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KNIGHTS AT THE ROUNDTABLE: PUBLIC PARTICIPATION JOINS THE BATTLE TO CLEAN-UP COLD WAR WASTE

Eileen Gay Jones*

INTRODUCTION

Public participation in environmental decision-making is largely unexplored territory for attorneys. To the extent attorneys have shown any interest in such participation, it has been limited to public access to administrative hearings,¹ the courts,² or meetings of government bodies.³ In short, most attention is focused on the notice and comment process.⁴

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1. See Administrative Procedure Act, 5 U.S.C. §§ 551-596 (1994). See also *Horn v. County of Ventura*, 596 P.2d 1134 (Cal. 1979); *Phibro Resources Corp. v. State Dep't of Env'tl. Regulation*, 579 So. 2d 118 (Fla. Dist. Ct. App. 1991).

2. See *Lujan v. Defenders of Wildlife*, 504 U.S. 555 (1992).

3. See, e.g., *Krause v. Reno*, 366 So. 2d 1244 (Fla. Dist. Ct. App. 1979).

4. See Ann Bray, Comment, *Scientific Decision Making: A Barrier to Citizen Participation in Environmental Agency Decision Making*, 17 WM. MITCHELL L. REV. 1111, 1122 (1991).

The majority of citizens become aware of an environmental issue only when their community is faced with the effects of an agency's decision to issue a permit for a landfill or other undesirable activity. At this stage in the decision making process, the facts, inferences, and assumptions, marshalled by an agency in support of its decision, take on the characteristics of an irrebuttable presumption of validity in favor of the agency - a presumption that citizens at the community level rarely have the scientific or legal expertise to challenge.

Id. at 1122. See also John Charles Sassaman, Jr., Comment, *Siting Without Fighting: The Role of Mediation in Enhancing Public Participation in Siting Radioactive Waste Facilities*, 2 ALB. L.J. SCI. & TECH. 207, 220 (1992)

In the 1980s, however, it became obvious that public participation limited to the notice and comment process could not ensure public satisfaction with the process or results.⁵ Americans increasingly demanded direct and active participation in public decision making,⁶ and in the process rejected the notion that experts and bureaucrats should hold a monopoly on environmental decisions. In the absence of public involvement, the governmental body responsible for a decision found its credibility slipping, and its legitimacy publicly questioned.⁷

"Announce and defend" environmental decision-making proved untenable, as it lacked political viability.⁸ Other research

("[P]ublic hearings are often viewed as a ritual rather than an effective way to solicit comments from the public.")

5. See DANIEL MAZEMEN & DAVID MORELL, *BEYOND SUPERFAILURE: AMERICA'S TOXICS POLICY FOR THE 1990s* 9 (1992); Susan G. Hadden, *Public Perception of Hazardous Waste*, 11 *RISK ANALYSIS* 47, 50 (1991); Robert B. Reich, *Public Administration and Public Deliberation: An Interpretive Essay*, 94 *YALE L.J.* 1617 (1985); Daniel J. Fiorino, *Environmental Risk and Democratic Process: A Critical Review*, 14 *COLUM. J. ENVTL. L.* 501, 502 (1989).

6. Environmental decision-making is inherently a political activity. See SHELDON KRIMSKY & ALONZO PLOUGH, *ENVIRONMENTAL HAZARDS: COMMUNICATING RISKS AS A SOCIAL PROCESS* 2 (1988).

7. Legitimacy of law is marked by fair decision-making processes as well as incorporation of society's conception of fairness and justice. See HERBERT JACOB, *LAW AND POLITICS IN THE UNITED STATES* (Harper Collins 1995).

The idea that a law gains legitimacy when it represents the will of the people is not new. Public participation in the formation of a policy or law ensures that it reflects the will of the people. Not allowing public participation leaves the formulation and implementation of a law open to criticism in terms of its legitimacy, and leaves the public with the impression that the government is merely imposing its will upon the people.

Sassaman, *supra* note 4, at 208. See also Bunyan Bryant, *Summary, in ENVIRONMENTAL JUSTICE: ISSUES, POLICIES, AND SOLUTIONS* 208, 212 (Bunyan Bryant ed., 1995) ("Policies may gain acceptance by community groups, particularly if such groups are involved in their formulation.")

8. See Fiorino, *supra* note 5, at 502. See also Elaine Hiruo, *Consensus-Building Produces New Dawn For Public Involvement*, *NUCLEONICS WEEK*, Apr. 22, 1993, available in 1993 WL 2420988.

indicates that citizens and academics view environmental decisions as value-laden;⁹ therefore, leaving such decisions in the hands of scientists, engineers, or bureaucrats is frequently rejected.¹⁰ The 1980s gave witness to public agitation in the face of decisions reached without full public input. Protests persisted over highway expansion,¹¹ siting of low-level radioactive waste facilities,¹² ethanol rulemaking,¹³ hazardous waste characterization,¹⁴ animal extinction,¹⁵ and oil rigs in lakes.¹⁶ In the absence of effective public participation laws, a dissatisfied populace will turn to other forms of political expression and redress, most frequently litigation.¹⁷ Yet litigation implies high costs and ineffi-

9. See, e.g., SHEILA JASANOFF, *SCIENCE AT THE BAR: LAW, SCIENCE AND TECHNOLOGY IN AMERICA* 65 (1995); Fremont J. Lyden et al., *Citizen Participation in Long-Range Planning: The RPA Experience*, 30 NAT. RESOURCES J. 123 (1990) (planning decisions affected by decision-maker's values). See generally L. GRAHAM, *BETWEEN SCIENCE AND VALUES* (1981). Proponents of environmental justice argue that more public involvement is needed as mainstream environmental organizations have been criticized for their lack of democracy. See WILLIAM TUCKER, *PROGRESS AND PRIVILEGE: AMERICA IN THE AGE OF ENVIRONMENTALISM* 37-38 (1992). Moreover, critics have noted that the environmental agenda reflects only middle-class concerns, and cooperativeness with corporate America. See PHILIP SHABECOFF, *A FIERCE GREEN FIRE: THE AMERICAN ENVIRONMENTAL MOVEMENT* 282-83 (1993).

10. Jasanoff explains that American political culture rejects expert decision-making. See Sheila Jasanoff, *American Exceptionalism and Political Culture*, 119 DAEDALUS 77 (Fall 1990) [hereinafter *American Exceptionalism*].

11. Sally Hicks, *Quality of Life Debate Follows Duraleigh Link*, NEWS & OBSERVER (Raleigh, NC), July 31, 1995, at A1.

12. See Richard R. Zuercher, *Pennsylvania Scraps Coerced LLW Siting Plan for Voluntary Process*, NUCLEONICS WEEK, Aug. 3, 1995, at 2.

13. See Stephen Green, *Suit Accuses State Leader of Secret Tie to Oil Lobby*, SACRAMENTO BEE, Aug. 24, 1995, at A1.

14. See Chris Bowman, *Suit Lost on Toxics at Base McClellan Area: Group "Satisfied" with Cleanup*, SACRAMENTO BEE, Oct. 3, 1995, at B1.

15. See *Suit: U.S. Delay Moves Fish Towards Extinction*, TIMES-PICAYUNE (New Orleans), June 3, 1995, at A6.

16. See Chris Gray, *Oil vs. Water: Wildcatter Takes on Pontchartrain Ban*, TIMES-PICAYUNE (New Orleans), June 11, 1995, at A1.

17. See Mimi Larsen Becker, *The International Joint Commission and Public Participation: Past Experiences, Present Challenges, Future Tasks*, 33

ciencies which have been extensively documented.¹⁸ Despite the public backlash to "announce and defend" decision-making, some scholars are advocating less public participation in environmental decision-making,¹⁹ implicitly rejecting the value of public participation laws and regulations.

