

# Politics and Technology in Repository Siting

## Military Versus Commercial Nuclear Wastes at WIPP 1972-1985

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*ABSTRACT. During the 1970s, attempts by the federal government to develop a comprehensive system for disposing of nuclear wastes in geologic repositories were plagued by two related political problems: (1) whether or not military and commercial wastes should be buried together in the same repository, and (2) how to define the host state's role in the repository siting mechanism. This article explains why these two problems were connected by showing how they proved to be of decisive importance in the development of the Waste Isolation Pilot Plant (WIPP) project in Carlsbad, New Mexico. Although WIPP was initially conceived as a wholly military facility, the Department of Energy triggered a three-year dispute over the project's scope by proposing in 1978 to include commercial wastes in the repository. The key issue in the dispute concerned the political legitimacy of decision-making mechanisms for repository siting, which depend upon the extent to which they both adequately represent the interests of affected groups and meet an indistinct technical/political criterion of acceptable safety. DoE's ill-fated proposal to mix military and commercial disposal at WIPP demonstrated that the two rely on somewhat different conditions for their legitimacy. The agency overlapped the legitimate authorities of the federal and state governments and gave itself the hopeless task of negotiating a new boundary between them.*

In April 1981, the Committee on Radioactive Waste Management at the National Academy of Sciences/National Research Council invited several Congressional staff members to explain why Congress had, for several years, been unable to pass a law governing the disposal of high-level nuclear wastes. The key issue, the staff members agreed, was whether or not to bury military wastes from weapons production and commercial wastes from nuclear power plants together in the same repository. Disagreement on that question had killed the 1980 bill. The Academy's scientists and engineers found it difficult to take the issue seriously, for, in their view, the significant problems of nuclear waste disposal were technical in nature, and high-

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level wastes from the two production streams posed the same radiation hazards. This "conflict over formalities," said Harvard chemist E. Bright Wilson, the Committee's chairman, seemed "silly."<sup>1</sup>

But although a silly formality to scientists, the issue of whether to bury military and commercial wastes together or separately was positively fundamental to government officials charged with designing decision-making mechanisms for repository siting. Asked by one of the scientists to explain "[w]hat is supposed to be so different between military wastes and civilian wastes," Senate staffer Ben Cooper asserted, "It is a federal/state conflict."<sup>2</sup> Other staffers and committee members agreed, supplying several restatements of the current institutional impasse. But the subsequent discussion wandered on to other issues without directly confronting the question of *why* the problem of military versus commercial nuclear waste disposal had caused a conflict between the federal and state levels of government, for the collective interest of both groups was more in how to go about resolving this problem than in accounting for its existence in the first place. There was much sharing of information, but little communication, and no one observed that the technical issues of concern to the scientists actually played an integral part in the political problems facing Congress.

### *Twin Problems*

The purpose of this article is to explain why the twin problems of military versus commercial nuclear waste disposal and federal/state conflict were connected by showing how that connection proved to be of decisive importance in the development of a federal disposal project, the Waste Isolation Pilot Plant (WIPP) in Carlsbad, New Mexico. WIPP was started formally in 1976 as a demonstration geologic repository designed to hold military transuranic (TRU) wastes, but in 1978 the newly created Department of Energy (DoE) asked Congress to expand the project's scope to include commercial spent fuel.<sup>3</sup> DoE's action outraged both the previously cooperative state government and the House Armed Services Committee (HASC) in Congress, for the proposal violated shared understandings about the proper boundary between the legitimate authorities of the federal and state levels of government. During the next two years, DoE, the state, and HASC engaged in a prolonged and complicated dispute over WIPP, a dispute that centered on the definition of the project's scope.

The key to understanding why DoE's proposal to dispose of military and commercial wastes in one repository stimulated intense intergovernmental conflict lies in: (1) an examination of the legal and political foundations of the agency's decision-making authority for siting nuclear waste repositories; and (2) an understanding of the necessarily political content of hazard assessments in nuclear waste disposal. The central analytic question concerns the legitimacy of federal agency authority: When were DoE siting decisions considered legitimate?

I begin with a brief review of classic democratic theory, showing that the political legitimacy of a repository siting mechanism depends upon the extent to which it adequately represents the interests of affected groups. An agency siting decision accepted as legitimate for disposing of military wastes cannot be applied automatically

to the disposal of commercial wastes, for the populations that benefit from the two activities are significantly different. Although the existing legal structure in the 1970s did not distinguish between military and commercial waste disposal, the legitimacy of each had to be established independently. I also show that estimates of the hazards from nuclear waste disposal are essential for assessing political legitimacy because they contribute to the calculation of affected interests.

