemours & Co. v. Daggett, 610 F. Supp. 260 (W.D.N.Y. 1985) (Pre-enforcement review of administrative order for monitoring under section 3013 of RCRA is available.). *See generally* David Montgomery Moore, Comment, *Pre-enforcement Review of Administrative Orders to Abate Environmental Hazards*, 9 PACE ENVTL. L. REV. 675 (1992).

831. FED. R. CIV. P. 65(a).

6. *Remedy.*

Another important consideration is the remedy that the agency includes in an administrative order or seeks from the court. The federal imminent hazard provisions give EPA and the courts broad authority to fashion appropriate relief to remedy an endangerment.[832] The remedy or relief that is appropriate must be determined on a case-by-case basis,[833] and encompasses an almost infinite array of possible remedial measures.[834] In many cases, the appropriate relief might be an environmental investigation to determine the nature and extent of the contamination, and the need for any further actions.[835] It might include monitoring of affected air, surface water, groundwater, or biota to see if contamination is spreading.[836] It might include some specific action, such as containing the contamination,[837] or ceasing a polluting operation.[838] It might be providing an alternative water supply.[839] Or it might be a complete cleanup.[840]

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832. United States v. Price, 688 F.2d 204, 213-14 (3d Cir. 1982).

833. *Id.* at 214.

834. A House report on the legislation that became the 1980 amendments to RCRA states that "[t]he section's [7003] broad authority 'to take such other actions as may be necessary' includes both short- and long-term injunctive relief, ranging from the construction of dikes to the adoption of certain treatment technologies, upgrading of disposal facilities, and removal and incineration." *Id.* at 213 (quoting H.R. REP. NO. 96-IFC 31, at 32 (1979)).

835. *E.g.*, Me. People's Alliance v. Holtrachem Mfg. Co., 211 F. Supp. 2d 237, 255 (D. Me. 2002) (ordering the defendant to fund an "independent study to determine if remediation of conditions" in the Penobscot River below a chemical manufacturing facility is necessary and feasible and, if so, "the precise content of the appropriate remediation plan"), *aff'd sub nom.* Me. People's Alliance v. Mallinckrodt, Inc., 471 F.3d 277 (1st Cir. 2006), *cert. denied*, 2007 WL 1479993 (S. Ct. Oct. 1, 2007); Fairway Shoppes Joint Venture v. Dryclean U.S.A. of Fla., Inc., 27 Envtl. L. Rep. (Envtl. Law. Inst.) 21,069, 21,073 (S.D. Fla. 1996) (ordering the defendant to "conduct a comprehensive and complete assessment of the [groundwater] contamination"); In re *U.S. Dep't of Energy*, *supra* note 808, at 51 (ordering the respondents "to fully determine the nature and extent of releases of hazardous waste and hazardous constituents at or from the Facility").

836. *E.g.*, In re *U.S. Dep't of Energy*, *supra* note 808, at 62 (ordering the respondents to conduct groundwater monitoring under a groundwater monitoring plan).

837. *E.g.*, Wilson v. Amoco Corp., 989 F. Supp. 1159, 1179 (D. Wyo. 1998) (ordering the defendant to construct "an impermeable subsurface barrier" along the North Platte River and the eastern and southern boundaries for the refinery).

838. *E.g.*, Dague v. City of Burlington, 732 F. Supp. 458, 472 (D. Vt. 1989) (ordering the defendant to close a landfill), *aff'd*, 935 F.2d 1343 (2d Cir. 1991).

839. *E.g.*, Safe Drinking Water Act § 1431(a), 42 U.S.C. § 300i(a) (Westlaw 2007) (authorizing EPA to issue "orders requiring the provision of alternate water supplies"); CERCLA § 101(23), (24), 42 U.S.C. § 9601(23), (24) (Westlaw 2007) (defining the terms "removal" and "remedial action" as both including "provision of alternative water

In some cases, the agency might seek a preliminary injunction, in which case it must meet the standard for a preliminary injunction under federal case law. Although the precise standard varies somewhat among the federal circuits,[841] the federal courts traditionally consider four factors in deciding whether to issue a preliminary injunction: 1) the likelihood that the plaintiff will succeed on the merits; 2) whether the plaintiff would suffer irreparable injury if the injunction is not granted; 3) in balancing the equities, whether the plaintiff would be helped more than the defendant would be harmed; and 4) whether granting the injunction would be in the public interest.[842] In a few cases, courts have not required a showing of irreparable injury if an environmental statute is alleged to have been violated.[843]

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supplies").

840. *E.g.*, Interfaith Cmty. Org. v. Honeywell Int'l, Inc., 263 F. Supp. 2d 796, 874 (D.N.J. 2003) (ordering the defendant to excavate and remove the chromium waste from the site), *aff'd*, 399 F.3d 248 (3d Cir.), *cert denied*, 545 U.S. 1129 (2005); In re *U.S. Dep't of Energy*, *supra* note 808, at 51, 186-88 (ordering the respondents to implement "corrective measures to clean up contaminants in the environment").

841. For a survey of the standards applied in the different circuits, see 13 MOORE, *supra* note 804, § 65.22.

842. Narragansett Indian Tribe v. Guilbert, 934 F.2d 4, 5 (1st Cir. 1991); Opticians Ass'n of Am. v. Independent Opticians of Am., 920 F.2d 187, 191-92 (3d Cir. 1990); Va. Carolina Tools, Inc. v. Int'l Tool Supply, Inc., 984 F.2d 113, 119-20 (4th Cir.), *cert denied*, 508 U.S. 960 (1993); DSC Commc'ns Corp. v. DGI Techs., Inc., 81 F.3d 597, 600 (5th Cir. 1996); County Sec. Agency v. Ohio Dep't of Commerce, 296 F.3d 477, 485 (6th Cir. 2002); JAK Prods., Inc. v. Wiza, 986 F.2d 1080, 1084 (7th Cir. 1993); Coteau Props. Co. v. U.S. Dep't of the Interior, 53 F.3d 1466, 1471 (8th Cir. 1995); United States v. Odessa Union Warehouse Coop, 833 F. 2d 172, 174 (9th Cir. 1987); Walmer v. U.S. Dep't of Def., 52 F.3d 851, 854 (10th Cir.), *cert denied*, 516 U.S. 974 (1995); Levi Strauss & Co. v. Sunrise Int'l Trading Inc., 51 F.3d 982, 985 (11th Cir. 1995); CityFed Fin. Corp. v. Office of Thrift Supervision, 58 F.3d 738, 746 (D.C. Cir. 1995).