The Fernald Environmental Management Project ("Fernald"), presently overseen by the United States Department of Energy ("DOE") exemplifies the public participation of the prehearing stages of environmental policy formation. Fernald is one of about twenty installations at which nuclear weapons and their components were processed in support of the Cold War buildup.²⁰ Over one billion cubic feet of federal-facility²¹ hazard-

NAT. RESOURCES J. 235, 240 (1993); cf. Marianne Dugan, *Citizen Participation in Wetlands Planning in the Pacific Northwest*, 9 J. ENVTL. L. & LITIG. 29, 32-33 (1994) (showing that federal agencies' failure to engage public in wetlands regulation promulgation has resulted in litigation). Documenting some of the history of public participation in land usage regulation, Zygmunt J. B. Plater notes that when "public debate on federal clear-cutting programs was not possible, the public-interest citizens could either go home or go to court. As in so many other tough issues, they chose the latter." Zygmunt J.B. Plater, *From the Beginning, A Fundamental Shift of Paradigms: A Theory and Short History of Environmental Law*, 27 LOY. L.A. L. REV. 981, 989 (1994).

18. See, e.g., Becker, *supra* note 17, at 240; Richard J. Lazarus, *The Tragedy of Distrust in the Implementation of Federal Environmental Law*, 54 LAW & CONTEMP. PROBS. 311, 355 (1991) (citing JAMES Q. WILSON, BUREAUCRACY: WHAT GOVERNMENT AGENCIES DO AND WHY THEY DO IT (1990)).

19. Justice Breyer, for example, argues that environmental decisions should be made by an elite group of bureaucrats. See STEPHEN BREYER, *BREAKING THE VICIOUS CYCLE* 61 (1993); see also Frank B. Cross, *The Public Role in Risk Control*, 24 ENVTL. L. 888, 950-58 (1994) (arguing that only public perception validated by mainstream science should affect public environmental decisions).

20. See CLEANING UP THE DEPARTMENT OF ENERGY'S NUCLEAR WEAPONS COMPLEX, A CONGRESSIONAL BUDGET OFFICE STUDY, May 1994, at 1 [hereinafter CBO STUDY]. There are over 2,000 federal facilities in the United States, many of which contain used or decaying nuclear and conventional weapons, and their by-products from production. Much of this waste is toxic or suspected to be toxic. GENERAL ACCOUNTING OFFICE ("GAO"), *FEDERAL FACILITIES: CONSISTENT RELATIVE RISK EVALUATIONS NEEDED FOR PRIORITIZING CLEANUPS* 2-3 (June 1996). Fifteen facilities are

ous and radioactive waste was disposed of at federal facilities from the 1940s to the 1980s.²² At the fifteen major facilities there are over one hundred million gallons of highly radioactive waste, sixty-six million gallons of waste contaminated with plutonium, and larger volumes of waste with lower levels of radioactivity.²³ Estimates of the cost of cleanup vary widely, from hundreds of billions to one trillion dollars.²⁴ This does not account for the waste produced by commercial nuclear power plants.²⁵

The decision-making process at the Fernald facility, in contrast to processes used at other federal facilities,²⁶ has proven relatively successful. Fernald decision-makers have evaluated how to control ongoing risk, and have completed most of the long-term cleanup plans.²⁷ The program at Fernald is far from ideal. However, in comparison to other large-scale, long-term, environmentally hazardous sites, it presents a model for making politically viable cleanup decisions.²⁸

considered by DOE to be "major." Those are located in twelve states. CBO STUDY, *supra*, at ix.

21. Federal facilities are those owned or operated by a federal agency. See Nelson D. Cary, Note, *A Primer on Federal Facility Compliance with Environmental Laws: Where Do We Go From Here?*, 50 WASH. & LEE L. REV. 801, 801 (1993).

22. See Scott Sonner, *Nuclear Cleanup Crews Resist New Technology*, TIMES-PICAYUNE (New Orleans), Sept. 1, 1994, at A14.

23. See CBO STUDY, *supra* note 20, at 1.

24. See *infra* note 106. A similar problem exists with respect to nuclear energy decommissioning, an issue America will face in the twenty-first century as many facilities will undergo the process of decommissioning. Estimates for decommissioning nuclear energy plants run between millions to billions of dollars. For further information, see CYNTHIA POLLOCK, *DECOMMISSIONING NUCLEAR POWER'S MISSING LINK* 69 (Worldwatch Paper 1986).

25. For further information on nuclear waste disposal, see *Nuclear Waste Disposal: A Symposium*, 53 TENN. L. REV. 475 (1986).

26. See generally CONGRESSIONAL BUDGET OFFICE, *ENVIRONMENTAL CLEANUP ISSUES ASSOCIATED WITH CLOSING MILITARY BASES 2* (1992) (only three percent of sites completely closed).

27. See SALLY O'CONNOR ET AL., XAVIER UNIV. OF LA., *INVENTORY OF PUBLIC CONCERNS AT THE FERNALD ENVIRONMENTAL MANAGEMENT PROJECT 4-3* (4 CERE Public Concerns Report, Dec. 1995) [hereinafter CERE PUBLIC CONCERNS].

28. For a discussion of programs that have not promoted meaning-

This Article examines public participation as it occurs in the prehearing stage of environmental policy formation. It considers what facilitated the Fernald decision-making process. Part I of this Article focuses on limitations to the doctrine of sovereign immunity which had historically insulated federal agencies from compliance with environmental law. Part II focuses on public participation law. Part III presents an historical background to the Fernald facility. Part IV provides an analysis of the policy formation process used at Fernald. This Article concludes that substantial public involvement in policy formation and decision-making ensures stable and acceptable decisions in the context of remediating high-risk, large-scale environmental hazards.

I. SOVEREIGN IMMUNITY AND FEDERAL AGENCY COMPLIANCE WITH ENVIRONMENTAL LAW

Federal law is designed to ensure that waste falling within the definition of "hazardous" will be properly treated and stored.²⁹ The so-called "cradle-to-grave" approach is codified in the Resource Conservation and Recovery Act ("RCRA").³⁰ Cleanup of hazardous waste caused by past practices is governed by the Comprehensive Environmental Response, Compensation, and Liability Act ("CERCLA").³¹ In 1986, Congress amended CERCLA to include what is commonly known as "Superfund,"³² which created a fund for the cleanup of CERCLA sites.³³

DOE was slow and reluctant in complying with federal environmental laws.³⁴ In particular, it resisted state regulations, which in

ful public participation, see Owen Olpin, *Toward Jeffersonian Governance of the Public Lands*, 27 *LOY. L.A. L. REV.* 959 (1994).

29. See, e.g., 135 *CONG. REC.* H3893-3902, H3902.

30. 42 U.S.C. §§ 6901-6992 (1994). RCRA's primary purpose is to enforce safety standards in the production and management of hazardous waste.

31. 42 U.S.C. §§ 9601-9675 (1994).

32. 42 U.S.C. §§ 9601-9675 and scattered sections of Titles 26, 33, and 49 of the United States Code.

33. Federal facilities cleanup is not financed through Superfund monies. Congress appropriates funds for each installation. See, e.g., 42 U.S.C. § 9620(e)(3).

34. For example, at Fernald in 1995, DOE attempted to

some cases provided stricter standards than federal law.³⁵ In a series of decisions in the 1970s through the end of 1992, federal courts supported DOE's position that the doctrine of sovereign immunity shielded it from compliance with agency regulations.³⁶ The debate over DOE compliance with state and federal environmental laws³⁷ was largely settled by the enactment of two federal laws: the Environmental Restoration and Management provisions of the National Defense Authorization Act ("NDAA"),³⁸ and the

recharacterize waste in order to avoid RCRA compliance. This was at the same time that EPA had designated Fernald as the worst emitter of radionuclides in the nation. *See infra* Part III.

35. Under the federal environmental laws, compliance with state environmental law will satisfy the federal requirements when the state regulations are more stringent than the federal regulations. *See* Federal Water Pollution Control Act, 33 U.S.C. § 1370 (1994) (stating that state law is not preempted unless it is less stringent than federal standards). Federal facilities are required to follow the applicable state regulations when they apply; CERCLA, 42 U.S.C. § 9620(a)(4) (stating that federal law applies to federal facilities provided that the facility is not on the National Priority List and the standards are not more stringent than those applicable to non-federal facilities); *see also* Clean Air Act ("CAA"), 42 U.S.C. § 7416 (1994) (stating that state law is not preempted by the CAA except in limited circumstances).

