Chapter 7
Federal Institutional Issues

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The history of the Federal waste management effort strongly suggests that changes in past institutional arrangements and procedures may increase the credibility of the central component of the Nuclear Waste Policy Act of 1982 (NWPA)-the commitment to the development of a complex technological system, despite technical and institutional uncertainties, on a firm schedule extending over a period of decades. As discussed in chapter 4, there are three particular areas of concern regarding the capacity of the Federal Government to implement a waste management policy successfully: funding for the program, organization and management of the program, and coordination among the agencies that will be involved in waste management.

This chapter will discuss each of these concerns, the ways in which they have been addressed in NWPA, and some of the important questions that remain to be resolved.

PROGRAM FUNDING

The direct and indirect costs of waste management probably will be a small fraction (several percent) of the cost of nuclear-generated electricity. [1] For example, the Congressional Budget Office (CBO) calculated that even if the costs of the waste disposal program were 160 percent greater than currently anticipated, it would add only about 3 to 4 percent to consumer electricity bills.[2] However, the absolute sums required to develop an operating waste disposal system will be quite large (see table 7-l). According to Department of Energy (DOE) estimates, about $4 billion of research and development (R&D) will be required over the next 20 years to develop the capability to dispose of radioactive wastes in mined repositories.[3] The total cost of developing and operating two mined repositories, which would be sufficient to accommodate all of the high-level radioactive waste that will be generated by the reactors now operating or under construction, is expected to amount to about ***$20*** billion in 1982 dollars.[4] Assuming an average of 3-percent inflation per year over the entire period of repository development and operation, and taking into account some (but not all) sources of cost uncertainty, DOE estimates that actual program outlays could range from $35 billion to $64 billion.[5] Thus, the credibility of any Federal commitment to a long-term waste management program will depend on confidence that these large sums will be available as needed over a period of decades.

NWPA provided for funding of the Federal radioactive waste management program through a mandatory f'ee of 1 mill (one-tenth of 1 cent) per kilowatt-hour (kWh) on nuclear-generated electricity. The revenues from this fee will be placed in a Nuclear Waste Fund in the Treasury of the United States, and can be used only for waste management activities specified in NWPA. This restriction on the use of the fund will be of particular importance during the first few decades of collection of the fee, when the fund will accumulate large surpluses that must be allowed to accrue interest so that sufficient money will be available in later years.

It has been Federal policy since 1970 that the costs of commercial radioactive waste disposal be borne by the generators of the waste.[6] However,

[1] The discussion of costs draws heavily on a staff working paper prepared for OTA by the Congressional Budget Office: "Financing Nuclear Waste Disposal, May 1981.

[2] Congressional Budget Office, *Financing Radioactive Waste Disposal,* September 1982, p. 27.

[3] U.S. Department of Energy, *Report on Financing the Disposal of Commercial Spent Nuclear Fuel and Processed High-Level Radioactive Waste, S-0020,* June 1983, table A-1, p. 42.

[4] Ibid., p. 2.

[5] Ibid.

[6] App. F, pt. 50, title 10, CFR, Nov. **14, 1970,** requires that upon delivery of high-level radioactive waste to a Federal repository, the party delivering such waste would pay the Federal Government a charge designed to defray all costs of disposal and perpetual surveillance.

Table 7=1.—Reference Program Costs for Waste Disposal

Cost category	Program cost (in billions of 1983 dollars)	Percentage of Total program cost
Two 72,000 metric ton capacity repositories[a]		
Construction	3.5	23—17[b]
Operating[c]	4.0—6.9	26–34
Decommissioning	0.7	5–4b
Transporting spent nuclear fuel[d]	2,3–4.0	15—20
Site selection, evaluation, and licensing	1.3	8–6b
Test and evaluation facility	0.2	1
Technological development	1.5	10—8[b]
Administration[e]	1.8—2.2	12—1 1
Total	15.3—20.3	100

[a] These costs refer to two repositories built in a salt medium. The costs of building and operating two hard rock repositories would be roughly 2 percent higher.All CBOanalysesaasume the development of salt repositories.
[b] Although the specific program cost remains the same under different growth patterns, its corresponding share of total program costs will differ.
[c] The total operating cost for the two repositories depends on the schedule of nuclear electricity generation. The annual operating cost for each repository is $48 million per thousand metric tons of spent fuel received.
[d] Total shipping costs also depends on the nuclear-growth forecast; the annual cost per thousand metric tons of spent nuclear fuei shipped is S28 million. A no-growth scenario assumes that only 82,000 metric tons will be disposed o' at a cost of $2.3 billion; the S4.0 billion projection refers to the three growth forecasts used by CBO.
[e] Administrative costs include aid payments to State end local governments and to Indian tribes affected by repository development and fund management coats. Administrative costs continue until the second repository is decommissioned, and thus depend on the schedule of nuciear-electricity growth.
[f] The range of total cost estimates reflects the repository schedules under the different nuclear-growth forecasts used by CBO.

SOURCE: Congressional Budget Office, *Nuclear Waste Disposal: Achieving Adequate Financing,* August 19E4. Based on cost projections from Department of Energy, *Report on Financing the Disposal of Commercial Spent Nuclear Fuel and Processed High-Level* Radioactive Waste, DOE/S-0020, June 1983.

it had been assumed, before passage of NWPA, that most of the costs of developing the disposal system prior to operation of the first repository would have to come from Federal appropriations, to be repaid when utilities delivered the waste to a Federal facility for storage or disposal. [7] If this repayment approach had been continued, progress in the waste disposal program for the next decade or two would have been dependent on competition for general revenues in the annual Federal budget process and thereby vulnerable to pressures to defer major expenditures (e.g., site evaluation activities) when the Federal budget was tight. Moreover, the period of dependence on Federal appropriations would have been uncertain, since offsetting revenues would have been determined by the utilities' independent decisions about when to deliver waste to the Federal Government.

Under the pay-as-you-go system established by NWPA, the utilities with nuclear reactors provide the front-end funding for the development of repositories. This method has the potential for assuring the availability of an adequate source of revenue, so that lack of resources can be eliminated as a limitation on the scope and timing of the technical waste management program.[8] This could allay any concerns that budgetary pressures might lead to "corner-cutting" that cou.ld compromise safety. It could also increase greatly the credibility of any waste management policy commitments of the Federal Government. In fact, OTA's analysis indicates that this funding arrangement may be necessary for a credible commitment to a firm schedule for developing and operating waste repositories.

To realize the full potential of a mandatory fee, two requirements must be met. First, there must be a means of adjusting the revenues from the fee to ensure that the full costs of the program are recovered despite inflation and unanticipated changes in program scope. Second, the revenues must be available for expenditure as needed. The first requirement will be considered in the remainder of this section; the second will be analyzed in the discussion of fiscal oversight mechanisms that follows.

[7] See, for example, U.S. Department of Energy, "Preliminary Estimates of the Charge for Spent-Fuel Storage and Disposal Services, DOE/ET-0055, July 1978.

[8] Funding limitations have restricted the scope of the Federal site evaluation program in the past. See app. A, p. 213,

DOE has analyzed the revenues expected to be generated by the l-mill/kWh fee established by NWPA and concluded that those revenues, including interest earnings when the fund is in surplus, should be just sufficient to cover total program costs for development and lifetime operation of two repositories, if there are no significant cost increases over current estimates other than an average inflation of 3 percent per year. [9] However, it should be noted that this conclusion is based on a repository development program that is little modified from the program that was in place before the enactment of NWPA, which for the first time established in law a firm Federal commitment to a specific date for repository operation. As discussed in chapter 6, the repository siting and development program needed to give high confidence that such a commitment can be met despite technical problems is likely to be more extensive and expensive than the program planned prior to passage of the Act.