The Second Circuit applies a two-part test. The plaintiff must show 1) irreparable harm in the absence of an injunction; and 2) either likelihood of success on the merits or sufficiently serious questions going to the merits to make them fair ground for litigation, and a balance of hardships tipping decidedly in the plaintiff's favor. NXIVM Corp. v. Ross Inst., 364 F.3d 471, 476 (2d Cir.), *cert denied*, 543 U.S. 1000 (2004). The Ninth Circuit has also applied this test. Price v. City of Stockton, 390 F.3d 1105, 1109 (9th Cir. 2004).

843. *E.g.*, V.I. Dep't of Conservation & Cultural Affairs v. V.I. Paving, Inc., 714 F.2d 283, 286 (3d Cir. 1983) (stating that when violation of a statute will harm the public, "the courts may grant preliminary equitable relief on a showing of statutory violation without requiring any additional showing of irreparable harm"); Natural Res. Def. Council v. Texaco Ref. & Mktg., Inc., 719 F. Supp. 281, 291-92 (D. Del. 1989) (explaining that a showing of probable cause to believe that a statute is being violated can "substitute for a finding of irreparable harm").

7. *Enforcement.*

An additional consideration for an agency lawyer in preparing an administrative imminent hazard order is the ultimate enforcement of the order should it become necessary. Each of the federal statutes that authorizes EPA to issue an administrative order to address an imminent hazard also provides for enforcement of the order and the assessment of substantial civil penalties—albeit in varying amounts—for violation of the order. Notably, the maximum civil penalty under each of these statutory provisions has been increased for inflation pursuant to an act of Congress.[844] Most state statutes that authorize an administrative imminent hazard order likewise provide for its enforcement, including the assessment of civil penalties.[845]

The authority to bring an enforcement action against federal agencies for violating an administrative imminent hazard order is limited, however, by two familiar doctrines. First, the doctrine of federal sovereign immunity limits the enforcement authority of EPA or a state agency: not all the statutes have clearly waived federal sovereign immunity from claims for civil penalties for past violations. Second, the unitary executive theory limits EPA's enforcement authority: not all the statutes expressly authorize EPA to bring an administrative enforcement action for violation of an imminent hazard order, and EPA cannot bring a judicial enforcement action against another federal agency. Nevertheless, under some of the statutory provisions EPA is authorized to enforce an imminent hazard order administratively. Under all the statutory provisions, moreover, EPA is authorized to enforce an imminent hazard order judicially, and this authority can be used if a federal government contractor is among the violators. Perhaps

844. Under the Debt Collection Improvement Act of 1996, the maximum civil penalties in all federal laws are to be adjusted periodically for inflation. Pub. L. No. 104-134, 110 Stat. 1321 (1996) (codified at 31 U.S.C. § 3107). Accordingly, EPA increased the maximum civil penalties in the federal environmental laws by ten percent in 1996. 61 Fed. Reg. 69,360 (Dec. 31, 1996). EPA increased the maximum penalty by another 17.23% in 2004. 69 Fed. Reg. 7121 (Feb. 13, 2004) (codified at 40 C.F.R. pt. 19 (Westlaw 2007)). Thus, for violating an imminent hazard order, the maximum penalty under the Clean Air Act and CERCLA has increased from $25,000 to $32,500 for each day of violation; the maximum penalty under the Safe Drinking Water Act has increased from $15,000 to $16,500 for each day of violation; and the maximum penalty under RCRA has increased from $5,000 to $6,500 for each day of violation. 40 C.F.R. § 19.4 tbl.1 (Westlaw 2007).

845. For example, the New Mexico Hazardous Waste Act provides that any person who violates an imminent hazard order may be fined not more than $5,000 for each day in which the violation occurs. N.M. STAT. ANN. § 74-4-13(B) (Westlaw 2007).

most significantly, an EPA imminent hazard order can be enforced by citizen suit. The relevant enforcement provisions are discussed below.

The Clean Air Act authorizes EPA to commence a civil action in federal district court[846] "for a permanent or temporary injunction, or to assess and recover a civil penalty of not more than [$32,500] per day for each violation, or both" whenever a person has violated any "requirement or prohibition" of an order issued under section 112 or section 303.[847] The Act also authorizes EPA to "issue an administrative order against any person assessing a civil penalty of up to [$32,500] per day of violation" if such person "has violated or is violating any . . . requirement or prohibition of any . . . order . . . issued" under the statute.[848] It is not clear, however, whether civil penalties can be assessed against the federal government for past violations under the Clean Air Act.[849]

The Safe Drinking Water Act provides that "[a]ny person who violates or fails or refuses to comply with any order" issued under section 1431(a) may, in an action brought in the appropriate federal district court to enforce such order, "be subject to a civil penalty of not to exceed [$16,500] for each day in which such violation occurs or failure to comply continues."[850] The statute also authorizes EPA to "issue a penalty order assessing a penalty against the Federal agency" that has "violated an applicable requirement under this subchapter."[851] EPA may assess a civil penalty "in an amount not to exceed [$32,500] per day per violation."[852]

RCRA provides that "[a]ny person who willfully violates, or fails

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846. Interestingly, while the other statutes refer simply to "the appropriate district court," the Clean Air Act establishes jurisdiction in the federal district court "for the district in which the violation is alleged to have occurred, or is occurring, or in which the defendant resides, or where the defendant's principal place of business is located." Clean Air Act § 113(b), 42 U.S.C. § 7413(b) (Westlaw 2007).

847. Clean Air Act § 113(b)(1), 42 U.S.C. § 7413(b)(1) (Westlaw 2007).

848. Clean Air Act § 113(d)(1)(B), 42 U.S.C. § 7413(d)(1)(B) (Westlaw 2007).

849. *See* cases cited *supra* note 193.

850. Safe Drinking Water Act § 1431(b), 42 U.S.C. § 300i(b) (Westlaw 2007).

851. Safe Drinking Water Act § 1447(b)(1), 42 U.S.C. § 300j-6(b)(1) (Westlaw 2007). Section 1414 of the Safe Drinking Water Act defines the term "applicable requirement" for purposes of that section, and the definition does not include requirements under the imminent hazard provision of section 1431. Because the word "subchapter" refers to the entire Act, the phrase "applicable requirements under this subchapter" in section 1447 appears to have a broader meaning. However, the term "applicable requirement" is not defined elsewhere in the Act.