36. *See* United States Department of Energy v. Ohio, 503 U.S. 607 (1992) (denying RCRA state-imposed penalty); *Gwaltney of Smithfield, Ltd. v. Chesapeake Bay Found., Inc.*, 484 U.S. 49 (1987) (holding no fines or penalties may be imposed for isolated or sporadic violations of RCRA); *Hancock v. Train*, 426 U.S. 167, 178-79 (1976) (citing *M'Culloch v. Maryland*, 4 Wheat. 316, 426 (1819)); *Mitzelfelt v. Department of Air Force*, 903 F.2d 1293 (10th Cir. 1990) (shielding Air Force from following New Mexico's hazardous waste law under doctrine of sovereign immunity; holding § 6001 of RCRA did not waive sovereign immunity to state-imposed penalties); *United States v. State of Washington*, 872 F.2d 874 (9th Cir. 1989) (denying fines or penalties for isolated or sporadic violations of RCRA); *McClellan Ecological Seepage Situation v. Weinberger*, 655 F. Supp. 601 (E.D. Cal. 1986) (upholding Clean Air Act penalties; denying RCRA and Federal Water Pollution Control Act penalties).

37. Under CERCLA and the federal compliance agreements, DOE must follow all "applicable or relevant and appropriate requirements," known by the acronym "ARAR." 40 C.F.R. § 300.430(e)(2)(1)(A) (1995).

38. 42 U.S.C. § 7274a-1 (Supp. V 1993).

Federal Facilities Compliance Act ("FFCA").³⁹ Under NDAA, DOE is required to prepare an annual report for each facility which needs remediation and to outline a restoration plan which complies with all environmental laws.⁴⁰ In turn, section 120 of CERCLA requires DOE to negotiate with EPA and the host state or states as to the terms of an environmental restoration plan of action which the parties memorialize in a compliance agreement or compliance order.⁴¹ FFCA was designed to ensure that federal agencies would comply with state environmental laws. In particular, it seeks to enhance a state's power to fine violators and enforce compliance.⁴²

DOE, EPA, and the Ohio Environmental Protection Agency ("Ohio") negotiated and executed a series of compliance agreements which govern Fernald.⁴³ These agreements have been periodically revised, and at times have been the subject of litigation which resulted in compliance orders or additional agreements.⁴⁴

39. 42 U.S.C. § 6961 (1994) (amendment to RCRA). In signing the FFCA into law, President George Bush stated that it was designed "to bring all Federal facilities into compliance with applicable federal and state hazardous waste laws, to waive federal sovereign immunity under those laws, and to allow the imposition of fines and penalties." Statement by President Bush Upon Signing, H.R. 2194, *reprinted in* 1992 U.S.C.C.A.N. 1337.

40. 42 U.S.C. § 7274g (1994). This section provides, *inter alia*, that "the plan shall include . . . [a] description of the actions, including identification of specific projects, necessary to maintain or achieve compliance with Federal, state, or local environmental laws, regulations, permits, orders, or agreements." *Id.*

41. *Id.* § 9620.

42. There is also one Executive Order governing federal facility compliance with environmental laws. Executive Order No. 12,088, 3 C.F.R. § 243 (1979), *reprinted as amended in* 42 U.S.C. § 4321 (1994), requires referral of inter-agency conflicts over environmental law compliance to the Office of Management and Budget (OMB) for resolution.

43. See CERE PUBLIC CONCERNS, *supra* note 27, at 2-5.

44. The original CERCLA agreement became effective on April 9, 1990. Adm. Doc. No. V-W-90-C-057. This agreement was amended as of September 20, 1991. In essence, this is the primary cleanup agreement, which includes the Remedial Investigation / Feasibility Study ("RI/FS") schedule for the five operable units ("OUS") located on the facility. Adm. Doc. No. V-W-90-C-057. The RCRA compliance agreements may be found under Adm. Doc. No. RCRA V-W89-R-II.

The compliance agreements governing Fernald require DOE to comply with all relevant environmental laws and to develop comprehensive public participation programs.⁴⁵ The compliance agreements also provide schedules for key events in the decision-making process, ranging from the time period for deciding what potentially should be considered in risk assessment studies, to deadlines for debating alternative cleanup proposals, to a time frame in which a Record of Decision ("ROD") must be reached.

II. PUBLIC PARTICIPATION LAW

Public participation law exists in labyrinthine form: its requirements appear in CERCLA,⁴⁶ RCRA,⁴⁷ and NDAA,⁴⁸ as well as in the administrative regulations that accompany the statutes.⁴⁹ Under CERCLA, each unit on a Superfund site must be characterized for risk during a Remedial Investigation ("RI").⁵⁰ A Feasibility Study ("FS") is then completed to consider both the engineering/technical feasibility of the work as well as the cost.⁵¹ The evaluating agency will usually indicate its preferred cleanup alternative for each operable unit ("OU").⁵² After the RI/FS studies are completed and the alternative cleanup options chosen,⁵³ CERCLA guarantees public access to and input into the decision-making process (the "notice and comment" period).⁵⁴ Once an agency has considered the public's input, it makes a cleanup decision and memorializes the decision in a ROD.⁵⁵ Without additional public participation law, the public only has access to the record prior to the announcement of the agency-preferred option; there is no other guarantee that government officials will

45. See *infra* Part II.

46. 42 U.S.C. §§ 9601-9675 (1994).

47. 42 U.S.C. §§ 6901-6992 (1994).

48. 42 U.S.C. § 7274a-1.

49. See, e.g., 40 C.F.R. § 300.430 (1995).

50. 42 U.S.C. § 9620(e).

51. 40 C.F.R. § 300.430 (1995).

52. See *id.* An OU "encompasses a discrete set of facilities or related problems. CERE PUBLIC CONCERNS, *supra* note 27, at 2-6.

53. See 40 C.F.R. § 300.430 (1995).

54. See 42 U.S.C. § 9617.

55. See *id.*

entertain or respond to the public's comments.⁵⁶ In short, by the time the public becomes involved, many important decisions will already have been reached.⁵⁷ Thus, momentum will greatly favor the agency's proposed alternative.⁵⁸

Recognizing that the notice and comment period is no longer sufficient,⁵⁹ EPA has promulgated regulations designed to force agencies to more actively engage the public at earlier stages of the decision-making process.⁶⁰ Under EPA regulations, prior to the notice and comment period for the RI/FS, the public is included in scoping and risk assessment activities pursuant to a Community Relations Plan ("CRP"). That is, EPA gives the public an opportunity to define the risks to be analyzed, and the testing or studying methodology to be used.⁶¹ CRPs require an aggressive and affirmative approach to public participation.⁶² EPA

56. See 42 U.S.C. § 9613(k); cf. *United States v. Amtreco, Inc.*, 806 F. Supp. 1004 (M.D. Ga. 1992) (holding that because no regulations had been promulgated, public participation process cannot be enforced).

57. Scientists may not choose the same question or series of questions of importance to the public. See Lawrence Susskind & Alan Weinstein, *Towards a Theory of Environmental Dispute Resolution*, 14 LAND USE & ENV'T L. REV. 433, 446-47 n.42 (1983).

58. See, e.g., WADE S. ROBISON, DECISIONS IN DOUBT: THE ENVIRONMENT AND PUBLIC POLICY 62-66 (1994). See also Kent E. Portney, *Public Environmental Policy Decision Making: Citizen Roles*, in ENVIRONMENTAL DECISION MAKING: A MULTIDISCIPLINARY PERSPECTIVE (Richard A. Chechile & Susan Carlisle eds., 1991).