If the mandatory fee is to provide sufficient revenues to enable the Federal Government to meet its waste management policy commitments, then it maybe necessary to adjust the initial l-mill/kWh level to cover the program needed to fulfill those commitments. (Historically, the program, and thus the achievable goals, have been determined to a considerable extent by the availability of appropriated funds.) Since the program expenditures to be covered by the fee will extend over a period of four or more decades, a plan of activities and their associated costs over an extended period will be needed. The long-term cost analysis required in the Mission Plan could be particularly useful as a basis for determining whether adjustments of the fee are needed.

Whatever the initial estimates of the long-term costs of the waste management program, the potential for unanticipated cost increases is very high.[10] There are many sources of cost uncertainty. [11] First, future inflation maybe incorrectly estimated. For example, DOE's analysis shows that if average annual inflation is 5 percent instead of the anticipated 3 percent, it would increase aggregate program expenditures (in current dollars) by about $34 billion. [12] Second, current estimates are based on generic repositories, while the actual site-specific costs are likely to be different. Third, regulatory requirements for the disposal program are not final. Finally, there may be unanticipated technical problems that lead to increased costs. Both DOE and CBO agree that cost uncertainty is the principal source of financial risk to the disposal program. [13] Figure 7-1 shows a DOE estimate of the range of possible cumulative waste management costs.

Because the future costs of waste management are uncertain, there is a risk that the fee established by NWPA may not generate sufficient revenue to cover the actual costs of the program. Providing a mechanism for revising the fee to adjust for cost increases is important, not only if it is desired that all costs of the waste management program be borne by the generators of the waste, but also if it is desired to make credible long-term commitments for the development and operation of a Federal waste disposal system. If adjustment is difficult or impossible, then the revenues generated by the fee could, over the course of time, become inadequate to finance the program. In that event, history suggests that, once again, budgetary pressures might lead to program cuts (particularly in the number of backup sites and component technologies under parallel development) that could reduce the credibility of the long-term commitments. At the same time, if adjustments are too easy, there will be a risk that incentives for cost control would be weak.

NWPA deals with this by requiring the Secretary of Energy to review the adequacy of the fee annually and to propose any changes required to ensure that the full costs of the waste management program are recovered. It also provides for congressional control over such fee increases by specifying that either House can block a proposed in-

[9] U.S. Department of Energy, *Report on Financing the Disposal,* p. 31.

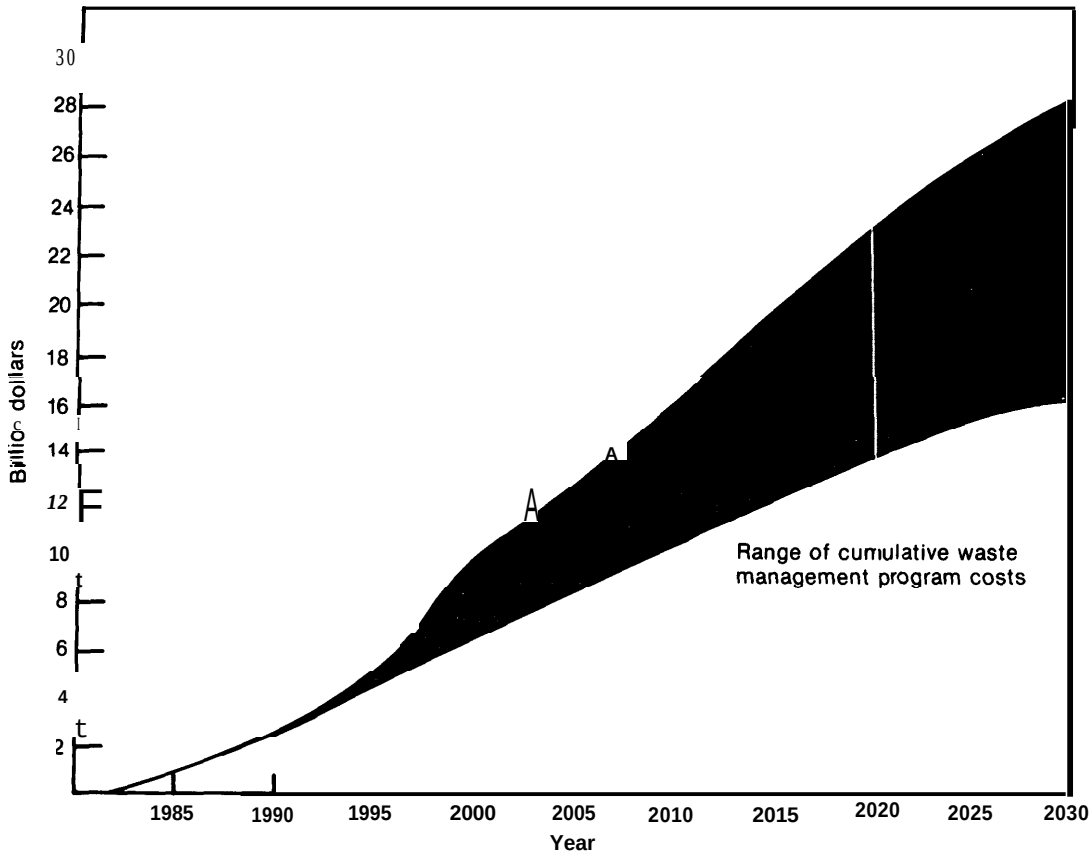
[10] Ibid., p. 3.

[11] See u.s. Department of Energy, *Report on Financing the Disposal,* and Congressional Budget Office, *Financing Radioactive Waste Disposal,* for analyses of sources and implications of cost increases.

[12] U.S. Department of Energy, *Report on Financing the Disposal.* p. 31. A recent Congressional Budget Office study concludes that the 1 mill fee will be inadequate if inflation exceeds 3 percent annually, Congressional Budget Office, *Nuclear Waste Disposal: Achieving Adequate Financing,* August 1984.

[13] US. Department of Energy, *Report on Financing the Disposal,* p. 32; and Congressional Budget Office, *Financing Radioactive Waste Disposal, p. 24.*

Figure 7-I.- Range of Cumulative Estimated Waste Management Program Costs
(constant 1982 dollars)



SOURCE: U.S. Department of Energy, *Report on Financing the Disposal of Commercial Spent Nuclear Fuel and Processed High-Lew/ Radioactive Waste*, DOE/S-0020, June 1983.

crease. However, the Supreme Court's finding that such one-House veto provisions are unconstitutional raises questions about the long-term effectiveness of the provisions for congressional review of adjustments of the fee. The problem of striking an appropriate balance between cost control and adequacy of revenues in light of the uncertainties resulting from the Supreme Court's decision will be considered below in the discussion of fiscal control mechanisms for the waste management organization. [15]

[14] *Immigration and Naturalization Service v. Chadha et al.*, 103 *S. C.*, p. *2764*, No. *80-1832*.

[15] See &. U.S. Department of Energy, Report on Financing the *Disposal*, p. 32; and Congressional Budget Office, *Financing Radioactive Waste Disposal*, p. 32.

ORGANIZATION OF THE FEDERAL WASTE MANAGEMENT AGENCY

The implementation of the repository development program mandated by NWPA entails two major sets of requirements for the organization with primary responsibility. On :he technical side, steady progress must be made through a series of R&D milestones to the goal of the operation of one or

more full-scale disposal facilities. Such progress requires the ability to assemble and manage considerable financial and human resources over a period of decades, to ensure that resources remain at an adequate level to continue activities, and to coordinate technically diverse and demanding tasks.

The lead agency must also be attentive to nontechnical demands, Agency officials must be able to deal with a variety of non-Federal parties with conflicting viewpoints who have the power to delay waste management efforts if they are dissatisfied. In such a situation, the ability to negotiate and bargain is important, as is the ability to forecast demands of non-Federal parties and the possible effects of such demands on the waste management program.

Radioactive waste management has suffered in the past from problems in policy and program planning, in the coordination of agency activities, and in responsiveness to the expressed concerns of groups affected by waste management, such as utilities, environmentalists, and State officials (see ch. 4). These and other problems have led to suggestions that there be changes in the agency with principal responsibility for radioactive waste management, currently DOE. The suggested changes fall into two broad categories: those related to the position of the waste management program within the Federal Government, and those related to the internal organization of the program.