852. Safe Drinking Water Act § 1447(b)(2), 42 U.S.C. § 300j-6(b)(2) (Westlaw 2007).

or refuses to comply with, any order" issued under section 7003(a) may, in an action brought in the appropriate federal district court to enforce the order, "be fined not more than [$6,500] for each day in which such violation occurs or such failure to comply continues."[853] However, RCRA does not expressly authorize EPA to assess administrative penalties for violation of an imminent hazard order.[854]

CERCLA provides that "[a]ny person who, without sufficient cause, willfully violates, or refuses to comply with, any order" issued under section 106 may, in an action brought in the appropriate federal district court to enforce the order, "be fined not more than [$32,500] for each day in which such violation occurs or such failure to comply continues."[855] However, EPA lacks the power to issue such an order against another federal agency.[856] Moreover, it is not clear whether such penalties can be assessed against the federal government.[857]

Further, each of these statutes authorizes citizen suits seeking civil penalties[858] or injunctive relief to enforce an EPA administrative order. The Clean Air Act authorizes "any person" to bring an action against any person including the United States who has been in violation of "an order" issued by EPA.[859] In such an action, the district court may enforce the order or apply appropriate civil penalties.[860] The Safe Drinking Water Act allows "any person" to bring an action against any person including the United States who is alleged to be in violation of "any requirement prescribed by or under this subchapter,"[861] and authorizes the

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853. RCRA § 7003(b), 42 U.S.C. § 6973(b) (Westlaw 2007).

854. Section 7003(b) of RCRA authorizes EPA to enforce an imminent hazard order through a judicial action, but not an administrative action. 42 U.S.C. § 6973(b) (Westlaw 2007). Section 3008(a) authorizes EPA to bring an administrative enforcement action for violation of any requirement of the hazardous waste provisions in subtitle C, but not the imminent hazard provisions in subtitle G. 42 U.S.C. § 6928(a) (Westlaw 2007). Section 6001(b) authorizes EPA to initiate an administrative enforcement action against a federal agency, but only "in the same manner and under the same circumstances as an action would be initiated against another person." 42 U.S.C. § 6961(b) (Westlaw 2007).

855. CERCLA § 106(b)(1), 42 U.S.C. § 9606(b)(1) (Westlaw 2007).

856. *See supra* text accompanying notes 692-698.

857. *See* Maine v. U.S. Dep't of the Navy, 973 F.2d 1007, 1010 (1st Cir. 1992).

858. *See generally* Michael Axline et al., *Stones for David's Sling: Civil Penalties in Citizen Suits Against Polluting Federal Facilities*, 2 J. ENVTL. L. & LITIG. 1, 41-44 (1987).

859. Clean Air Act § 304(a)(1), 42 U.S.C. § 7604(a)(1) (Westlaw 2007).

860. Clean Air Act § 304(a), 42 U.S.C. § 7604(a) (Westlaw 2007).

861. Safe Drinking Water Act § 1449(a)(1), 42 U.S.C. § 300j-8(a)(1) (Westlaw 2007).

court to enforce the requirement.[862] An administrative order would be a "requirement prescribed . . . under this subchapter." RCRA authorizes "any person" to bring an action against any person including the United States who is alleged to be in violation of "any order which has become effective under this chapter."[863] The court may enforce the order and apply any appropriate civil penalties.[864] Finally, CERCLA authorizes "any person" to bring an action against any person including the United States who is alleged to be in violation of any "order which has become effective pursuant to this chapter."[865] The district court may "order such action as may be necessary to correct the violation," or impose any civil penalty.[866]

Regardless of the available enforcement mechanisms, an administrative order should be carefully written to ensure that it can be readily enforced under these provisions. The order should be written in unequivocally mandatory terms.[867] It should contain clear and unambiguous requirements. It should also include schedules for completing clearly defined activities, such as submitting a work plan to the agency, collecting groundwater samples, ceasing a discharge, or certifying completion of a cleanup action. The schedule should set forth a specific date, or a date that is readily ascertainable, as the deadline by which each activity must be completed.

B. *Citizen Suits*

Many imminent hazard actions are brought as citizen suits under RCRA. Recall that of the federal environmental statutes, only RCRA authorizes a citizen suit to address an imminent hazard. Any "person" can bring such an action under RCRA, including a private citizen, a corporation or other business entity, an environmental or other nonprofit public interest organization, or a state, local, or tribal government. Some important considerations in a RCRA citizen suit are discussed below.

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862. Safe Drinking Water Act § 1449(a), 42 U.S.C. § 300j-8(a) (Westlaw 2007).

863. RCRA § 7002(a)(1)(A), 42 U.S.C. § 6972(a)(1)(A) (Westlaw 2007).

864. RCRA § 7002(a), 42 U.S.C. § 6972(a) (Westlaw 2007).

865. CERCLA § 310(a)(1), 42 U.S.C. § 9659(a)(1) (Westlaw 2007).

866. CERCLA § 310(c), 42 U.S.C. § 9659(c) (Westlaw 2007).

867. Use of the word "shall" "in statutes, contracts, or the like . . . is generally imperative or mandatory." BLACK'S LAW DICTIONARY 1375 (6th ed. 1991).

1. *Evidence.*

The primary consideration for a lawyer representing a citizen suit plaintiff alleging an imminent hazard under RCRA is the evidence to support that allegation. If the "citizen" plaintiff is a state or municipality, it will usually compile the evidence in an administrative record, as described above.[868] If the plaintiff is a private organization or individual, it will not prepare an administrative record per se, although much of the evidence supporting the claim should be very similar to the evidence contained in an agency administrative record. Indeed, much of the documentary evidence may be obtained from the environmental agencies having jurisdiction over the matter. Generally, the private citizen plaintiff's evidence will be presented through expert testimony. In addition, a private citizen plaintiff will need to present evidence to establish standing, discussed below.[869] A good example of well-presented evidence in an action brought by a citizen group is described in *Maine People's Alliance v. Holtrachem.*[870]

2. *Notice.*

Another important consideration for the lawyer representing a RCRA citizen plaintiff is the notice requirement. Recall that RCRA bars a citizen suit until ninety days after the plaintiff has given notice to EPA, the state, and each proposed defendant, although the plaintiff may bring the lawsuit immediately after notice if the plaintiff alleges a violation of subchapter C of RCRA.[871] As explained above, the courts have applied the notice requirements strictly,[872] following the Supreme Court's decision in *Hallstrom v. Tillamook County.*[873]

Indeed, the *Tillamook* case illustrates the bleak outcome that can result from a defective notice. Although the plaintiffs sent a written notice to the defendant almost a year before filing the lawsuit, they did not send a notice to EPA or the state until the day

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868. *See* discussion *supra* text accompanying notes 801-802.

869. *Infra* Section V.B.4.

870. 211 F. Supp. 2d 237, 246 (D. Me. 2002)), *aff'd sub nom.* Me. People's Alliance v. Mallinckrodt, Inc., 471 F.3d 277 (1st Cir. 2006), *cert. denied,* 2007 WL 1479993 (S. Ct. Oct. 1, 2007).

871. *See supra* text accompanying notes 346-348.

872. *See supra* text accompanying notes 714-723.