59. Public participation limited to notice and comment periods and rule making hearings has been highly criticized. See generally Barry Checkoway, *The Politics of Public Hearings*, 17 J. APPLI. BEHAV. SCI. 566 (1987); Ned Crosby et al., *Citizen Panels: A New Approach to Citizen Participation*, 46 PUB. ADMIN. REV. 170 (1986); Roger C. Cramton, *The Why, Where, and How of Broadened Public Participation in the Administrative Process*, 60 GEO. L.J. 525 (1972). See also Bray, *supra* note 4, at 1134 (indicating that only a minority of cities surveyed thought meetings influenced agency decision-making, but at the same time, citizens thought they were a good way to educate the public).

60. See 40 C.F.R. § 300.430 (1995).

61. See *id.* § 35.6105(a)(2)(iv).

62. Additional regulatory guidance is found in EPA's COMMUNITY RELATIONS IN SUPERFUND: A HANDBOOK (EPA/540/R-921009; NTIS No. PB92-963341, Jan. 1992), and EPA's RCRA PUBLIC INVOLVEMENT MANUAL

actively seeks stakeholder input,⁶³ and employs a variety of information mechanisms.⁶⁴ DOE has agreed to follow this process in the federal facilities compliance agreements.⁶⁵

RCRA also recommends public participation in cleanup plans.⁶⁶ EPA, in promulgating rules to effect public participation, requires that federal agencies maintain a list of interested and affected parties ("IAPs"), provide notification of meetings, notify the public of any significant decision under consideration, and provide information about significant decisions.⁶⁷ In the case of DOE facilities, the compliance agreements governing cleanup also incorporate the mandated use of EPA's Community Relations Handbook ("Handbook").⁶⁸ Pursuant to the Handbook, federal agencies assume an affirmative duty to seek out IAPs as well as permit input from the public at the earliest stage it notes interest.⁶⁹ In addition, under NDAA, DOE must "consult" with "interested members of the public" about its annual environmental restoration reports.⁷⁰ Thus, because of federal statutory law, EPA regulations, and the compliance agreements between DOE, EPA, and the host state or states, public participation at

(EPA/530/R-931006; NTIS No. PB93-231066, Sept. 1993).

63. COMMUNITY RELATIONS IN SUPERFUND: A HANDBOOK, *supra* note 62, at 7.

64. Information "developed, received, published, or made available to the public must be accessible for public inspection." *Id.*

65. Each federal facility is governed by at least one agreement or compliance order designed to enforce cleanup. These are mandated under the FFCA, 42 U.S.C. § 9620(e)(2).

66. "Public participation in the development, revision, implementation, and enforcement of any regulation, guideline, information, or program under this chapter shall be provided for, encouraged, and assisted by the Administrator [of EPA] and the States. The Administrator, in cooperation with the States, shall develop and publish minimum guidelines for public participation in such processes." *Id.* § 6974(b).

67. *See* 40 C.F.R. §§ 25.1-4 (1995). EPA also promulgated suggestions for public participation. *See id.* § 25.5-.6 (1995).

68. *See* CERE PUBLIC CONCERNS, *supra* note 27, at 2-5. *See also id.* at 2-6 to 2-10 (discussing public participation requirements under the various federal laws at Fernald).

69. UNITED STATES DEP'T OF ENERGY, COMMUNITY RELATIONS PLAN 24 (Sept. 1994).

70. 42 U.S.C. § 7274(k) (1994).

federal facilities is designed to be early, frequent, and meaningful.

III. THE COLD WAR'S HALF-LIFE: THE LEGACY OF NUCLEAR PRODUCTION WASTE

The history of nuclear weapons facilities began with the Cold War.⁷¹ Nuclear weapons were produced in this country from the 1940s through the 1980s.⁷² In most instances, bomb production facilities were in rural or non-residential areas, far from large population centers.⁷³ Fernald is atypical, given its close proximity to Cincinnati, which is approximately seventeen miles from the gates of the facility.⁷⁴ It is also unlike most other federal facilities in that it rests on a relatively small area of land, 1,050 acres housing approximately 100 buildings.⁷⁵ The surface, groundwater, soil, and air around the facility are contaminated.⁷⁶ Wastes, left-over processing materials, and structures may pose human and ecological health risks.⁷⁷ Uranium processing wastes, low-level radiation, and mixed wastes are the primary concern for the public.⁷⁸

DOE is responsible for the management of Fernald.⁷⁹ DOE and its predecessor organization, the Atomic Energy Commis-

71. The origin of the term "Cold War" is not known. Hugh Brogan suggests that it was coined by journalist Walter Lippman. See HUGH BROGAN, *THE PENGUIN HISTORY OF THE UNITED STATES OF AMERICA* 602 n.1 (1985).

72. See generally CBO STUDY, *supra* note 20, at 1.

73. In comparison, Hanford Reservation encompasses approximately 353,000 acres in rural Washington. See Shauna Marie Whidden, *The Hanford Reach: Protecting the Columbia's Last Safe Haven for Salmon*, 26 ENVTL. L. 265, 266 (1996). Colten and Skinner note that federal facilities were usually located in isolated areas. CRAIG E. COLTEN & PETER N. SKINNER, *THE ROAD TO LOVE CANAL* 59 (1996).

74. See CERE PUBLIC CONCERNS, *supra* note 27, at 3-20.

75. See *id.* at 2-1.

76. See Anne Willette, *Court to Mull State's Right to Punish Agencies*, USA TODAY, Dec. 2, 1991, at 10A.

77. See *id.*

78. See CERE PUBLIC CONCERNS, *supra* note 27, at 2-4.

79. See generally Michael D'Antonio, *Scars and Secrets: The Atomic Trail*, L.A. TIMES, Mar. 20, 1994 (Magazine), at 14.

sion,⁸⁰ were veiled in secrecy for about forty years prior to the transformation of the Soviet Union in 1991.⁸¹ Thus, Fernald was largely a mystery to local citizens until the late 1980s or early 1990s.⁸² Some local citizens believed that Fernald produced feed for livestock, as Fernald was known as the Feed Material Production Center in the early years.⁸³ The "feed" was, in fact, processed uranium used in nuclear weapons as part of the Cold War military buildup.⁸⁴ Though Fernald was gated and access was restricted, cows were left to graze around the perimeter of the facility, lending a bucolic look to the semi-rural area.⁸⁵

By the 1980s, area residents were worried about what they perceived to be inordinately high rates of cancer among the local residents.⁸⁶ Some pondered whether there was a causal nexus between what was perceived to be a high rate of cancer and the condition of the natural environment.⁸⁷ Fernald workers returned home to their families, recounting the day's events which included such incidents as workers being covered with radioactive dust,⁸⁸ or buckets being used to control a leakage of uranyl

80. DOE was established in 1977 by President Jimmy Carter. Prior to its formation, the Atomic Energy Commission was responsible for the weapons production facilities.

81. See generally H.L. NIEBURG, *NUCLEAR SECRECY AND FOREIGN POLICY* (Public Affairs, 1964). The culture of DOE was one of secrecy and the process of making policy can be described as "decide, announce and defend." *Slants and Trends*, NUCLEAR WASTE NEWS, Apr. 22, 1993, available in 1993 WL 2753926. See also CBO STUDY, *supra* note 23, at 5. With the appointment of Secretary Hazel O'Leary, DOE was charged with changing its historical approach to one which was much more open and inclusive of the public. *Prepared Statement of Richard J. Guimond, Rear Admiral, USPHS, Principal Deputy Assistant Secretary For Environmental Management, U.S. Dep't of Energy; Before the Subcommittee on Energy and Environment of the Committee on Science, Before the U.S. House of Representatives*, Feb. 14, 1995, available in 1995 WL 59175.