At the time NWPA was being debated, alternatives to the existing institutional structure for waste management had been studied less thoroughly than the technical options. It was felt unnecessary and premature to attempt to make major institutional changes at that point before a long-term technical program had been adopted. Instead, Congress chose at that time to correct some of the most obvious institutional problems by establishing within DOE the Office of Civilian Radioactive Waste Management, with a Director appointed by the President and reporting to the Secretary of DOE, and to leave the question of more basic structural changes for later consideration. To ensure that institutional questions would be addressed in more detail in the future, NWPA also requires DOE to submit to Congress a report on alternative institutional approaches to managing the radioactive waste program, including the option of establishing a private corporation. Each of these steps will be discussed further below.

The Office of Civilian Radioactive Waste Management

Historically, the principal Federal responsibility for radioactive waste management has been discharged by a program office located within an organization having many broader responsibilities concerning nuclear power—initially the Atomic Energy Commission, then the Energy Research and Development Administration, and now DOE.[16] As a result, the Federal waste management program has had to compete for money, manpower, and policy-level attention with more popular or urgent areas of nuclear R&D.

Establishment of the waste management program as a single-purpose office that is independent of other nuclear activities of DOE should stabilize the waste management organization at an appropriate policy level, insulate it from competition with other nuclear policy areas, and make possible the central integrated planning and management needed for ensuring implementation of a long-term waste management policy.[17] This should also insulate the waste management organization from any major institutional uncertainty or delay that could occur if the Federal energy activities were reorganized, as has been proposed by the Reagan administration.

While NWPA moved the location of the waste management office within DOE, some changes within the office itself may be desirable. The Office of Civilian Radioactive Waste Management is based on the waste management organization in DOE that existed prior to passage of the Act. The ability of that organization to implement a radioactive waste policy has been questioned by some observers[18] The history of the waste management

[16] For a discussion of the evolution of the waste management organization, see app. A.

[17] See for example, National Academy of Public Administration, "Building the Institutional Capacity for Managing Commercial High-Level Radioactive Waste, " May 1982, p. 4.

[18] See Irvin C. Bupp, "The Management of the National Research and Development Program, statement prepared for the California Energy Commission, May 30, 1980, p. 4.

program suggests that some changes in internal organizational structure may help build confidence that the commitment in NWPA to operate a repository by 1998 can be met.[19] Such changes may be useful regardless of whether there is any shift in the organizational location of the waste management program. The following discussion will briefly consider some of the principal types of changes that have been suggested.

Some observers, particularly some State officials, have questioned DOE's planning and implementation abilities in nontechnical areas of waste management (e. g., dealing with sociopolitical impacts) that may be as important as the technical areas for successful siting and development of a repository. [20] Though proficient in technical areas, some DOE personnel are seen as lacking the nontechnical skills and sensitivities important for planning for relations between DOE and non-Federal participants .2* Yet NWPA contains many requirements for extensive DOE relations with States and the public, While them appears to be growing appreciation at DOE of the importance of nontechnical questions in implementing a radioactive waste program, no single office or manager has been clearly responsible for dealing with them. As a result, even though contractors to DOE have produced many studies in nontechnical areas, there is no clear mechanism for transferring the results of their analysis into policy and programs.[22] Implementation of NWPA might be facilitated if responsibility for dealing with such nontechnical aspects of the waste program were explicitly assigned to a staff group with the expertise needed to deal with them. This may require the addition of staff with the appropriate skills and experience.[23] In response to such concerns, the Office of Civilian Radioactive Waste Management has recently established an outreach division (see fig. 7-2).

Changes may also be needed to strengthen DOE's ability to plan and coordinate the many activities that will be involved in developing and deploying an operating repository system on schedule. As discussed in chapter 5, OTA has concluded that one of the basic requirements for making a commitment to a firm repository schedule credible is the development of a sound implementation plan, showing precisely how the Federal Government proposes to meet the schedule. NWPA includes a requirement for development by DOE of a comprehensive Mission Plan. However, historically the DOE waste program has lacked the strong central planning and analysis capacity that would be required to develop an integrated Mission Plan. Instead, it has relied on a relatively small central staff to coordinate the activities of field offices and contractors.[24] That central staff has been divided along functional lines (e.g., spent fuel storage and repository development), with little or no emphasis placed on analysis of how all the individual functions could be integrated into a comprehensive waste management system.

Passage of NWPA, which mandates both a schedule for repository operation and a wide range of technical and nontechnical activities prior to operation, places an even greater demand on the waste management organization to ensure that those activities are coordinated most effectively if the schedule is to be achieved. Unless there is sub-

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[19] For an analysis of the institutional problems in implementing a radioactive waste management program, see Jackie L. Burns, "Institutional Issues in the Planning and Implementation of a Program to Dispose of High-Level Radioactive Wastes, Rand Corp., N-1650-DOE, 1981. See also National Academy of Public Administration, op. cit., pp. 40-42.

[20] This was apparent in many interviews with State officials conducted by OTA staff and contractors. This view was also expressed, for example, by the South Carolina Governor's Task Force on Advanced Nuclear Systems, which concluded that lack of proper attention to, and planning for, socioeconomic and sociopolitical impacts had been a major impediment to implementation of waste management and disposal systems. "Review of—'Draft Report of Department of Energy Task Force for Review of Nuclear Waste Management, ' " June 1, 1978, p. II-7.

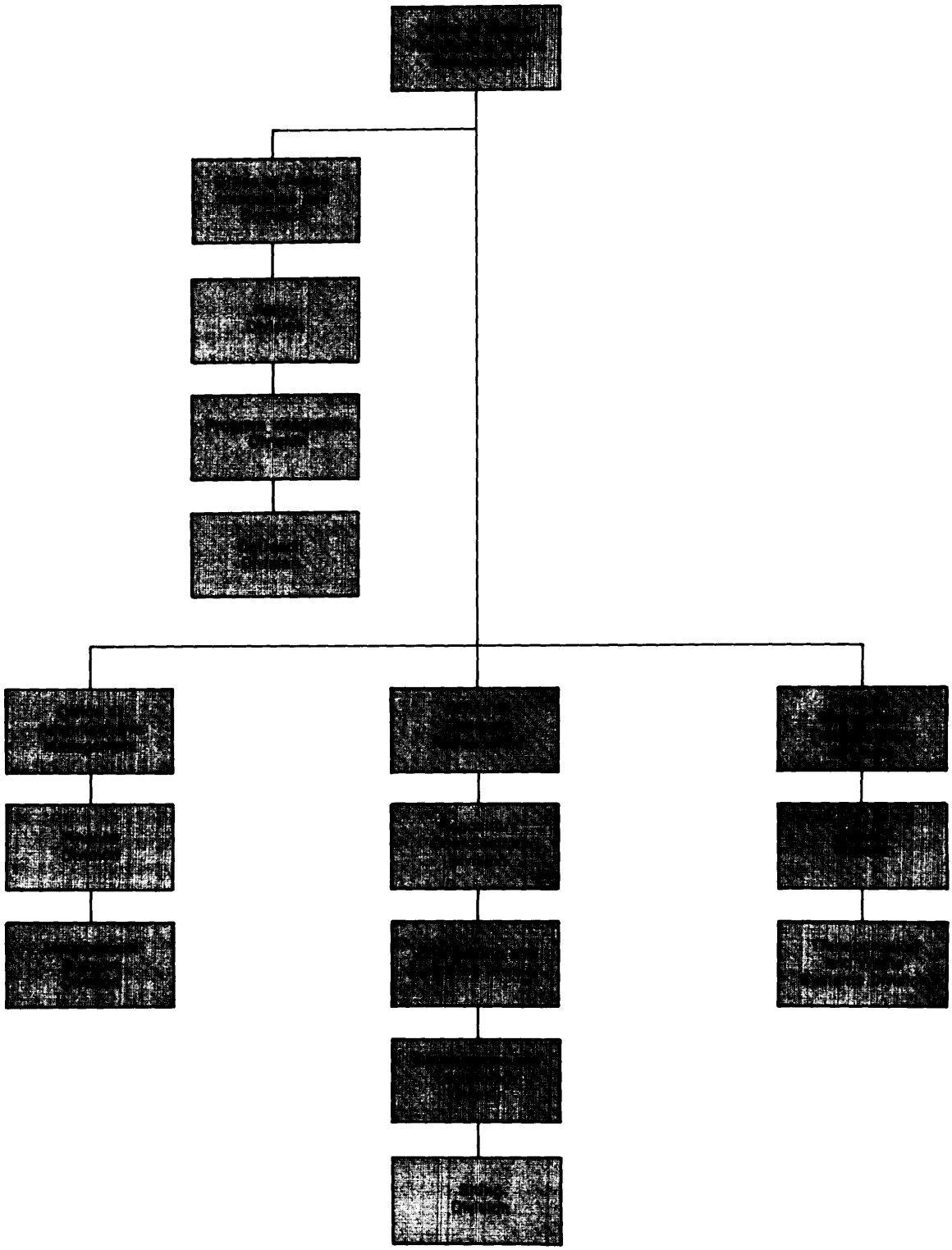
[21] See pat Choate and John Bowman, "Radioactive Waste Management: State Concerns, a report to OTA from the Academy for Contemporary Problems, 1981.