873. 493 U.S. 20 (1989).

after filing the lawsuit. Neither EPA nor the state expressed any interest in the case, suggesting that timely notice would not have served any purpose. The district court denied the defendant's motion to dismiss, and the case proceeded to trial and judgment in the plaintiffs' favor.[874] The defendant appealed. The Supreme Court noted that the litigation had "consumed the time and energy of a [d]istrict [c]ourt and the parties for nearly four years."[875] Nevertheless, the Supreme Court ruled the action should be dismissed because of the defective notice.[876]

To avoid a notice defect, a citizen plaintiff need only follow the statute. Pertinent case law should also be consulted, as should EPA citizen suit notice guidelines,[877] although the latter are somewhat outdated and not directly applicable to imminent hazard cases.[878] To document compliance with the notice requirements, notice should be sent by certified mail, return receipt requested.[879] Each of the plaintiffs should provide notice.[880] Notice of a citizen suit against a federal government agency must be sent to the head of the federal agency, the EPA Administrator, and the head of the appropriate state agency.[881] A copy should also be sent to the EPA Regional Administrator, and the Attorney General of the United States.[882] Notice of a citizen suit against a corporation must be sent to the head of the corporation, to the EPA Administrator, and to the head of the appropriate state agency.[883] A copy should also be sent to the owner or site manager of the facility, the EPA Regional

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874. *Id.* at 23-24.

875. *Id.* at 32.

876. *Id.* at 33.

877. 40 C.F.R. pt. 254 (Westlaw 2007).

878. EPA published guidelines on notice in RCRA citizen suits in 1977. 42 Fed. Reg. 56,114 (Oct. 21, 1977). Subsequently, in 1984, Congress amended section 7002 to add the imminent hazard provision in subparagraph (a)(1)(B). Yet EPA has neglected to update the guidelines since then. The guidelines address only citizen suits alleging violations of hazardous waste requirements and alleging a failure of EPA to perform a nondiscretionary duty, but not citizen suits alleging an imminent hazard. Nevertheless, they provide useful guidance on the proper recipients and the content of a RCRA citizen suit notice.

879. *Cf.* 40 C.F.R. § 254.2(a)(1), (3) (Westlaw 2007).

880. N.M. Citizens for Clean Air & Water v. Española Mercantile Co., 72 F.3d 830, 833 (10th Cir. 1996); Wash. Trout v. McCain Foods, Inc., 45 F.3d 1351, 1354 (9th Cir. 1995).

881. RCRA § 7002(b)(2)(A), 42 U.S.C. § 6972(b)(2)(A) (Westlaw 2007); *cf.* 40 C.F.R. § 254.2(a)(3) (Westlaw 2007).

882. *Cf.* 40 C.F.R. § 254.2(a)(3) (Westlaw 2007).

883. RCRA § 7002(b)(2)(A), 42 U.S.C. § 6972(b)(2)(A) (Westlaw 2007); *cf.* 40 C.F.R. § 254.2(a)(1) (Westlaw 2007).

Administrator, and the registered agent for the corporation.[884] The notice letter should include sufficient information for the recipient to identify the activity giving rise to the claim.[885] The notice should state the full name, address, and telephone number of the person giving notice and of the legal counsel, if any, of the person giving notice.[886] In addition, a copy of the complaint must be served on the United States Attorney General, and on the EPA Administrator.[887]

Generally, the plaintiff must wait ninety days after sending the notice before it can file a complaint under section 7002(a)(1)(B) of RCRA. However, if the plaintiff alleges a violation of subchapter C—the hazardous waste management provisions—of RCRA, the lawsuit may be brought immediately after notice.[888] The alleged subtitle C violation may be alleged as a separate count in the complaint, and need not be the cause of the alleged endangerment. The courts have allowed such "hybrid" citizen complaints to proceed after less than ninety days notice, provided that the allegation of a subtitle C violation is not frivolous,[889] and that the alleged subtitle C violation and the alleged endangerment are related.[890]

3. *Pending agency action.*

Another important consideration for the citizen plaintiff is whether EPA or a state agency has already taken action to address the pollution causing the endangerment. As we have seen, RCRA bars a citizen suit if EPA has commenced and is "diligently prosecuting an action" under section 7003 of RCRA or section 106 of CERCLA, or if a state has commenced and is "diligently prosecuting an action" under section 7002(a)(1)(B) of RCRA; if EPA or a state is engaged in a removal action under CERCLA; if

884. *Cf.* 40 C.F.R. § 254.2(a)(1) (Westlaw 2007).

885. *Cf.* San Francisco BayKeeper, Inc. v. Tosco Corp., 309 F.3d 1153, 1157-59 (9th Cir. 2002); Atl. States Legal Found. v. Stroh Die Casting Co., 116 F.3d 814, 819-20 (7th Cir. 1997); Pub. Interest Research Group of N.J. Inc. v. Hercules, Inc., 50 F.3d 1239, 1252 (3d Cir. 1995); Atwell v. KW Plastics Recycling Div., 173 F. Supp. 2d 1213, 1220 (M.D. Ala. 2001); 40 C.F.R. § 254.3(a), (b) (Westlaw 2007).

886. *Cf.* 40 C.F.R. § 254.3(a), (b), (c) (Westlaw 2007).

887. RCRA § 7002(b)(2)(F), 42 U.S.C. § 6972(b)(2)(F) (Westlaw 2007).

888. *See supra* text accompanying notes 346-348.

889. AM Int'l, Inc. v. Datacard Corp., 106 F.3d 1342, 1351 (7th Cir. 1997); Dague v. City of Burlington, 935 F.2d 1343, 1352 (2d Cir. 1991).

890. *Dague*, 935 F.2d at 1352.

EPA or a state has incurred costs to initiate an RI/FS under CERCLA; or if EPA has obtained a court order or issued an administrative order under section 7003 of RCRA or section 106 of CERCLA under which a responsible party is "diligently conducting a response action."[891]

A citizen plaintiff, of course, should be familiar with any actions that EPA or a state agency has taken to address pollution at the federal facility. However, a federal or state action will not necessarily bar a subsequent citizen suit. Recall that a state action does not bar a citizen suit if the action is taken under state law.[892] An EPA or state action does not bar a citizen suit if the citizen suit differs in duration or in scope from the EPA or state action.[893] Finally, an EPA or state action does not bar a citizen suit if EPA or the state has failed to diligently prosecute the action.[894]

4. *Standing.*

Another very important consideration for a citizen plaintiff is to establish standing to sue. As we have seen, to establish standing, an individual plaintiff[895] must demonstrate injury in fact, fairly traceable to pollution caused by the defendant, and redressable by a favorable judicial decision. In addition, an organization plaintiff must demonstrate that one or more of the organization's members would individually have standing, that the lawsuit is germane to the organization's purpose, and that neither the claims asserted nor the relief requested requires the participation of individual members of the organization.[896]

A citizen suit plaintiff has the burden of demonstrating its

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891. *See supra* text accompanying notes 351-353.