82. See CERE PUBLIC CONCERNS, *supra* note 27, at 4-3, 4-4, 4-5.

83. See D'Antonio, *supra* note 79, at 14.

84. See CERE PUBLIC CONCERNS, *supra* note 27, at 2-1.

85. See *id.*

86. See *id.* at 4-5.

87. See *id.*

88. See Laurie Garrett, *Uncle Sam's Hot Spot; Troubles at a Vital Federal Nuclear Plant*, WASH. POST, July 28, 1985 (Magazine), at 6.

nitrate hexahydrate.⁸⁹

As the Cold War came to a close in the 1980s, more information began to leak out about the installation. For example, in 1984, the public learned of the release of 300 pounds of uranium.⁹⁰ Although DOE initially denied the release, it was later found to have contaminated three local drinking wells.⁹¹ In addition, DOE disclosed that approximately 383,000 pounds of uranium were released into the air and water during its thirty-one years of operation.⁹² In 1990, DOE agreed to supply local residents with bottled water in response to concerns that local drinking water supplies had been contaminated.⁹³

By 1989, Fernald had ceased production,⁹⁴ and was placed on the National Priorities List ("NPL"),⁹⁵ a list of Superfund sites requiring long-term remedial cleanup.⁹⁶ However, there was little cleanup progress between the time production ceased until about 1992. As summarized in a 1991 Senate Committee Report:

Progress in cleaning up the waste and contamination at the weapons complex is being hampered by a paucity of data and qualified personnel, inadequate efforts to assess possible off-site health impacts, lack of ready technical solutions, and public skepticism about government agency decisions. . . . Even the meaning of cleanup is not fully understood . . . [DOE cleanup progress lacks] credibility and capability.⁹⁷

By 1995, however, substantial progress had been made at Fernald. The RI/FS had been completed for four of the five

89. See Paul Barton, *Fernald Contractor Gets Slap For Diluted Uranium Spill*, CINCINNATI ENQUIRER, July 13, 1993, at B01. See also Katherine Rizzo, *Fernald Had Bucket Brigade For Spill*, PLAIN DEALER (Cleveland), July 13, 1993, at 3B.

90. See Garrett, *supra* note 88, at 6.

91. See *id.*

92. See *id.*

93. See CERE PUBLIC CONCERNS, *supra* note 27, at 4-5, 4-6.

94. See *id.* at 4-2.

95. See Federal Agency Hazardous Waste Compliance Docket, 54 Fed. Reg. 51,472 (1989).

96. 42 U.S.C. § 9605.

97. OFFICE OF TECHNOLOGY ASSESSMENT, COMPLEX CLEANUP: THE ENVIRONMENTAL LEGACY OF NUCLEAR WEAPONS, REPORT TO SENATE ARMED SERVICES COMMITTEE (Feb. 8, 1991).

OUs;⁹⁸ three OUs had passed through the ROD process;⁹⁹ and preliminary land use decisions had been made.¹⁰⁰ In contrast, many other facilities have not even passed through the RI/FS process.¹⁰¹ Unlike Fernald, most facilities have only been managing and studying waste and hazards rather than making decisions about how best to clean these facilities.¹⁰² Accordingly, projected costs of cleanup continue to escalate while the hazards persist.¹⁰³

Our children and their children's children will confront the danger of the Cold War buildup, as radioactive waste continues to be hazardous for thousands of years.¹⁰⁴ They will also face the costs for these facilities. Federal nuclear waste facilities cost more to run today and usually employ more personnel than they did during production years.¹⁰⁵ The estimated cleanup costs vary widely, but all are now in the billions of dollars.¹⁰⁶ America has

98. See CERE PUBLIC CONCERNS, *supra* note 27, at 2-6, 4-2.

99. See *id.* at 4-3.

100. See *id.* at 4-2.

101. See *id.* at 4-3.

102. "The Energy Department has spent \$23 billion over the past five years to clean up nuclear waste sites, but little cleanup has resulted." Sonner, *supra* note 22, at A14.

103. See Garrett, *supra* note 88, at 6.

104. See ENVIRONMENTAL LAW: FROM RESOURCES TO RECOVERY 561-62 (Celia Campbell-Mohm et al. eds., 1993). Plutonium-239, for example, has a half life of 24,400 years. See THOMAS J. SCHOENBAUM & RONALD H. ROSENBERG, ENVIRONMENTAL POLICY LAW 784 (1996).

105. See, e.g., John H. Cushman, Jr., *Nuclear Arms Cleanup Plan Is Impossible, Senators Say*, N.Y. TIMES, Mar. 15, 1995, at A22 (discussing the Hanford Nuclear Reservation). "The cleanup effort there employs 18,000 people, far more than ever worked there building nuclear bombs, and has cost \$7.5 billion so far, but has accomplished little permanent cleanup and has barely begun to address the most severe problems at the site." *Id.*

106. A sample of estimates shows the scope of the problem: In 1988, DOE estimated cleanup costs at \$66 to \$110 billion. In 1992 the General Accounting Office ("GAO") estimated cleanup costs at \$66 to \$110 billion. See CLEANUP TECHNOLOGY: BETTER MANAGEMENT FOR DOE'S TECHNOLOGY DEVELOPMENT PROGRAM 1 (GAO/RCED-92-145, Apr. 1992). By 1993, this estimate had increased from \$400 billion to \$1 trillion. See CBO STUDY, *supra* note 20, at 1. In 1994 the General Accounting Office estimated total cleanup costs at \$300 billion. Sonner, *supra* note 22, at A14. The total cost of DOE facility cleanup was estimated at \$600 billion in 1993. See *New Public Participation Planning Teams at Core of DOE*

yet to remediate a facility such that its citizens can be reasonably assured that it does not present a risk to the public, or that the level of risk is acceptable. In many ways Fernald presents the most promising case, as the risks are at least currently under control, and plans have been accepted by the public for future long-term cleanup.¹⁰⁷ The history of public participation at Fernald centers on one activist organization, the Fernald Residents for Environmental Safety and Health ("FRESH").¹⁰⁸ Since its founding in 1984, FRESH has been the most vocal and active player in public participation at Fernald.¹⁰⁹ Since 1992, FRESH has worked with the local DOE to devise cleanup options acceptable to both parties.¹¹⁰

IV. ANALYSIS

Transforming the relationship between FRESH and DOE required overcoming two fundamental obstacles: public perception about the health risks associated with radioactive waste¹¹¹ and distrust of DOE that had festered over the course of forty years.¹¹² In general, the public¹¹³ fears radioactive waste and its consequences:¹¹⁴ catastrophe, cancers, and even the adverse health ef-

Cleanup Efforts, Official Says, [Current Dev.] 23 Env't Rep. (BNA) 3049, 3049 (Mar. 26, 1993).

107. See CERE PUBLIC CONCERNS, *supra* note 27, at 4-3, 4-8, 4-9.

108. See FERNALD COMMUNITY RELATIONS PLAN 1994 (addressing how DOE has attempted to solicit public participation) [hereinafter COMMUNITY RELATIONS PLAN].

109. See CERE PUBLIC CONCERNS, *supra* note 27, at 4-2, 4-3.

110. See generally COMMUNITY RELATIONS PLAN, *supra* note 108.

111. See *id.*

112. See *id.*

113. "The public" are those who are not educated or employed as scientists or engineers. The use of the word "public" and "publics" are being used interchangeably in this Article. The author wishes to note, however, that these terms are largely an abstraction, and do not adequately describe the range of opinions and groups present in society. A more detailed analysis is beyond the scope of this Article. For further reading, see Norman Wengert, *Environmental Policy and Political Decisions: The Reconciliation of Facts, Values and Interests*, in POLITICS AND ECOLOGY 40, 45 (Phillip O. Foss ed., 1992).

114. See Paul Slovic et al., *Lessons from Yucca Mountain*, 33 ENV'T 7, 28 (1991); see also Paul Slovic, *Perception of Risk*, 236 SCI. 280 (1987);

fects of small or limited exposures to radioactive waste.¹¹⁵

At Fernald, the public felt that it had been involuntarily exposed to life-threatening and quality-of-life risks.¹¹⁶ It was doubtful about DOE's credibility; indeed, managers of nuclear waste are generally not trusted.¹¹⁷ For decades, the public had not participated in bureaucratic decisions which it felt adversely impacted the local community.¹¹⁸ DOE's reluctance to follow environmental laws imposed on the private sector further undermined its credibility.¹¹⁹ Finally, once DOE began to acknowledge its responsibility under environmental laws, it was unable to meet all the deadlines scheduled under the compliance agreements.¹²⁰

To move the environmental decision-making process forward, DOE Fernald was charged with establishing a relationship based on trust with the local active public. DOE also had to allay public fears about the risks posed by the contamination, caused by the installation or by DOE's activities.¹²¹ Thus, the local DOE's task

Richard Wilson & E.A.C. Crouch, *Risk Assessment and Comparisons*, 236 SCI. 267 (1987).