[22] For a comprehensive discussion of these and other management problems, see Burns, op. cit.

[23] 1 bid., p. 87,

[24] Some have noted that this management structure also affects DOE's ability to deal with nontechnical requirements. For example, the Summary Report of the Second Keystone Conference on Public Participation in Radioactive Waste Management Decisionrnaking stated that, "A major barrier to establishing an effective public participation program at DOE is the lack of overall management capability at headquarters. It is perceived that most of the people at DOE headquarters are contract officers and not program managers. Concern was expressed that no one was paying sufficient attention to the absence of a strong program management capability at DOE, in comparison to the disbursement of funds overwhelmingly to contractors. ' 'Public Participation in Developing National Plans for Radioactive Waste Management" (Keystone, Colo.: The Keystone Center, October 1980), p. 15.

Figure 7=2.—Organization Chart of the Office of Civilian Radioactive Waste Management



stantial direct involvement by DOE program staff in the development of the Mission Plan, it may have little chance of achieving its potential as a key management tool for coordinating the many activities required to meet the goals of NWPA. This may require establishment of an adequately staffed and funded group within the waste management office with responsibility for integrated systems analysis and mission planning. In response to these concerns, the Office of Civilian Radioactive Waste Management recently established a program integration division.

Implementation of NWPA may also require strengthening of the capacity of the DOE central office program staff to manage the field activities of the program. Historically, radioactive waste management functions have been handled by geographically separate organizational units that operate different programs and laboratories .25 Because field offices have latitude in program implementation, including relations with States in the course of siting activities, coordination is more difficult to maintain. Yet, NWPA's commitment to a firm schedule for operation of a repository may make such coordination even more important than it has been in the past.[26]

Alternative Means of Financing and Management

In addition to establishing an Office of Civilian Radioactive Waste Management within DOE, NWPA also requires the Secretary of Energy to study and report to Congress on alternative approaches to managing the construction and operation of all civilian radioactive waste management facilities.[27] The study is to consider the feasibility of establishing an independent, single-purpose waste management organization, including a private corporation.

OTA's analysis of the history of the Federal radioactive waste management program concludes that the credibility of NWPA's commitment to the development of a complex technological system on a firm schedule could be enhanced by the establishment of an independent waste management agency with more funding and management flexibility than is usual with a typical Federal program. This section will discuss some of the arguments for creating an independent organization and will focus on the problem of providing adequate oversight and control over such an organization.

At present, DOE is responsible for numerous policy areas in nuclear energy besides radioactive waste management and for a host of other energy-related programs. Units in DOE responsible for waste management have in the past had to compete with other units for funding and staff. Given the long time span during which development of the waste management system will take place, waste management could receive inadequate attention relative to other functions, both from outside policymakers and from DOE itself, if it continued to be treated simply as one program among the many for which DOE is responsible, Moreover, what was seen by the Interagency Review Group (IRG) as a strength of DOE—its ability to maintain an appropriate perspective on waste management in relation to energy production-may, in some senses, be a liability.[28] Some groups fear that DOE's mission as a promoter of energy production could conflict with the safe planning and development of a radioactive waste management system. A separate radioactive waste management authority could be insulated from promotion of nuclear power in a way that DOE would find difficult to match.

Creation of a new organization with a narrow, mission-oriented focus on radioactive waste management would greatly reduce the chance that organizational resources would be diverted to other, competing missions. The attention of outside policymakers to waste management issues might be increased through the increased visibility such an

[25] See, for example, Roger Kasperson, "Institutional and Social Uncertainties in the Timely Management of Radioactive Wastes, testimony prepared for the California Energy Commission, June 30, 1980, pp. 11-16. See also Burns, op. cit.

[26] President Kennedy's commitment to land a man on the Moon by the end of the 1960's required new organizational modes at the National Aeronautics and Space Administration. In particular, a much stronger headquarters team was needed to coordinate the efforts of several research centers that would be involved. See Frank W. Anderson, Jr., Orders *of Magnitude: A History of NACA and NASA, 1915-1976* (Washington, D. C.: National Aeronautics and Space Administration, 1976), p. 31.

[27] To conduct this study the Secretary of Energy appointed an advisory group formally titled the Advisory Panel on Alternative Means of Financing and Managing Radioactive Waste Facilities. The first meeting was held in January 1984, and the report of the panel was delivered to the Secretary at the end of 1984.

[28] *Report to the President by the Interagency Review Group on Nuclear Waste Management,* TID-29442, March 1979, p. 117.

organization would give to radioactive waste management and by the reduction of internal organizational layers that now exist at DOE. Finally, to outside parties, change can signal a fresh start and a break with existing practice.

Establishing a separate organization could leave open later options for organizational change-e. g., the transfer of responsibility for operating storage or disposal facilities to the private sector—to a greater extent than would occur if responsibility for the Federal waste management program remained with a program unit within DOE. If a corporation were later created to manage the entire nuclear fuel cycle, as proposed by some, an independent agency might more easily merge with such a corporation than could a program within DOE. Similarly, creation of an independent radioactive waste management agency may be most compatible with a later decision to create a broader Federal hazardous waste management authority dealing with both radioactive and nonradioactive toxic wastes in general. 29

There are many possible models for a separate radioactive waste management authority, including a federally chartered public corporation, such as the Tennessee Valley Authority (TVA); an independent authority with loose ties to DOE, such as the Bonneville Power Administration; or a new agency in the executive branch. Some analyses of the nature of radioactive waste management responsibilities have suggested that a corporate structure may be most desirable for a waste management organization .30 For example, corporate structure is most consistent with the self-financing nature of a program funded entirely through user fees, and with the high degree of discretion over annual expenditures from a trust or revolving fund needed to give confidence that a long-term schedule can be met. (Since the organization would be self-financed through the waste management fee, any additional costs involved in establishing and operating a new, single-purpose agency would be borne by the users of nuclear power rather than by the Federal taxpayer.) A definitive conclusion concerning the most suitable organizational form would require a more extensive investigation of the advantages and disadvantages of the various possible models than OTA was able to perform,31

A major question to be addressed in the organizational study of alternative structures for the lead waste management agency is the degree of independence the agency would be granted in the performance of assigned responsibilities, especially in discretion over annual expenditures. Government corporations, for example, normally have more independence than Federal agencies.[32]

Greater independence makes organizations more resistant to political fluctuations and enables greater flexibility in hiring and firing and in rewarding good performance and penalizing nonperformance. If the organization has control over use of its revenues, uncertainties of the annual appropriations process can be avoided.[33]

On the other hand, greater independence could prove detrimental if oversight were insufficient to allow adequate responsiveness to interests and concerns of groups outside the organization. In some instances, insulation from outside political influence has led managers of government corporations to overemphasize financial criteria, an action that could be fatal to the credibility of a radioactive waste management organization. 34 Thus, a particularly

[29] Efforts t. site facilities for treatment and disposal of toxic wastes encounter many of the same difficulties associated with siting radioactive waste management facilities, and some of the technical problems of providing isolation with an acceptable level of confidence are similar. Thus, it could be argued that there would be advantages to a single hazardous waste management agency. Along these lines, the U.S. Geological Survey has created a single Office of Hazardous Waste Hydrology that deals with both radioactive and nonradioactive waste issues.