892. *See supra* text accompanying notes 732-734. Of course, if the state action is adequately addressing the endangerment, a citizen suit would be without merit. *See* 87th St. Owners Corp. v. Carnegie Hill-87th St. Corp., 251 F. Supp. 2d 1215, 1219-20 (S.D.N.Y. 2002).

893. *See supra* text accompanying note 735.

894. *See Dague*, 935 F.2d at 1353 (finding that the state was not "diligently prosecuting" action to require compliance).

895. A state government plaintiff acting as *parens patriae* to protect the health and environment of its citizens from pollution is acting to protect its quasi-sovereign interests and is entitled to "special solicitude" in standing analysis. Massachusetts v. EPA, 127 S. Ct. 1438, 1454-55 (2007); *see also* Alfred L. Snapp & Son, Inc. v. Puerto Rico *ex rel.* Barez, 458 U.S. 592, 600-608 (1982) (discussing application of the *parens patriae* doctrine); Hawaii v. Standard Oil Co. of Cal., 405 U.S. 251, 257-59 (1972) (discussing the origins of the *parens patriae* doctrine).

896. *See supra* text accompanying notes 740-749.

standing to sue.[897] Standing in a citizen suit is normally established through testimony of the plaintiff or members of the plaintiff organization. However, to withstand a motion to dismiss, facts establishing standing should be averred in the complaint. Moreover, because standing is often the subject of a motion for summary judgment, it may be necessary to establish standing through affidavits.[898] The testifying witness, whether presenting live testimony or preparing an affidavit, should state with specificity the injury he or she has suffered. For example, the witness might live in close proximity to the federal facility.[899] The witness might observe pollutants, or smell pollutants, from the facility on a regular basis, perhaps every day.[900] Or the witness might engage in recreation—such as swimming, fishing, or boating—on a stream or lake that has been polluted by the facility.[901] Perhaps the witness engages in such recreation less frequently as a result of the pollution.[902] Or the witness might be threatened with economic injury, such as a river guide who fears that pollution in the river may result in a loss of customers,[903] or the owner of river-front property who can no longer harvest and sell mussels to supplement her income because of mercury pollution.[904] Of course, these are but a few examples, taken from recent cases, of the infinite sorts of injury that can establish standing. Such testimony, moreover, should be supported by expert testimony concluding that the witness' concerns are reasonable and not

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897. Lujan v. Defenders of Wildlife, 504 U.S. 555, 561 (1992).

898. *See* FED. R. CIV. P. 56(e).

899. *E.g.*, Covington v. Jefferson County, 358 F.3d 626, 638 (9th Cir. 2004).

900. *E.g.*, Am. Canoe Ass'n v. Murphy Farms, Inc., 326 F.3d 505, 518 (4th Cir. 2003); Friends of the Earth v. Consol. Rail Corp., 768 F.2d 57, 61 (2d Cir. 1985).

901. *E.g.*, Friends of the Earth, Inc. v. Laidlaw Envtl. Servs. (TOC), Inc., 528 U.S. 167, 181-83 (2000); Interfaith Cmty. Org. v. Honeywell Int'l, Inc., 399 F.3d 248, 256 (3d Cir.), *cert denied*, 545 U.S. 1129 (2005); Am. Canoe Ass'n v. City of Louisa Water & Sewer Comm'n, 389 F.3d 536, 540-41 (6th Cir. 2004); *Murphy Farms*, 326 F.3d at 518; Ecological Rights Found. v. Pac. Lumber Co., 230 F.3d 1141, 1150 (9th Cir. 2000); Friends of the Earth, Inc. v. Gaston Copper Recycling Corp., 204 F.3d 149, 156 (4th Cir. 2000) (en banc); Natural Res. Def. Council v. Watkins, 954 F.2d 974, 979 (4th Cir. 1992); *Consol. Rail.*, 768 F.2d at 61.

902. *E.g.*, *Laidlaw*, 528 U.S. at 181-83; Maine People's Alliance v. Mallinckrodt, Inc., 471 F.3d 277, 284 (1st Cir. 2006), *cert. denied*, 2007 WL 1479993 (S. Ct. Oct. 1, 2007); *Interfaith Cmty. Org.*, 399 F.3d at 256; *City of Louisa*, 389 F.3d at 541; *Murphy Farms*, 326 F.3d at 518-19; *Pac. Lumber*, 230 F.3d at 1150; *Gaston Copper*, 204 F.3d at 156; *Watkins*, 954 F.2d at 979.

903. *Murphy Farms*, 326 F.3d at 518-19.

904. *Me. People's Alliance*, 471 F.3d at 284.

conjecture.[905] In addition, evidence will be necessary to show that the pollution emitted from the federal facility is of the same type that is causing the injury.[906] It may also be necessary to present evidence showing that the injunctive relief sought will redress the injury. Finally, if the plaintiff is an organization, evidence should be presented showing that the relief sought is germane to the purpose of the organization.[907]

5. *Remedy.*

Another consideration for the citizen plaintiff is the remedy that the plaintiff seeks from the court. This consideration is not significantly different for citizen plaintiffs and for government agencies under RCRA. As noted previously, Congress intended for section 7002 of RCRA to give citizen plaintiffs "exactly the same broad . . . claim for relief which is already available under section 7003."[908] The question of available remedies is discussed above.[909]

6. *Attorney fees.*

Another issue that should be considered in a RCRA citizen suit is collection of attorney fees and other litigation costs. Section 7002 of RCRA provides that the court "may award costs of litigation (including reasonable attorney and expert witness fees) to the prevailing or substantially prevailing party, whenever the court determines such an award is appropriate."[910] Courts routinely award litigation costs to prevailing plaintiffs in RCRA citizen suits.[911]

A citizen plaintiff can recover attorney fees and other litigation costs under RCRA—as under many other federal laws—only if the plaintiff is the "prevailing or substantially prevailing party." A "prevailing party" is one who achieves "some success, even if not

905. *See Murphy Farms*, 326 F.3d at 519; *Gaston Copper*, 204 F.3d at 157.

906. *See Gaston Copper*, 204 F.3d at 157.

907. *See* Friends of the Earth v. Consol. Rail Corp., 768 F.2d 57, 59 (2d Cir. 1985) (finding that the citizen plaintiff, Hudson River Sloop Clearwater, Inc., "is a not-for-profit New York corporation dedicated to the protection and restoration of the Hudson River").

908. *See supra* text accompanying notes 703-704.

909. *Supra* Section V.A.6.