115. Scientists are generally less alarmed about the health risks posed by radioactive waste. See Jeff Wheelwright, *Atomic Overreaction*, ATLANTIC MONTHLY, Apr. 1995, at 26; James Flynn et al., *Decidedly Different: Expert and Public Views of Risks from A Radioactive Waste Repository*, 13 RISK ANALYSIS 771 (1994); Peter M. Sandman et al., *Agency Communication, Community Outrage, and Perception of Risk: Three Simultaneous Experiments*, 12 RISK ANALYSIS 585, 585 (1993).

116. See CERE PUBLIC CONCERNS, *supra* note 27, at 4-8, 5-10, 5-11. Risk assessment literature indicates that the public will more likely reject information concerning involuntary risks than those undertaken voluntarily. See generally Paul Slovic, *Perceived Risk, Trust, and Democracy*, 13 RISK ANALYSIS 675, 676 (1993).

117. See Slovic et al., *supra* note 114, at 7.

118. See CERE PUBLIC CONCERNS, *supra* note 27, at 2-1, 4-8.

119. See *id.* at 2-5, 2-6.

120. Whether or not the deadlines were realistic, given the state of science and technology as well as the political climate goes beyond the scope of this Article. However, it is apparent that the public was usually displeased when deadlines were not met. See *id.* at 4-9.

121. Contemporary public participation research has documented the indispensable role of trust in government-sponsored public participation programs. See, e.g., L. Robin Keeler & Rakesh K. Sarin, *Fair*

was largely to assure the public that it was no longer cloaked in secrecy¹²² and that it did not operate outside of the law.¹²³ Yet, public risk perception coupled with DOE's forty-year history of secrecy, almost guaranteed that the public would not easily accept policy decisions¹²⁴ with respect to risk assessment and remediation.¹²⁵

Processes for Societal Decisions Involving Distributional Inequalities, 15 RISK ANALYSIS 49-59 (1995); DANIEL A. MAZMANIAN & JEANNE NIENABER, CAN ORGANIZATIONS CHANGE? (The Brookings Institute, 1994); Becker, *supra* note 17, at 235; IAN AYRES & JOHN BRAITHWAITE, RESPONSIVE REGULATION: TRANSCENDING THE DEREGULATION DEBATE (Oxford University Press, 1992); Paul Slovic et al., *supra* note 114, at 7; Fremont J. Lyden et al., *Citizen Participation in Long-Range Planning: The RPA Experience*, 30 NAT. RESOURCES J. 123 (Winter 1990).

122. Open government is a hallmark of legitimacy in the American conception of democracy. See generally RICHARD J. PIERCE, JR. ET AL., ADMINISTRATIVE LAW AND PROCESS 23-28 (1992).

123. See Richard N.L. Andrews, *Risk Assessment: Regulation and Beyond*, in ENVIRONMENTAL POLICY IN THE 1990s 167-86 (Norman J. Vig & Michael E. Kraft eds., 1990) (emphasizing the importance of open communication). See also John S. Applegate, *Worst Things First: Risk, Information, and Regulatory Structure in Toxic Substance Control*, 9 YALE J. ON REG. 277, 322 n.236 (citing *Weyerhaeuser Co. v. Costle*, 590 F.2d 1011, 1030-31 (D.C. Cir. 1978)); *United States v. Nova Scotia Food Prods. Corp.*, 568 F.2d 240, 251-52 (2d Cir. 1977); *Portland Cement Ass'n v. Ruckelshaus*, 486 F.2d 375, 392-93 (D.C. Cir. 1973), *cert. denied*, 417 U.S. 921 (1974) ("[A]n agency must make full disclosure of its data and reasons to facilitate meaningful comment").

124. See Baruch Fischhoff et al., *The Public vs. "The Experts": Perceived vs. Actual Disagreements About the Risks of Nuclear Power*, in THE ANALYSIS OF ACTUAL VERSUS PERCEIVED RISKS 230-49 (Vincent T. Covello et al. eds., 1983); D. Litai et al., *The Public Perception of Risk*, in THE ANALYSIS OF ACTUAL VERSUS PERCEIVED RISKS 213-24 (Vincent T. Covello et al. eds., 1983).

125. See Michael W. Grainey, *Nuclear Weapons Waste: Recent Federal Legislation and the Cleanup Effort*, 30 WILLAMETTE L. REV. 765 (1994); *Slants and Trends: Waste Secrets, History*, 4 ENVTL. REMEDIATION TECH. NO. 6 (Mar. 20, 1996) available in 1996 WL 8440355.

This analysis is further supported by the risk perception literature. For example, Kent E. Portney noted that a public who believes it will be adversely affected by a pending environmental decision frequently disagrees with scientists and other technical experts (such as engineers) who have performed risk assessments for the proposed action. See

The public's relationship with government officials evolved from the mid-1980s to the mid-1990s. Distrust has been a common theme: "We are told wonderful things, but we never see any of the things they promise."¹²⁶ The public sentiment in 1991 is evidenced by the following quote: "We've been hearing the same crap for the last thirty years."¹²⁷ In recent years, however, a reasonable level of respect and a workable relationship have provided the basis for progress in the decision-making process. By 1994, the public attitude had changed.¹²⁸ "For many years we asked to be involved and now we got what we asked for - so, please mark your calendars and show up; help us to make these decisions that ultimately we will have to live with."¹²⁹ In essence, DOE had to re-invent its image and demonstrate it was worthy of trust and respect.

A. *Compliance with Environmental Law*

At early public meetings, DOE was forced to spend substantial time defending against public charges that it was not complying with environmental laws.¹³⁰ The public perception of what CERCLA and RCRA required became a frequent and formidable battle cry at public meetings.¹³¹ While it may have been a herculean task for the public to debate scientific issues with the experts, clear legal issues were not as difficult. For example, when DOE missed a deadline or failed to produce an Environmental Impact Statement ("EIS"),¹³² the public demanded an explanation and remedy. In a few short years, expectations about the role of the public in federal facility waste decisions changed greatly.

Portney, *supra* note 58, at 208.

126. CERE PUBLIC CONCERNS, *supra* note 27, at 4-8.

127. *Id.* at 4-8.

128. *See id.*

129. *Id.*

130. *See* CERE PUBLIC CONCERNS, *supra* note 27, at 4-9, 4-10.

131. *See id.* at 4-9.

132. *See id.* at 4-9, 4-10. The National Environmental Policy Act of 1969 ("NEPA"), 42 U.S.C. §§ 4321-4370d (1994), requires agencies of the federal government to prepare an EIS for "major Federal actions significantly affecting the quality of the human environment." *Id.* § 4332(C)(i).

After the first Earth Day in 1970, environmental hazards increasingly came under public scrutiny.¹³⁴ Until that time, environmental problems were not generally thought of as a public goods problem.¹³⁵ That changed with the passage of the National Environmental Policy Act,¹³⁶ the Administrative Procedure Act,¹³⁷ and the passage of command and control oriented environmental legislation.¹³⁸ These laws created the expectation that government would intervene in private activities which result in pollution or contamination, or pose a danger to the public, and that the public had a right to participate in environmental decisions.¹³⁹

For almost forty years, in the name of national security, DOE had made independent decisions without public input.¹⁴⁰ The lack of mainstream environmental consciousness¹⁴¹ until the 1970s, together with the general acceptance of the Cold War buildup, allowed the acts of facilities' to go unchecked by public opinion. The 1970s also saw the discovery of large hazardous

134. See generally MARK DOWIE, *LOSING GROUND 3* (MIT Press 1995); cf. SHEILA JASANOFF, *THE FIFTH BRANCH 39* (Harvard University Press 1990) [hereinafter JASANOFF, *FIFTH BRANCH*] (seeing the 1970s as the beginning of an era in which the "legitimacy of science policy decisions intensified as both the production and analysis of scientific knowledge were increasingly drawn into public view through governmentally-sponsored research, administrative rulemaking, judicial review, and frequently, media coverage of controversies").