[30] See Mason Willrich and Richard Lester, *Radioactive Waste: Management and Regulation (New* York: The Free Press, 1977).

[31] A preliminary analysis of organizational issues is found in *An Organizational Analysis of a Nuclear Waste Management System* by Randall F. Smith, report prepared for the Office of Technology Assessment by Battelle Human Affairs Research Centers, BHARC-311 / 80/010, March 1980. See also National Academy of Public Administration, op. cit., pp. 40-42; and Jackie L. Braitman, *Nuclear Waste Disposal: Can Government Cope?* (Santa Monica, Ca.: The Rand Graduate Institute, December 1983).

[32] National Academy of Public Administration, "Report on Government Corporations, vol. 1, August 1981; see also Harold Seidman, *Politics, Position, and Power,* 3d ed. (New York: Oxford University Press, 1980), pp. 265-276.

[33] A survey of utilities' attitudes about the Federal waste management program showed a desire that funding for radioactive waste management be independent of problems in the Federal budget and DOE budget cycles. See "Developing a Federal Policy on Spent Nuclear Fuel, " Task 2 Draft Report, prepared for DOE, *Assistant* Secretary for Policy and Evaluation, Office of Coal and Electrical Systems Policy, by Resource Planning Associates, Inc., and International Energy Associates Ltd., June 1978.

[34] Annmarie Hauck Walsh, *The public Business: The Politics and Practices of Government Corporations* (Cambridge, Mass.: MIT Press, 1978), p. 6.

important question in establishing a more independent waste management authority will be how to ensure a satisfactory degree of congressional oversight and public accountability.

Because of concerns about the responsiveness of past Federal waste management efforts, there may be considerable reluctance to establish a lead organization with any greater independence than DOE for fear that it might be less responsive to the concerns of Congress, the administration, and the public. Achieving an acceptable balance between independence and accountability will therefore be one of the central challenges in designing an independent waste management authority. The following discussion considers possible means of achieving such a balance through the general oversight structure for the waste management agency and through fiscal control mechanisms.

Oversight Structure

The oversight structure of an independent waste management agency could be similar to that of a public utility, since the agency would have a monopoly on disposal of commercial waste and utilities would be required to use its services. Supervision of the management of the agency could be exercised by a board of directors, appointed by the Secretary of Energy, Congress, or the President, with possible congressional confirmation of appointments. Such a board could include members from Congress, DOE, and other Federal bodies, as well as from non-Federal groups such as State and local governments, utilities, public service commissions, and environmental organizations. Alternatively, such non-Federal groups could be represented through a public advisory commission established as part of an oversight structure .35

[35]The July 1978 Radioactive Waste Management Discussion Group sponsored by the Keystone Center for Continuing Education recommended the creation of a Public Advisory Committee, with members from citizens' groups, private industry, universities, local and State governments, and Congress, to ensure "effective two-way communication between the federal government and concerned segments of the public, thereby improving the federal program and developing a broader understanding of that program outside of the federal government." Letter to Frank Press andJohn M. Deutch, Sept. 9, 1978, p. 8.

Fiscal Control

Whatever formal oversight structure is chosen, control of the finances of the waste management agency will be of particular concern. There are two distinct aspects of fiscal control that should be addressed in an analysis of institutional alternatives: control over the level of the mandatory waste management fee established by NWPA, and control over the agency's expenditures from the Nuclear Waste Fund.

CONTROL OF REVISIONS OF THE FEE

The discussion of program funding indicated the importance of providing some mechanism for adjusting the waste management fee to cover unanticipated costs. Because of the importance of the fee adjustment mechanism to the success of the waste management program, and the uncertainty created by the Supreme Court decision concerning the one-House veto, which raised questions about the provisions in NWPA for congressional control of revisions of the fee, it would be useful for any congressional deliberations on alternative institutional arrangements to consider alternative fee adjustment mechanisms.

Two possibilities are: 1,) complete delegation of authority to revise the fee to the head of the waste management agency, with no provisions for congressional review; and 2) revision of the fee only through amendment of the l-mill/kWh level established by the Act. In either case, it may be difficult to strike a balance between the oversight needed to ensure efficient use of the revenues from the fee and the assurance that revenues will be sufficient to cover all of the costs of the program needed to provide confidence that the commitments in NWPA can be met.

If the head of the waste management agency were given the authority to adjust the fee, and Congress' only means of vetoing such an adjustment were through specific legislation, direct congressional control would be difficult--both because of the inherent complexity of the legislative process and because such legislation would have to be signed by the President, who might be inclined to support the action of the head of an executive branch agency.

Adjustment of the fee in this case might be too easy, thereby weakening the incentives for efficiency and good management.

If there were no specific provision dealing with adjustment of the fee, then the l-mill/kWh fee could only be changed by amendment of NWPA itself. In this case, adjustment of the fee would be quite difficult, in part because of the general difficulty of the legislative process and in part because of reluctance to amend the Act. As noted earlier, if it is too difficult to adjust the fee to cover unexpected cost increases, the result may simply be that the scope of the waste management program is reduced to match the available revenues. This would eventually lead to a situation in which progress in repository development becomes limited by the availability of resources, which would not be fully compatible with NWPA's firm commitment to a schedule for repository operation.

One possible adjustment mechanism that has been suggested is automatic adjustment of the fee according to an index of inflation (see table 7-2).[36] Another possibility for revising the fee is suggested by the fact that an independent waste management agency would, in effect, be a public utility with a mandatory fee on its users. Thus, it might be possible to have an independent body, analogous to the Postal Rate Commission, review and perhaps even approve proposed fee revisions.

If more direct congressional control were desired, the mechanism of a joint resolution, as provided in NWPA for dealing with a State's objection to a repository site (see ch. 8), might be used. If a joint resolution were required to veto a proposed fee revision, the degree of congressional control over changes of the fee would be limited by the ability of the President to veto the resolution.[37] On the other hand, it would reduce the likelihood that needed fee increases would be deferred simply because of congressional inaction. If enactment of a joint resolution were required to approve a proposed fee revision, the degree of congressional control would be substantially higher, although it might increase the chance that needed revisions would be deferred .38

[36] H. R. 4690, introduced in the second session of the 98th Congress, would amend the fee adjustment provisions of NWPA to require automatic correction of the fee to keep up with inflation, following NRC approval of a construction authorization for the first repository. This approach is analyzed by the Congressional Budget Office in *Nuclear Waste Disposal: Achieving Adequate Financing.*

[37] S.1650, introduced in the first session of the 98th Congress following the Supreme Court's decision on the one-House veto, would provide for congressional *veto* of agency actions through passage of a joint resolution, which would have to be signed by the President.

[38] H. R. 4690 would also allow the Secretary to propose fee changes in addition to the automatic adjustments for inflation, but those changes must be approved by Congress through passage of a joint resolution.