910. RCRA § 7002(c), 42 U.S.C. § 6972(c) (Westlaw 2007).

911. *E.g.*, Browder v. City of Moab, 427 F.3d 717, 721 (10th Cir. 2005) (noting in a RCRA case a "presumption in favor of awarding prevailing plaintiffs attorney's fees").

major success," on the merits.[912] It is not at all clear, at least under RCRA, whether the plaintiff must obtain a favorable court order to be the prevailing party, or whether it is sufficient for the plaintiff merely to force the defendant to abandon illegal conduct without necessarily obtaining a formal court order. The latter, more lenient standard, known as the "catalyst theory," has had a rich history in environmental and civil rights litigation. However, the Supreme Court recently rejected the catalyst theory under civil rights laws, ruling that a prevailing party is one who obtains an enforceable judgment on the merits or a court-ordered consent decree.[913] Several courts have declined to extend this holding to environmental statutes, based on statutory language and legislative history.[914]

For a plaintiff who prevails or substantially prevails, attorney fees are determined by applying a reasonable hourly rate to the number of hours the attorney reasonably worked on a case.[915] This amount is often referred to, somewhat cryptically, as the "lodestar." A reasonable hourly rate is one that is "in line with those prevailing in the community for similar services by lawyers of reasonably comparable skill, experience, and reputation."[916] The prevailing market rate applies "regardless of whether the plaintiff is represented by private or non-private counsel."[917] The number of

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912. Ruckelshaus v. Sierra Club, 463 U.S. 680, 688 (1983).

913. Buckhannon Bd. & Care Home, Inc. v. W. Va. Dep't of Health & Human Res., 532 U.S. 598, 600 (2001).

914. Sierra Club v. EPA, 322 F.3d 718, 725 (D.C. Cir. 2003) (Clean Air Act); Loggerhead Turtle v. County Council of Volusia County, 307 F.3d 1318, 1325 (11th Cir. 2002) (Endangered Species Act); Ctr. for Biological Diversity v. Norton, 262 F.3d 1077, 1080 n.2 (10th Cir. 2001) (Endangered Species Act) (*dicta*); United States v. Bd. of County Comm'rs, No. 1:02 CV 00107, 2005 WL 2033708, at *3-6 (S.D. Ohio Aug. 23, 2005) (Clean Water Act). *But see* Sierra Club v. City of Little Rock, 351 F.3d 840, 845 (8th Cir. 2003) (Clean Water Act); Kasza v. Whitman, 325 F.3d 1178, 1180 (9th Cir. 2003) (Clean Water Act). *See generally* Lucia A. Silecchia, *The Catalyst Calamity: Post-*Buckhannon *Fee-Shifting in Environmental Litigation and a Proposal for Congressional Action*, 29 COLUM. J. ENVTL. L. 1 (2004); Marisa L. Ugalde, *The Future of Environmental Citizen Suits After* Buckhannon Board & Care Home v. West Virginia Department of Health & Human Resources, 8 ENVTL. LAW. 589 (2002).

915. Hensley v. Eckerhart, 461 U.S. 424, 433 (1983).

916. Blum v. Stenson, 465 U.S. 886, 895 n.11 (1984).

917. *Id.* at 895; *see also* Student Pub. Interest Research Group of N.J., Inc. v. AT&T Bell Labs., 842 F.2d 1436, 1450 (3d Cir. 1988) (stating that where plaintiff is represented by a "for-profit public interest law firm that has an artificially low billing rate, the community billing rate charged by attorneys of equivalent skill and experience performing work of similar complexity, rather than the firm's billing rate, is the appropriate hourly rate" for computing attorney fees).

hours the attorney worked must be demonstrated with supporting documentation, and it should be contemporaneous documentation.[918] If the documentation of the hours is inadequate, the court will usually reduce the award accordingly.[919] The court may also reduce a claim that includes hours that are excessive, redundant, or otherwise unnecessary.[920] Attorney fee awards may include travel costs and other expenses.[921] In addition, fees for expert witnesses and, in some cases, consulting experts may also be awarded.[922]

VII. CONCLUSIONS

The foregoing examination of the imminent hazard provisions in environmental statutes and their applicability to federal facilities leads to several conclusions. The primary conclusion, which is the central theme of this Article, is that certain of the imminent hazard provisions of environmental laws can be very effective in compelling cleanup of environmental pollution at federal facilities.

The imminent hazard provisions of RCRA are, by far, the most broadly applicable to polluted federal facilities, and can be the most effective in achieving cleanup of that pollution. RCRA covers

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918. Kennecott Corp. v. EPA, 804 F.2d 763,767 (D.C. Cir. 1986).

919. *Hensley*, 461 U.S. at 433; *see also Kennecott*, 804 F.2d at 767 (reducing fee award by fifteen percent due to inadequate documentation).

920. *Hensley*, 461 U.S. at 434; *see also* Davis County Solid Waste Mgmt. & Energy Recovery Special Serv. Dist. v. EPA, 169 F.3d 755, 761 (D.C. Cir. 1999) (reducing fee award for "failure to allocate tasks efficiently" and for "duplication of effort"); Del. Valley Citizens' Council for Clean Air v. Pennsylvania, 762 F.2d 272, 280 (3d Cir. 1985) (reducing fee award for hours spent by "second chair" attorney at hearings).

921. Interfaith Cmty. Org. v. Honeywell Int'l, Inc., 426 F.3d 694, 717 (3d Cir. 2005) (copying costs awarded in part); Chem Mfrs. Ass'n v. EPA, 885 F.2d 1276, 1283 (5th Cir. 1989) (travel expenses); Student Pub. Interest Research Group of N.J. v. Monsanto Co., 727 F. Supp. 876, 888-91 (D.N.J. 1989) (copying costs, postage, travel expenses, telephone costs, subpoena service charges, and paralegal costs); Aiello v. Town of Brookhaven, No. 94-CV-2622 (FB)(WDW), 2005 WL 1397202, at *8 (E.D.N.Y. June 13, 2005) (copying costs, travel expenses, telephone costs, paralegal costs, Westlaw service charges, and court reporter service charges).

922. *Interfaith Cmty. Org.*, 426 F.3d at 715-17. The court in this case recognized "[t]he purpose of RCRA's fee-shifting provision would not be well-served by prohibiting reimbursement of the fees of non-testifying experts, at least to the extent that these experts serve to 'educate counsel in a technical matter germane to the suit.'" *Id.* at 716-17. Another court, however, denied an award of consulting expert fees against the United States in a Clean Air Act case on the ground that the waiver of federal sovereign immunity was not sufficiently broad to cover such fees. Sierra Club v. EPA, 769 F.2d 796, 812 (D.C. Cir. 1985).

a wide range of pollutants common at federal facilities—including asbestos, explosives, heavy metals, military munitions, mixed wastes, nerve agents, organic solvents, perchlorate, petroleum, and PCBs. RCRA covers all environmental media—air, surface water, groundwater, and soil. RCRA contains a comprehensive waiver of federal sovereign immunity. It includes express authority for EPA to issue administrative orders to federal facilities. Perhaps even more importantly, it authorizes citizen suits in federal court to address an imminent hazard. Such citizen suits can be brought on behalf of state, tribal, or local governments, or on behalf of private citizens or environmental organizations, against the polluting federal agency. The most significant limitation in the RCRA imminent hazard provisions is the exemption for source, special nuclear, and byproduct material. In addition, EPA lacks the authority to enforce a RCRA imminent hazard authority through administrative procedures, and the maximum civil penalty for violation of a RCRA imminent hazard order is incongruously lower than under the other federal statutes.[923]

The imminent hazard provision of the Safe Drinking Water Act is also broadly applicable to federal facilities.[924] Like RCRA, it covers a wide range of pollutants; indeed, it is in one respect broader than RCRA in that it covers radionuclides. The Safe Drinking Water Act also contains a comprehensive waiver of federal sovereign immunity; and it authorizes EPA to issue administrative orders to federal facilities. However, the Act is relatively narrow in its scope, applying only to drinking water supplies or potential sources of drinking water. Moreover, the Act does not authorize citizen suits to address an imminent hazard, as does RCRA.