135. Environmental decision-making requires an analysis of the common good. See generally Jonathan Poisner, *A Civic Republican Perspective on the National Environmental Policy Act's Process For Citizen Participation*, 26 ENVTL. LAW 53 (1996).

136. 42 U.S.C. §§ 4321-4370d.

137. 5 U.S.C. §§ 551-559 (1994).

138. See, e.g., The Federal Water Pollution Control Act ("CWA"), 33 U.S.C. §§ 1251-1387 (1994).

139. See generally Poisner, *supra* note 134; Marianne Dugan, *Citizen Participation in Wetlands Planning In The Pacific Northwest*, 9 J. ENVTL. L. & LITIG. 29 (1994); Clayton P. Gillette, *Plebiscites, Participation, and Collective Action In Local Government*, 86 MICH. L. REV. 930 (1988).

140. The predecessor organization of DOE was the Atomic Energy Commission. See *supra* note 80.

141. Prior to the 1970s, environmentalists were seen as far left politically, small in number and a fringe movement.

waste sites.¹⁴² The perception that environmental decisions should be left solely in the hands of scientists and other technical experts was seriously questioned.¹⁴³ By the mid-1970s, however, not only was environmental consciousness raised, but also discharges and other potentially hazardous conditions came to light.¹⁴⁴ Administrative agency activity in general came under increased scrutiny.¹⁴⁵

By the 1980s, serious environmental laws were in place and the Cold War had ended. However, DOE's change in attitude toward public participation did not come as quickly as the growth in public consciousness¹⁴⁶ and the pace at which environmental and administrative law were enacted and enforced in the private sector. DOE did not promptly respond to the public expression of concern over the health effects of the facility and the expectation that the government was responsible to the surrounding public.¹⁴⁷

For decades, DOE operated without concern for environmen-

142. Love Canal being one, if not the most infamous. *See generally* COLTON & SKINNER, *supra* note 73.

143. *See, e.g.*, Mark Eliot Shere, *The Myth of Meaningful Environmental Risk Assessment*, 19 HARV. ENVTL. L. REV. 409, 491 (1995); Phil Brown, *When the Public Knows Better: Popular Epidemiology Challenges the System*, 35 ENV'T, Oct. 1993, at 16, 19.

144. *See generally* COLTON & SKINNER, *supra* note 73.

145. "[T]he rise of social regulation and the resulting transformation of the American administrative process were among the defining political events of the 1970s." JASANOFF, FIFTH BRANCH, *supra* note 133, at 39 (citations omitted). In addition, during the era of open government beginning in the 1970s, the Freedom of Information Act ("FOIA"), 5 U.S.C. § 552 (1994), similar state statutes, and the Federal Advisory Committees Act ("FACA"), 5 U.S.C. §§ 1, 2, 7, 8, App. § 2 (1994), were passed, and citizen suit provisions were included in some federal environmental laws. All of these statutes provided mechanisms for public participation in environmental decision-making as well as incentives to participate.

146. *See* CERE PUBLIC CONCERNS, *supra* note 27, at 4-8. *See also* Riley Dunlap, *Public Opinion and Environmental Policy*, in ENVIRONMENTAL POLITICS AND POLICY: THEORIES AND EVIDENCE 87-134 (James P. Lester ed., 1989).

147. *See* CERE PUBLIC CONCERNS, *supra* note 27, at 4-8.

tal regulation.¹⁴⁸ After environmental regulations were passed, DOE denied that it was subject to them, arguing that it was shielded by the doctrine of sovereign immunity.¹⁴⁹ In a series of decisions, the Supreme Court held that DOE was not obliged to follow state environmental law.¹⁵⁰ Thus, legal remedies were severely limited. While a class action brought by local residents at Fernald resulted in a large settlement,¹⁵¹ overall, the public was dissatisfied with DOE's management decisions.¹⁵²

The turning point in the legal history of Fernald is marked by the passage of the Federal Facilities Compliance Act ("FFCA").¹⁵³ While some commentators criticized FFCA as too limited in scope,¹⁵⁴ a more critical review of its power demonstrates its scope and effectiveness. The requirement that federal facilities enter into contracts with the host state(s) as well as EPA is a key provision which forces compliance with environmental laws.¹⁵⁵ Environmental laws, in turn, include provisions that require DOE compliance with all applicable legal rules and regulations,¹⁵⁶ in-

148. See generally, *id.* at ES-1, 2-4 to 2-6.

149. See *United States Dep't of Energy v. Ohio*, 503 U.S. 607 (1992) (holding that Congress had not waived the federal government's sovereign immunity for punitive fines).

150. See *supra* note 36. See generally ENVIRONMENTAL LAW, FROM RESOURCES TO RECOVERY 564 (Celia Campbell-Mohm et al. eds., 1993).

151. See CERE PUBLIC CONCERNS, *supra* note 27, at 4-5.

152. See *id.* at 4-8.

153. Federal Facilities Compliance Act, 42 U.S.C. § 6961 (1995).

154. Compare Margaret K. Minister, *Federal Facilities and the Deterrence of Environmental Hazards: The Case for Criminal Prosecution of Federal Employees*, 18 HARV. ENVTL. L. REV. 137, 141-45 (1994) (arguing that federal environmental law has had little impact at federal facilities), and Shere, *supra* note 143, at 490 (arguing that federal environmental risk assessment is void of public participation requirements).

155. See CERE PUBLIC CONCERNS, *supra* note 27, at 2-9 to 2-10.

156. These include: Solid Waste Disposal Act, as amended by RCRA, 42 U.S.C. §§ 6901-6992k, Toxic Substance Control Act, 15 U.S.C. §§ 2601-2692, Uranium Mill Tailings Act, 42 U.S.C. §§ 7911-7942, National Environmental Policy Act, 42 U.S.C. §§ 4321-4370d, Clean Air Act, 42 U.S.C. §§ 7401-7671q, Water Pollution Prevention and Control Act, 33 U.S.C. §§ 1251-1376, Safety of Public Water Systems ("Safe Drinking Water Act"), 42 U.S.C. §§ 300f-j, Federal Insecticide, Fungicide, and Rodenticide Act, 7 U.S.C. §§ 136-136y, Endangered Species

cluding guidance documents which mandate aggressive public participation programs.¹⁵⁷

DOE's agreement to follow environmental laws greatly advanced public participation, and ultimately public acceptance, of the decisions made about the facility.¹⁵⁸ In the first instance, DOE's acceptance of environmental law amounted to a public declaration that it would no longer function outside of public law. This was followed in subsequent years by reasonable attempts to meet the terms of the compliance agreements and orders covering the facility. While DOE Fernald has not been able to meet all deadlines on target,¹⁵⁹ it has consistently moved the RI/FS process forward.¹⁶⁰ Compared to other facilities, it has made acceptable progress.¹⁶¹ Thus, compliance with environmental law has provided a mechanism for public involvement. As discussed previously, both CERCLA and RCRA and their accompanying regulations mandate early and meaningful participation.¹⁶²

B. *Communication*

For decades, DOE rarely communicated with the public. Rather, DOE announced and defended its policies,¹⁶³ and the finality of its announced decisions was predetermined.¹⁶⁴ There were neither meaningful channels for feedback from the public nor deliberation or dialogue in the decision-making process.¹⁶⁵ Indeed, DOE did not entertain the idea that it should work in partnership with the public in making decisions about the facil-

Act, 16 U.S.C. §§ 1531-1544, National Historical Preservation Act, 16 U.S.C. §§ 470-470n, as well as state environmental law. In the case of Fernald, DOE is following not only federal law but also Ohio's hazardous waste law, and fire code.