Table 7-2.—Nuclear Waste Fund Projections Under the DOE Reference Program Schedule (in billions of 1983 dollars)

	High nuclear growth	Medium nuclear growth	Low nuclear growth	No nuclear growth
Fixed fee of 1 mill per kilowatt-houc				
Total program costs	20.0	20.1	20.3	15.3
Totai fee collections	16.2	15.4	14.2	10.7
Net interest[b]	3.2	1.3	-2.4	-1.2
Final fund balance	-0.6	-3.4	-8.5	-5.8
Optimal fee for zero final balance (in mills per kilowatt-hour)	1.02	1.10	1.19	1.22
Fee increased by annual inflatlon rate[c]:				
Total program costs	20.0	20.1	20.3	15.3
Total fee collections	34.8	34.2	34.3	17.7
Net interest[b]	27.1	26.1	31.0	10.5
Final fund balance	41.9	40.2	45.0	12.9
Optimal fee for zero final balance (in miils per kiiowatt-hour)	0.50	0.52	0.55	0.72

NOTES: The long-term inflation and real Interest rate assumptlone are 4.3 percent and 3.5 percent, *respectively*.

a Total fee Collecting include the one-time payments made for spent fuel generated before April 7, 1983, estimated at $2.3 billion (in nominal dollars).

b Net interest includes earnings on invested fund revenues and payments on borrowed funds.

C This fee design would increase the current fee by the annual percent change in the gross national product price deflator, beginning in 19S4. The optimal fee under this schedule refers to the rate the fee should have been set at in 19S3 in order to leave a final fund balance of zero.

SOURCE: Congressional Budget Office, *Nuclear Waste Disposal: Achieving Adequate Financing,* August 1984.

CONTROL OF EXPENDITURES FROM THE NUCLEAR WASTE FUND

Assurance of steady progress in development of a waste management system requires assurance that adequate funds will be available as needed. This in turn requires not only assurance of sufficient revenues but also assurance that the revenues will be made available to the waste management agency as needed to carry out the program. In this regard, NWPA makes expenditures from the Nuclear Waste Fund subject to annual appropriations. This provides a high degree of congressional control over program financing, which may be seen as particularly desirable if the head of the waste management agency is given power to revise the fee. On the other hand, it also raises questions about whether sufficient funds will be available each year to carry out a long-term repository development program on schedule. For example, there may be pressures in the appropriations process to defer large capital expenditures in years in which the Federal budget is particularly tight. This may be inconsistent with the assurance of predictable annual funding needed to ensure that a firm, long-term schedule can be met. Thus, there appears to be an inherent conflict between a stable commitment to a fixed schedule for a complex technical project and a high degree of external budgetary control.

There is a wide range of alternatives for congressional control over the finances of a Federal entity. At one end of the spectrum in terms of independence is TVA, which has direct control over the use of the funds generated by the sale of electricity, although its budget is shown as part of the Federal budget. Congressional influence is exercised through annual oversight of TVA activities, direct control of its debt ceiling, and appointment and confirmation of its board of directors.

An alternative that lies between the financial independence of TVA and annual appropriations control would be to provide for multiyear appropriations, which might be justified in view of the long-term nature of the repository development program and the need for adequate and predictable funds over an extended period of time. NWPA takes a step in this direction by providing that the budget for the Nuclear Waste Fund is to be submitted, and the appropriations from the fund are to be authorized, on a triennial basis.

Role of the Mission Plan in Agency Oversight

To exercise fiscal control over the waste management program, the responsible oversight authorities need justification of proposed revenues generated by the fee and expenditures from the fund. The Mission Plan required by NWPA might be particularly well suited for this purpose, if it contained a detailed, long-term budget for the expenditures and revenues required to implement the Plan. In fact, ***the Mission Plan could serve as the principal mechanism for balancing the need for adequate congressional oversight with the need for increased flexibility of operation and funding.***

DOE analysis shows that the cost of waste disposal will mainly be determined by the scope of the repository R&D program, the timing of construction and operation of full-scale disposal facilities, and the design of the repository. Therefore, to ensure that the fee to be charged to utilities to finance the waste management program covers all of the costs required to meet the legislated objectives, the fee must be based on a clearly defined plan for developing and operating a repository system. The Mission Plan could provide such a basis for the fee, and for appropriations from the Nuclear Waste Fund.

To be most useful as a basis for fiscal control, the Mission Plan would have to be revised periodically to take into account the fiscal effects of inflation, unanticipated difficulties, program changes required by new information, or other developments. For example, congressional consideration of a proposed fee revision might be facilitated if the proposal were accompanied by a revised version of the Mission Plan that clearly justifies the change in the fee in terms of such factors. Congressional review of a budget for multiyear authorizations or appropriations could similarly benefit from provision of a revised Mission Plan that gives a detailed analytical basis for the budget. The amount of time required for congressional review of fiscal matters could be reduced if proposed fee revisions were submitted at the same time as multiyear budgets, and if proposed revenues and expenditures were justified by a single revised Misision Plan document.

NWPA does not require revisions of the Mission Plan after it has been submitted to Congress, nor does it explicitly link the Mission Plan to the deter-

mination of revisions of the fee or to the triennial budget authorization and annual appropriations process. However, NWPA does require that the Mission Plan contain an estimate of the annual expenditures needed to carry out its objectives, and NWPA does not appear to preclude DOE from revising the Plan as necessary for use as a justification for fee changes and appropriations from the fund.

Use of the Mission Plan as a basis for oversight and accountability of an independent waste management agency could be strengthened by creation of a process for congressional approval of the Mission Plan. OTA's analysis of the history of Federal waste management efforts suggests that it may be unlikely that broad agreement can be reached on establishing an independent waste management agency unless there is explicit agreement about what the agency is going to do and how it is going to do it. Congressional approval of a Mission Plan for implementing the goals enacted in NWPA would establish such an agreement. Thus, the function of the waste management agency would not be to develop broad waste management policy, but rather to carry out a specific program to implement specific goals, a program Congress has formally approved. Once approved, the Mission Plan could serve as the main yardstick by which Congress—and a board of directors or any other body, including the public—could oversee the activities and expenditures of the waste management agency and measure Its progress.

A process of extensive public and technical review of the draft Mission Plan prior to congressional approval could help develop broad national understanding and agreement on waste management policy. This agreement, combined with explicit congressional approval, could enhance the credibility and stability of the program .39

There are many possible options for providing some form of congressional approval of the Mission Plan. These range from direct approval through an explicit joint resolution procedure, such as that included in the Synfuels Act for congressional approval of a national synfuels strategy, to indirect approval through approval of authorizations, appropriations, or fee revisions explicitly based on the Mission Plan.

In developing procedures for congressional approval of the Mission Plan as part of the oversight mechanism, several considerations should be taken into account. First, the elements of the Mission Plan subject to congressional review and approval should not be too detailed. For example, it may be appropriate for Congress to approve a long-term schedule of activities and associated expenditures and revenues derived from a more detailed Plan, rather than to approve such a Plan in its entirety.

Second, the approval process should allow room for revision of the Mission Plan as new information and developments arise. Provision could be made, for example, for the agency to revise and resubmit the Mission Plan for approval as needed.

Third, the approval process must give Congress sufficient ongoing control over the actions and expenditures of the management agency to warrant the relaxation of the normal annual budgetary control. One approach would be to require revision and reapproval of the Mission Plan at regular intervals, such as every 4 or 6 years. Between reapprovals, the waste management agency could be authorized to make expenditures from the Nuclear Waste Fund, as provided for in the multiyear budget contained in the Mission Plan, without a requirement for annual appropriations or authorizations. While the agency would also have the power to propose changes to the Mission Plan and budget more frequently, it might be anticipated that revisions of the Plan and fee would normally take place only at these regular intervals.