The imminent hazard provisions of many state laws are also applicable to federal facilities, and can also be effective in compelling cleanup of those facilities. State laws that are analogous to RCRA are often the most effective.[925] State imminent hazard

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923. *See* discussion *supra* note 853 and accompanying text. *Compare* RCRA § 7003(b), 42 U.S.C. § 6973(b) (Westlaw 2007) ($6500 maximum civil penalty, increased from $5000), *with, e.g.*, CERCLA § 106(b)(1), 42 U.S.C. § 9606(b)(1) (Westlaw 2007) ($32,500 maximum civil penalty, increased from $25,000).

924. EPA has used the imminent hazard provision of the Safe Drinking Water Act to compel cleanup of groundwater pollution from the Massachusetts Military Reservation on Cape Cod. *See supra* note 687.

925. The State of New Mexico has used the imminent hazard provision of the State Hazardous Waste Act—which is virtually identical to section 7003 of RCRA—to compel

provisions can sometimes serve to fill in some of the gaps in the federal provisions.

The second conclusion, which is corollary to the first, is that some of the imminent hazard provisions in federal environmental laws are of little value in compelling cleanup of federal facilities. The ineffectiveness of certain of these provisions can be striking.

The imminent hazard provisions of the Clean Air Act are very limited in their applicability to federal facilities. While the original provision (section 303) applies to a broad range of air pollutants, its enforcement authorities are cramped. It authorizes EPA to bring judicial actions to address an endangerment, but no such actions are possible against federal agencies under the unitary executive theory as espoused by the Department of Justice. The Act also authorizes EPA to issue administrative orders, but they are limited in duration to sixty days, which in most cases is woefully inadequate. This provision is therefore limited almost exclusively to actions against federal government contractors. The second imminent hazard provision in the Clean Air Act (section 112(r)(9)) gives EPA order authority of unlimited duration, but only to protect public health. Moreover, the provision is very limited in scope: it applies only to relatively unusual "accidental releases" of uncommon "regulated substances." This provision is therefore also severely limited. Finally, the citizen suit provision of the Clean Air Act does not address imminent hazards.

The imminent hazard provision of the Clean Water Act is even more limited in its applicability to federal facilities. It applies to a broad range of water pollutants, but like RCRA does not cover source, special nuclear, or byproduct material. More fatally, although the provision authorizes EPA to bring judicial actions, it does not authorize EPA to issue administrative orders. Furthermore, it authorizes EPA to bring an action against "any person," but the Act does not include the United States in its definition of "person." Nor does the Act authorize a citizen suit to address an imminent hazard. The Clean Water Act is therefore limited to judicial actions brought by EPA against a government contractor.

The imminent hazard provision of CERCLA also has very little applicability to federal facilities. On its face, CERCLA is very broad

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cleanup of environmental pollution at Los Alamos National Laboratory. *See* In re *U.S. Dep't of Energy*, *supra* note 808.

in its scope. It covers a fairly wide range of pollutants, including radionuclides. It authorizes EPA to bring judicial actions, or to issue administrative orders without significant limitations. Further, CERCLA requires federal agencies to comply with its terms to the same extent as any other person. While Congress' inclusion of this latter provision in CERCLA was admirable, and the provision undoubtedly has had a positive effect on federal facility cleanups,[926] the structure of CERCLA makes this federal compliance provision all but unenforceable. The authority to implement CERCLA at federal facilities is delegated to the polluting federal agencies—DOD and DOE—not to EPA. EPA is relegated to an oversight role at these sites, without enforcement authority. Moreover, the waiver of federal sovereign immunity from state laws applies only to sites not listed on the NPL. Thus, state agencies are also powerless to compel cleanup of the most severely contaminated federal sites.

The third conclusion, which follows from the first two, is that there is an enormous disparity in the effectiveness of the imminent hazard provisions of federal environmental laws in compelling cleanup of pollution from federal facilities. It is easy to view these imminent hazard provisions as a hodgepodge of disparate and inconsistent authorities cobbled into the statutes at various times for various purposes, and subject to diverse and often illogical limitations.[927]

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926. Under pressure from Congress, and the public, many federal facilities have begun cleanups under CERCLA, although the results have often been less than satisfactory. *See, e.g.*, James W. Moeller, *Arsenic and Old Base: Legal Issues Associated with the Environmental Restoration of Defense Sites in Washington, D.C. Used for the Development and Disposal of World War I Chemical Munitions*, 54 CATH. U. L. REV. 879, 934-35 (2005); Noah D. Lichtenstein, *The Hanford Nuclear Waste Site: A Legacy of Risk, Cost, and Inefficiency*, 44 NAT. RESOURCES J. 809 (2004); Karen B. Wiley & Steven L. Rhodes, *The Transformation of the Rocky Mountain Arsenal*, ENVIRONMENT, June 1998, at 4.

927. Professor Richard Lazarus, quoting a former congressional staffer, has likened the structure of federal environmental laws to the "architecture of Tobacco Road":

> If you have traveled in the remote parts of the Deep South, I am sure you have seen the architecture of Tobacco Road—shacks built of whatever materials were available at the time, often by a series of owners. Maybe the roof is corrugated tin, but one wall is made from a billboard and the doorstep is a cinder block. No part matches any other part, and there are holes here and there. Still, it provides a measure of basic shelter, and there comes a point where it is easier to tack a new board over a gap that appears than to redesign the entire structure.

LAZARUS, *supra* note 431, at 169. On a slightly smaller scale, the comparison applies quite aptly to the imminent hazard provisions.

These conclusions in turn lead to recommendations for public policy. We have seen that some of the imminent hazard provisions can be very effective in compelling cleanup of polluted federal facilities. Therefore, EPA, state, tribal, and local agencies charged with environmental protection—and private environmental organizations and citizen activists, as well—should make greater use of the imminent hazard provisions of federal and state environmental laws for this purpose. We have also seen that the federal imminent hazard provisions are fraught with inconsistent and often illogical limitations. The solution to this problem is to ask Congress to fix these provisions, to remove some of the limitations on imminent hazard authorities, and to make the authorities more consistent. Following are some proposals for legislation.