157. See discussion *supra* Part II concerning public participation under CERCLA and RCRA.

158. See CERE PUBLIC CONCERNS, *supra* note 27, at 4-9, 4-10.

159. See *id.*

160. See *id.* at 4-3.

161. See *id.* at 4-3, 4-9, 4-10.

162. See discussion *supra* Part II.

163. See *Slants and Trends*, *supra* note 81.

164. See generally CERE PUBLIC CONCERNS, *supra* note 27, at ES-1.

165. See *id.* at ES-1, 4-8.

ity.¹⁶⁶ In the late 1980s and early 1990s, public meetings were the primary mode of communication between DOE and the public.¹⁶⁷ Typically, discussions were run by experts who used technical jargon that a layperson was not likely to understand.¹⁶⁸ The public remained skeptical¹⁶⁹ and little progress was made toward moving cleanup decisions forward. As the public expressed dissatisfaction with this process,¹⁷⁰ other modes were gradually introduced including roundtables, workshops, and newsletters.¹⁷¹ Later, a citizen advisory board was created.¹⁷² The public also was invited to participate in early stages of the decision-making process.¹⁷³ Of particular importance is the stage at which the risk study questions are determined.¹⁷⁴ At this stage, parties delineate, and by definition exclude, the possible risks which will be considered in future work.¹⁷⁵

The methods developed to involve the public are still in place today.¹⁷⁶ DOE's responsiveness to citizens' demand for better communication enhanced the prospects for effective environmental decision-making. By employing participatory democracy,¹⁷⁷ DOE's trustworthiness was enhanced. This, in turn, allowed the public to participate directly in decision-making. Substantively, DOE either incorporated public opinion, or DOE co-opted the public into accepting the proposed decision.

166. *Id.*

167. *See id.* at 4-5.

168. *See id.* at 5-8.

169. *See id.* at 4-8.

170. *Id.*

171. *See id.* at 2-11, 4-8, 5-16, 5-17.

172. *See id.* at 4-2. The citizen advisory board is known as the Fernald Citizens Task Force ("FCTF"). *See id.* at 2-11.

173. This was facilitated by the provisions of the compliance agreements. *See supra* notes 60-65 and accompanying text for a discussion of mandatory public participation in the decision-making process.

174. *See id.* *See also* CERE PUBLIC CONCERNS, *supra* note 27, at 2-11.

175. Decision-making processes that cut off the possibility of considering crucial issues have been documented in other studies as well. *See, e.g.,* JOSEPH P. TOMAIN ET AL., ENERGY LAW AND POLICY 443 (1989).

176. *See generally* CERE PUBLIC CONCERNS, *supra* note 27.

177. *See generally* Poisner, *supra* note 134, at 53-55.

C. Education

Establishing a two-way system of communication¹⁷⁸ was not an easy task. In general, the scientific community has found it difficult to engage in a dialogue with citizens about issues which necessarily require knowledge of basic mathematics and science.¹⁷⁹ Americans are generally scientifically illiterate.¹⁸⁰ Much of the layperson's understanding comes from the media,¹⁸¹ which often does not understand the science and technology it reports,¹⁸² or picks one event to cover at the exclusion of others.¹⁸³ While some assume that the media is the public educator,¹⁸⁴ research suggests that the media may not be able to perform this function.¹⁸⁵ During the time period studied here,¹⁸⁶ while the active public increasingly grew in its understanding of the issues facing the cleanup effort, the media consistently provided mediocre and limited coverage, often missing coverage or crucial issues, over-estimating the import of an isolated event, or merely providing inaccurate information.¹⁸⁷ Based on the history of media coverage in this case study, it is doubtful that it can be depended upon as an educator. The impact of self-study should not be dis-

178. See Abaruch Fischhoff, *Risk Perception and Communication Unplugged: Twenty Years of Progress*, 15 RISK ANALYSIS 137, 143-44 (1995); Sandman et al., *supra* note 115, at 585; Caron Chess & Billie J. Hance, *Opening Doors: Making Risk Communication Agency Reality*, 31 ENV'T 10, 38-39 (June 1989).

179. Environmental decisions are driven in part by public understanding (or lack of understanding) of science and technology. See JAMES L. REGENS, *THE ACID RAIN CONTROVERSY* (1985).

180. See DOROTHY HOWELL, *SCIENTIFIC ILLITERACY AND ENVIRONMENTAL POLICY: THE MISSING PREREQUISITE FOR SOUND DECISION MAKING* (1992).

181. For most citizens, the source of information about current events and scientific knowledge is the media. See *id.* at 139 (citing Ralph Nader, *Technology of Democratic Control: The Case of Recombinant DNA*, in *THE GENE SPLICING WARS* 143 (R. Zilinskas & B. Zimmerman eds., 1986)).

182. See *id.* at 101.

183. See CERE PUBLIC CONCERNS, *supra* note 27, at 5-8.

184. See HOWELL, *supra* note 179, at xvi.

185. See CERE PUBLIC CONCERNS, *supra* note 27, at 6-3.

186. This Article covers roughly the 1980s and 1990s.

187. See CERE PUBLIC CONCERNS, *supra* note 27, at 6-3.

counted, although research gave no indication as to its presence or impact.

Yet, American democracy and political culture have created a demand for public involvement in environmental decision-making.¹⁸⁸ Thus, for optimal decision-making, education is necessary.¹⁸⁹ The public also recognizes this problem and appears amenable to educational programs.¹⁹⁰

Education of the public regarding environmental matters fulfills three primary functions: (1) it provides the public with a basis for accepting governmental policy; (2) it allows the public a basis for choosing among expert opinions, similar to the way in which a jury may reach a conclusion; and (3) it provides the public with the language sufficient to engage in a dialogue with scientific and technical experts, a process akin to deliberation in the law-making or judicial decision-making process.

FRESH was not well-versed in science and technology in the late 1980s and early 1990s. Its members, however, showed increasing sophistication in assessing risk and mitigation. By about 1992, FRESH members were able to engage in dialogue with officials about scoping issues,¹⁹¹ and science and technology studies

188.

Citizens of Western democracies . . . appear increasingly uncomfortable with decision making paradigms in which knowledge indispensable to policy is accessible only to the few who can claim to be truly expert. The provision of expert information to the lay public on a widening scale may be the most significant contribution that risk makes to the politics of liberal societies over the next decade.

American Exceptionalism, *supra* note 10, at 77 (citing Sheila Jasanoff, *Public Participation in Science Policy*, 25 CHEM. IN BRITAIN 368 (1989)).

189. The notion that environmental education is necessary to facilitate public participation is not new, although not without controversy. Empirical research is not as rich, however. *See, e.g.*, Bryant, *supra* note 7, at 213. ("For participatory research to be effective, scientists must become closely involved with communities Scientists must help people to formulate not only questions for research, but to help them gather and analyze data. Both parties must be involved in the procedure every step of the way."). *See also* Olpin, *supra* note 28, at 964-65 (discussing public participation in management of public lands).

190. *See* CERE PUBLIC CONCERNS, *supra* note 27, at 6-3.

191. *See id.* at 4-8, 6-3.

of cleanup options,¹⁹² which required knowledge not possessed by average citizens. Much of these educational opportunities were provided by the DOE.¹⁹³

CONCLUSION

Those interested in the decisions must participate in the process. No progress can be made, however, before the agency is trustworthy or credible. "Notice and comment" or "announce and defend" policy formation and decision-making will not produce stable and acceptable decisions in the context of high-risk, large-scale environmental hazards. Americans are simply not willing to defer to expert opinion. DOE tackled this social and political phenomenon by establishing and maintaining trust and credibility with the politically active members of the public. It did this by following the law imposed on the private sector and engaging in a dialogue with its vocal constituency. These were provided for in the form of workshops, roundtables and meetings which were for informational purposes and to announced proposed decisions, tours, and seminars.

The experience at Fernald does not suggest that the public is "babbling unintelligibly" about environmental issues, nor are government officials and experts superfluous to the process. Rather, it shows that the public can provide a powerful voice in a decision-making process frequently dominated by bureaucrats and scientific and technical specialists. Knights at the Roundtable serve us best when all have the opportunity to speak and be heard.

192. *See id.*

193. *See id.* at 2-10, 2-11, 4-8.