Fourth, approval of the initial Mission Plan and revisions to it should be sufficiently difficult that the program and its milestones, once approved, will be taken very seriously, and arbitrary changes will be effectively precluded. To avoid the possibility that the waste management program would come to a halt if the Mission Plan and its multiyear budg-

[39] The State planning Council recommended that "nationzd planning for radioactive waste management should avoid abrupt changes in direction to prevent further deterioration of program credibility and loss of time. To that end, it also recommended a broad and extensive national planning process involving all levels of government and the general public. Letter from Richard W. Riley, Chairman, State Planning Council, to President Carter, Jan. 13, 1981, The process of review of the Mission Plan could also serve as a principal vehicle for public information efforts and for public involvement in the waste management program. See discussion of public involvement in ch. 8.

et were not approved, the program could remain subject to the annual appropriations process unless and until such approval had been granted. The added fiscal independence that would be provided under this approach, if congressional approval of a Mission Plan could be obtained, could give the waste management agency a strong incentive to produce a highly defensible, widely supported Plan.

FEDERAL INTERAGENCY COORDINATION

Currently, six major Federal agencies have responsibility for various aspects of the radioactive waste management effort (table 7-3). For any waste management program to succeed and progress according to schedule, each agency must do its job well and on time. Closely coordinated schedules will be required for all involved agencies; working agreements among them will have to be developed; and each agency will have to devote sufficient resources, both money and manpower, to its waste management responsibilities. The challenge of coordination will be more difficult because waste management activities represent only a small part of the responsibilities of each agency.

Table 7-3.—Principal Executive Agencies With Waste Management Responsibilities

Agency/Responsibility
Department of Energy (DOE). -Responsible for developing radioactive waste isolation technologies and for designing, constructing, and operating final isolation facilities for high-level and TRU wastes and spent fuel generated in national defense and commercial nuclear programs.
Environmental Protection Agency (EPA).—Responsible for developing generally applicable standards for radioactive materials. EPA is now developing such standards for geologic repositories for radioactive waste.
Nuclear Regulatory Commission (NRC}—Responsible for developing and implementing regulations to ensure public health and safety for storage and final isolation of high-level radioactive wastes, low-level wastes, and radioactive wastes created in the mining of uranium ore. NRC is now developing regulations for mined geologic repositories that will implement the standards developed by EPA.
Department of Transportation (DOT). -Responsible for developing, issuing, and enforcing safety standards governing certain packaging and shipping containers for radioactive materials, and for the labeling, classification, and marking of all waste packages.
Department of the interior (DOI):
U.S. Geological Survey(I/S(3S~-Conducts geologic investigations in suppori of DOE's waste disposal programs, collaborates with DOE on earth sciences technical activities, and will act as consultant to NRC when NRC considers DOE applications for disposal facilities.
Bureau of Land Management ***(BLM).*** **—Serves as custodian of certain Federal landholdings and reviews any proposals to place waste disposal facilities on such lands.**

SOURCE: Office of Technology Assessment.

Recognizing the need for cooperation by many Federal agencies to meet mandatory schedules for developing repositories, NWPA requires the Secretary of Energy to prepare "Project Decision Schedules" for each repository specified in the Act. These schedules are to contain deadlines for all Federal agencies that must take action to enable each repository to be developed on time. OTA believes that it would be very useful for the Mission Plan to incorporate the Project Decision Schedules for each repository, so that it would represent an implementation plan for the entire Federal Government, rather than just for DOE. If the initial Mission Plan is submitted before those schedules have been completed, it could be revised as appropriate to include them when they are available.

Development of an integrated radioactive waste management Mission Plan that includes both the technical and institutional steps required for each agency to meet the goals of legislation, as suggested here, would be an important first step toward ensuring interagency coordination .40 Even after a Plan is developed, there will be a need for continued oversight to monitor progress and resolve any disputes among the agencies as the Plan is implemented. In addition, action must be taken to ensure that each agency has the manpower and financial resources it will need to fulfill its role in the Federal waste management program. While NWPA provides an assured source of funds for DOE through the waste management fee, the other agencies, which must also act on time if the sched-

[40] The State Planning Council concluded that a national plan "is vital to improve coordination among :he Federal agencies . . .' State Planning Council on Radioactive Waste Management, *Recommendations on National Radioactive Waste Management Policies: Report to the President,* August 1981, p. 28.

ules in the Act are to be met, may be dependent on annual appropriations from general revenues for the funds they will need to do so.

The overall responsibility for developing an interagency plan and overseeing its implementation could be assumed by one of the following groups:

- the lead waste management agency;
- the Executive Office of the President; or
- a high-level council.

OPTION 1:
The lead waste management agency.

As the lead agency for radioactive waste management, DOE has been responsible for coordinating all Federal nonregulatory aspects of waste management and for working out relationships with regulatory agencies. Most waste management legislation considered by Congress has left DOE with interagency coordination responsibilities. IRG also chose DOE to coordinate, plan, and implement the nonregulatory aspects of radioactive waste management. The strongest arguments of IRG in favor of DOE related to the drawbacks of change: a major shift of responsibilities to a different organization could disrupt ongoing programs, cause delay, and entail significant financial costs. Such a change could also exacerbate perceptions that Federal radioactive waste management policy lacks stability.

While DOE can be seen as the logical candidate for overseeing coordination of waste management activities by other agencies, there are some limitations to such an approach. First, the history of the Federal waste program gives some grounds for doubt that sufficient interagency coordination will be achieved in the future if responsibility for coordination is left solely to DOE. Although DOE was given lead agency responsibility and an interagency coordinating committee was established under the Carter administration, no coordinated interagency schedule was developed .4' The lack of adequate means to set priorities for agencies based on an overall Federal schedule has resulted in such situations as the adoption by the Nuclear Regulatory Commission (NRC) of regulations for repositories in the absence of EPA standards, which the regulations are intended to implement. Similarly, DOE has had to search for prospective repository sites far in advance of determination of the performance standards such sites would have to meet.

The difficulty results in part because some of the key actions in developing waste repositories involve regulatory agencies. While DOE was given responsibility for coordinating all Federal nonregulatory aspects of waste management, its powers over regulatory matters were limited to working out effective relationships with regulatory bodies .42 Giving DOE full responsibility for coordinating all Federal agency activities might create a real or perceived imbalance between the regulated agency (DOE) and the regulator (NRC), particularly if DOE has the power to make the final decision on the deadlines for actions of other agencies, including NRC. To build trust in the Federal Government's waste management program, it may be wise to avoid any actions that could create even the appearance of compromising the integrity of NRC in this area.

This might become particularly important if it were decided to fund the radioactive waste management activities of those agencies out of the Nuclear Waste Fund, rather than from general revenues. Since the fund is not explicitly limited to DOE activities, this may be possible, and it can be argued that this would help ensure steady progress in the waste program. In the current climate of cutbacks in Federal expenditures and manpower levels, there may be budget and staff limitations on the waste management activities of EPA and NRC that could adversely affect their ability to meet schedules. For example, some difficulties can be expected in the first attempt to prove in an NRC licensing proceeding that a repository will perform according to regulatory standards. Delays during that licensing proceeding might be reduced or avoided by an NRC research effort designed to identify and resolve such difficulties before the licensing process begins. Such an effort may be easier to undertake if the necessary funds are provided directly from revenues generated by a mandatory waste management fee than

41 IRG recognized that "a summary of the implementing actions needed to be taken by involved agencies would have been helpful, and stated that such a summary "is being prepared for submission to the President and will be published subsequently. " This was never done. Interagency Review Group, op. cit., p. 119.

42 'Fact Sheet: The President's Program on Radioactive Waste Management, " Office of the White House Press Secretary, Feb. 12, 1980, p. 9.

if they must come from NRC's regular annual appropriations from general revenues.

It can be argued that the incremental increase in the waste management fee that would be required to cover all regulatory activities would be so small that it would not have any impact on the economic competitiveness of nuclear power, and that the cost could be more than offset in the long run if regulatory delays and problems could thereby be minimized. This approach could be facilitated if an integrated Mission Plan also contained long-term cost estimates for the activities of other involved Federal agencies as well as for DOE. However, if DOE had final authority over which costs could be covered by the Nuclear Waste Fund, substantial questions might be raised about the independence of the other agencies funded in that manner.