First, Congress should enact a few significant amendments to the Clean Air Act. Congress should amend section 303 of the Act to authorize EPA to issue administrative orders of unlimited duration to address an imminent hazard. Congress should also add a provision to the Act expressly authorizing EPA to issue administrative orders—particularly including imminent hazard orders—to other federal agencies. In making these amendments, Congress might merge the provisions of section 112(r)(9) with section 303, which would serve to simplify the statute. Additionally, Congress should clarify that the waiver of federal sovereign immunity for civil penalties covers "punitive" as well as "coercive" penalties.[928]

Second, Congress should also enact several significant amendments to the Clean Water Act. Congress should amend section 504 of the Act to authorize EPA to issue administrative orders to address an imminent hazard, as in the other statutes, and to assess administrative penalties for violation of such orders. Congress should also expressly authorize EPA to issue such orders to federal agencies. To address the holding in *DOE v. Ohio*,[929] Congress should clarify that the Act's waiver of federal sovereign immunity for civil penalties applies to "punitive" as well as "coercive" penalties.[930] Congress would also need to amend the

928. *See* City of Jacksonville v. U.S. Dep't of the Navy, 348 F.3d 1307 (11th Cir. 2003) (holding that the Clean Air Act does not waive federal sovereign immunity for civil penalties for past violations, or "punitive" penalties); *see also* cases cited *supra* note 193.

929. 503 U.S. 607 (1992), discussed *supra* notes 152-73 and accompanying text.

930. Such an amendment was introduced in the Senate in 1998 and in the House in

statute's definition of "person" to include "any department, agency, or instrumentality of the United States."[931] In addition, Congress should amend the definition of "pollutant" to expressly include source, special nuclear, and byproduct material.[932]

Third, Congress should make three changes to RCRA. Most importantly, Congress should amend RCRA to eliminate the exemption for source, special nuclear, and byproduct material in the definition of "solid waste." Congress should also authorize EPA to assess administrative penalties for violation of a RCRA imminent hazard order, and it should increase the maximum civil penalty for violation of such an order to be consistent with the other federal statutes.

Fourth, Congress should make substantial changes to CERCLA. Congress should expand the waiver of federal sovereign immunity in CERCLA to waive federal immunity from liability based on former ownership of a facility, from liability based on state law for NPL sites, and from liability for "coercive" penalties.[933] Congress also should amend CERCLA to give EPA primary authority over federal facility cleanups, with greater state participation. Congress should further amend CERCLA to authorize EPA to issue administrative orders to federal facilities.

Finally, Congress should consider expanding the various citizen suit provisions to authorize actions to address imminent hazards, similar to the provision in RCRA section 7002(a)(1)(B). Such imminent hazard authority could be added to the citizen suit provisions of the Clean Air Act, the Clean Water Act, and the Safe Drinking Water Act.

In short, government agencies, as well as environmental organizations and private citizens, should make greater use of the imminent hazard provisions of federal and state environmental laws to compel cleanup of federal facilities; and Congress should amend the federal environmental statutes to make the federal

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1995. Federal Facilities Clean Water Compliance Act of 1998, S. 1923, 105th Cong. § 2; Clean Water Act Amendments of 1995, H.R. 961, 104th Cong. § 306(a).

931. Such an amendment was introduced in the Senate in 1998 and in the House in 1995 S. 1923, § 3; H.R. 961, § 306(e).

932. A similar amendment, defining "radioactive materials" to include source, special nuclear, and by product material used, produced, or managed at a facility not licensed by the Nuclear Regulatory Commission, was introduced in the House in 1995. H.R. 961, § 306(f).

933. Such an amendment was introduced in 1997. Superfund Cleanup Acceleration Act of 1997, S. 8, 105th Cong. § 603.

imminent hazard provisions more effective for that purpose. The goal of these recommendations—in the words of Senator Ron Wyden and former Senator Wayne Allard—is to "ensure that Federal agencies concentrate on cleaning up the environment and protecting human health at Federal sites . . . instead of trying to avoid their responsibilities."[934]

934. S. COMM. ON ENV'T & PUBLIC WORKS, 105TH CONG., SUPERFUND CLEANUP ACCELERATION ACT OF 1998, S. REP. NO. 105-192, at 117 (1995) (Supplemental Views of Sens. Allard and Wyden).

TABLE 1*

CATEGORY OF POLLUTANT	SOLID WASTE	STATUTORY HAZARDOUS WASTE	REGULATORY HAZARDOUS WASTE	HAZARDOUS CONSTITUENT
Explosive compounds	Yes	Yes	Yes (reactive)	No
Ammonium perchlorate	Yes	Yes	Yes (reactive)	No
Nerve agents	Yes	Yes	No	No
Military munitions	Yes	Yes	Yes (if characteristic)	Likely
Radionuclides	No	No	No	No
Mixed waste	Yes	Yes	Yes	Yes
Petroleum	Yes	Yes	Yes (if characteristic)	Yes
Organic solvents	Yes	Yes	Yes (if listed or characteristic)	Yes
PCBs	Yes	Yes	No	Yes
Heavy metals	Yes	Yes	Yes (if listed or characteristic)	Yes
Asbestos	Yes	Yes	No	No

* This Table is provided to assist the reader in applying the environmental statutory and regulatory provisions to various types of pollutants common at federal facilities. It is necessarily a simplification and not a comprehensive statement of the law.

TABLE 2*

CATEGORY OF POLLUTANT	AIR POLLUTANT	WATER POLLUTANT	DRINKING WATER CONTAMINANT	SOLID WASTE OR HAZARDOUS WASTE	HAZARDOUS SUBSTANCE
Explosive compounds	Yes	Yes	Yes	Yes	Yes
Ammonium perchlorate	Yes	Yes	Yes	Yes	Yes
Nerve agents	Yes	Yes	Yes	Yes	Yes
Military munitions	N/A	Yes	N/A	Yes	Yes
Radionu-clides	Yes	No	Yes	No	Yes
Mixed waste	N/A	N/A	N/A	Yes	Yes
Petroleum	Yes	Yes	Yes	Yes	No
Organic solvents	Yes	Yes	Yes	Yes	Yes
PCBs	Yes	Yes	Yes	Yes	Yes
Heavy metals	Yes	Yes	Yes	Yes	Yes
Asbestos	Yes	Yes	Yes	Yes	Yes

* This Table is provided to assist the reader in applying the environmental statutory and regulatory provisions to various types of pollutants common at federal facilities. It is necessarily a simplification and not a comprehensive statement of the law.