On the other hand, if the activities of other agencies continue to be funded out of general revenues, it may be impossible for DOE to be effective in ensuring that they have adequate resources to meet their milestones in the Mission Plan. In either case, then, there are questions about whether DOE can play a useful role in dealing with the funding aspects of interagency coordination.

Although the Secretary of Energy is given lead responsibility for preparing the Project Decision Schedules, this task is to be done "in cooperation with all affected agencies. However, the Act does not specify how this cooperation is to be accomplished. In view of the possible limitations of one agency's developing an effective plan for actions required of other agencies, particularly of regulatory agencies, consideration of one of the following options may be useful in developing the interagency Project Decision Schedules, integrating them into the Mission Plan, seeing that they are properly followed, and ensuring that funds are available as needed.

OPTION 2:

Executive Office of the President.

This option would give an existing, high-level organization in the Executive Office of the President responsibility for interagency coordination. For example, the Office of Science and Technology Policy (OSTP) was heavily involved in the activities of IRG, and some have suggested that the Director of OSTP (the Presidential Science Adviser) be designated as the senior policymaker and overall coordinator of Federal activities on radioactive wastes.[43] Such an agency may be free of the credibility problems that have afflicted DOE and its predecessors simply became it is a different organization. Its location in the Executive Office of the President may enhance its chances of achieving coordination among the various agencies involved in waste management and of ensuring that each involved Federal agency has the resources it needs for its waste management activities.[44] If it were decided to fund the activities of the other agencies out of the Nuclear Waste Fund, this approach to interagency coordination could provide a more effective way to allow that to be done without raising questions about the in.dependence of the regulators from the regulated agency, DOE.

On the other hand, there are general disadvantages to giving heavy new responsibilities to an agency in the Executive Office of the President. Agencies in the Executive Office of the President tend to have small staffs, mind, as a result, their existing missions could suffer if waste management responsibilities were added. Conversely, existing missions could have such claims on agency loyalties and resources that radioactive waste management could be slighted.

43 Keystone Center for Continuin, Education, July 1978 Radioactive Waste Management Discussion Group, letter to Frank Press and John M. Deutch, Sept. 9, 1978.

44 A task force established by the State Planning Council to review a draft of a national plan for radioac :ive waste management concluded that direct involvement of the Executive Office of the President was needed in preparing the plan and in an interagency management committee. It also emphasized the importance of 'active involvement by the Office of Management and Budget to ensure integrated consideration of the programs and budgets for all waste management activities and to generate greater agreem ent in the executive branch concerning multiyear funding levels pre:ented in the draft plan. "Report for the State Planning Council: An Independent Task Force Review of the Second Working Draft of the National Plan, undated, included as an appendix to a letter from Richard Riley, Chairman, State Planning Council, to President Carter, J an. 13, 1981. National Academy of Public Administration, op. cit., also recommends designation of "a top echelon position in the Execu :ive Office of the President . . . to serve in the role of an honest brok r for the radioactive waste management program' (p. 4).

OPTION 3:
A high-level council.[48]

Several sources have proposed the creation of some type of council structure to handle various aspects of waste management, in particular interagency coordination and planning.[46] While such an approach probably would not be useful for handling operational responsibilities in the waste program, a high-level council might be useful for a more limited purpose such as overseeing the development of an integrated Government-wide Mission Plan that includes the associated Project Decision Schedules and long-term budgets for other agencies. (These budgets would in turn serve as a basis for financing their activities through the Nuclear Waste Fund, if that were desired.) In this approach, the operational responsibility for preparing the detailed contents of the Mission Plan could be left to the appropriate agencies, while the council could guide the development of the outline, oversee the work of the agencies as they prepare its substance, and review and perhaps approve the final product for submission to Congress.

Because of the wide range of interests affected by Federal radioactive waste management activities, the credibility of such a council might be enhanced if its membership included representatives from non-Federal groups such as State and local governments, utilities, public service commissions, and environmental groups .47 This is commonly done in Presidential or national commissions, such as the Advisory Commission on Intergovernmental Relations or the Water Resources Council, that are appointed to investigate an area of broad national interest.

For such a council to play an effective role in overseeing the waste management planning activities of DOE and the other involved agencies, it would probably need its own staff, focusing solely on radioactive waste management. Its effectiveness might be increased further if it were established formally by Executive order. To avoid creation of a permanent governmental entity, a sunset provision could require dissolution of the council once a Government-wide Mission Plan had been completed. A determination could, however, be made at that time if the council should be continued in some form to oversee the Federal Government's implementation of the program and to ensure that each agency would have both the resources and the incentives to meet its own particular deadlines. (The latter objective might be facilitated if the Office of Management and Budget were included as a member of the council.)

Chairmanship by someone within the Executive Office of the President (e. g., the Vice-President or the Director of OSTP) could both signal a high level of Presidential interest in the resolution of the radioactive waste problem and help preserve the balance between the implementing and regulatory agencies. History suggests that such a council can be an effective focal point for identifying and analyzing on a coordinated Government-wide basis, the principal options facing the Nation in a partic-

[45] The term ' 'council' will be used to refer to any organizational structure involving representatives from various agencies or other groups. Other terms that are frequently used include: committee, commission, working group, task group, etc.

[46] The July 1978 Keystone Radioactive Waste Management Discussion Group recommended that the Interagency Review Group be continued to facilitate interagency coordination. A bill introduced by Senators Percy and Glenn during the 96th Congress (S.742) would have established an interagency committee with duties involving coordination among agencies with waste management responsibilities and preparation of annual Nuclear Waste Management Plans. The State Planning Council Task Force on the national plan recommended that the development of a national plan for radioactive waste management be ' 'aggressively directed by a high-level interagency committee that meets on a frequent basis. This was seen as "necessary to extract and enforce real commitments from the agencies on improved coordination, . essential to correcting a key constitutional weakness of the Federal program, and not incompatible with maintaining the necessary degree of independence for regulatory responsibilities, State Planning Council on Radioactive Waste Management, op. cit., p. 4.

[47] A General Accounting Office report that examined the Federal organizational structure for waste management recommended legislation establishing a Federal and State committee to be responsible for developing a national waste management plan. In support of this recommendation, the report stated, ' 'We believe it is very unlikely that making DOE the responsible lead agency to plan and coordinate the program will establish public confidence and trust. A more diverse organizational concept made up of Federal and non-Federal representatives should develop the policy and plan, while DOE maintains responsibility for implementation. Only through (his broader involvement can there be any chance that the pub] ic can be convinced that an acceptably safe disposal method exists. General Accounting Office, ' 'The Nation's Nuclear Waste—Proposals for Organization and Siting, EMD-79-77, June 21, 1979, p. 12. Along these lines, the National Governors' Association (NGA) Subcommittee on Nuclear Energy once suggested the creation of a National Commission on Nuclear Waste Management, to include members from State and local governments. Statement of Governor James B. Edwards, Chairman of the NGA subcommittee, before the House Comm ittee on Science and Technology, Subcommittee on Fossil and Nuclear Energy Research Development and Demonstration, June 20, 1978.

ular area of interest[48]—precisely the task that must be accomplished in the development of the radioactive waste Mission Plan. The creation of such a council could be seen as a clear signal to the public that the Federal Government intends to get its own house in order so as to implement NWPA. If such a council were charged with overseeing the development of integrated policies and implementation plans for ***all*** radioactive wastes, not just commercial high-level waste, it could also help allay concerns of those who fear that legislation dealing only with commercial high-level waste could lead to deferral of action in other areas of waste management.

[48]See the history of the Space Task Group, established by President Nixon under the chairmanship of the Vice President. *Civilian Space Policy and Applications* (Washington, D. C.: U.S. Congress, Office of Technology Assessment, OTA-STI-177, June 1982), pp. 96-98. This group conducted the first interagency planning effort with respect to the civilian space program. It involved participation from the general public as well as Federal agency representatives.