I then follow in detail the dispute over whether or not to mix military and commercial wastes at WIPP, explicating the positions of each of the major parties, and measuring DoE's actions against the political conditions for legitimate siting decisions. The DoE proposal failed because New Mexico rejected as inappropriate the wholly federal siting mechanism that was mandated by current law, but was legitimate only for military disposal, and because HASC refused to endorse a formal authority structure for shared federal/state decision-making at WIPP that was legitimate only for commercial disposal. By deciding to combine the two types of wastes at WIPP, DoE inadvertently overlapped the legitimate authorities of the federal and state governments and gave itself the hopeless task of negotiating a new boundary between them.

Finally, in a brief epilogue, I describe how a law that passed Congress in 1982 resolved the problem of legitimizing siting decisions for commercial-only facilities by establishing a federal/state decision-making procedure that requires a national consensus for *each such decision*. The Nuclear Waste Policy Act grants equal authority to DoE and the state government in making siting recommendations, but casts both in a subordinate role to the final decision-making authority, the US Congress.

### *The Legitimacy of Military and Commercial Siting Decisions*

In the representative form of government established by the US Constitution and further shaped by later laws, the legitimacy of governmental authority is founded ultimately upon popular consensus. Individual voters give their proxy to the legislators they elect, who in turn pass it on to actors in the Executive branch. Both instantiating and exemplifying the popular consensus through the law-making process, the legislature creates a formal authority structure that is, by definition, politically legitimate. The mechanism for consensus-assessment in the legislature is typically a bargaining process, meaning that a national consensus is realized in practice as a balancing of competing interests in a way that is acceptable to the majority.<sup>4</sup>

Prior to the beginning of the WIPP project, a popular consensus assigning authority over nuclear waste management had been established in law on several occasions, each time without systematically distinguishing between the decision-making mechanisms concerning military wastes and commercial wastes. The first such consensus produced the Atomic Energy Act of 1946, which granted to the federal Atomic Energy Commission (AEC) exclusive authority over protecting the public from the hazards of radiation, in part by managing the storage and disposal of nuclear wastes. The AEC's authority at this point concerned only military wastes, for no commercial sector yet existed, but when Congress authorized private companies to own and operate nuclear power plants in the 1954 amendments to the

Act, it merely extended the AEC's authority without substantial modification to include this new activity. Subsequent Acts of Congress transferred this responsibility as a whole to the AEC's successors, the Energy Research and Development Administration (1975-77) and DoE (1977-present).<sup>5</sup>

Although the various early legal authorizations did not distinguish between military and commercial waste disposal, the siting decisions associated with each do not rely upon the same political grounds for their legitimacy. Any decision to site a nuclear waste repository produces an imbalance between the interests of two essentially competing groups—one that bears the costs of waste disposal and another that receives its benefits (Figure 1). The first population is relatively small in size, concentrated in the local area around the repository site, and usually confined within the boundaries of one state. Its internal composition is essentially the same, regardless of whether the repository holds military or commercial wastes. The magnitude of the effect upon its interests depends primarily upon the nature of the radiation hazard posed by the repository.<sup>6</sup> The second population is larger in size, dispersed across many states, and varies in composition depending upon whether the repository is military or commercial.<sup>7</sup>

If military, the repository becomes part of the nation's defense effort, the benefits of which are shared by all citizens, including the population that stands to bear the repository's costs. Actions to protect the national security were legitimized initially by the US Constitution as in the national interest, and are now reaffirmed on a routine basis through Congressional legislation, instantiating a national consensus many times each year. In siting a repository for military wastes, DoE could be secure in the knowledge that it was genuinely representing a national interest. The political justification for requiring a local community to accept the costs of military disposal was that such acceptance constituted part of that community's patriotic duty to share the burdens of defense.

### *Adequate Safety*

The presence of a national interest does not mean that all military repositories are necessarily legitimate, however, for a limit on their selection is established by the nebulous technical/political boundary of adequate safety. That is, in order for a siting decision for a military repository to be a legitimate decision, some type of informed public consensus must exist that the repository's hazards are likely to be acceptably low. Identifying how safe is safe enough, and according to what public, is a subject of considerable controversy and much study. But however indistinct the boundary of adequate safety may be in a technical sense, it has a distinct political reality in repository siting. If, for example, a public consensus existed that the risks were unacceptably high, and that the repository posed a clear threat to the health and safety of local citizens, then the quantitative imbalance of interests that is characteristic of repository siting could become so great as to take the qualitative step of violating the Constitutional rights of those individuals. Rights violations could probably be justified only in the event of an imminent threat to national security, which is unlikely in the case of nuclear waste disposal. As a result, any decision to site a demonstrably unsafe repository, however authoritative that decision may be,

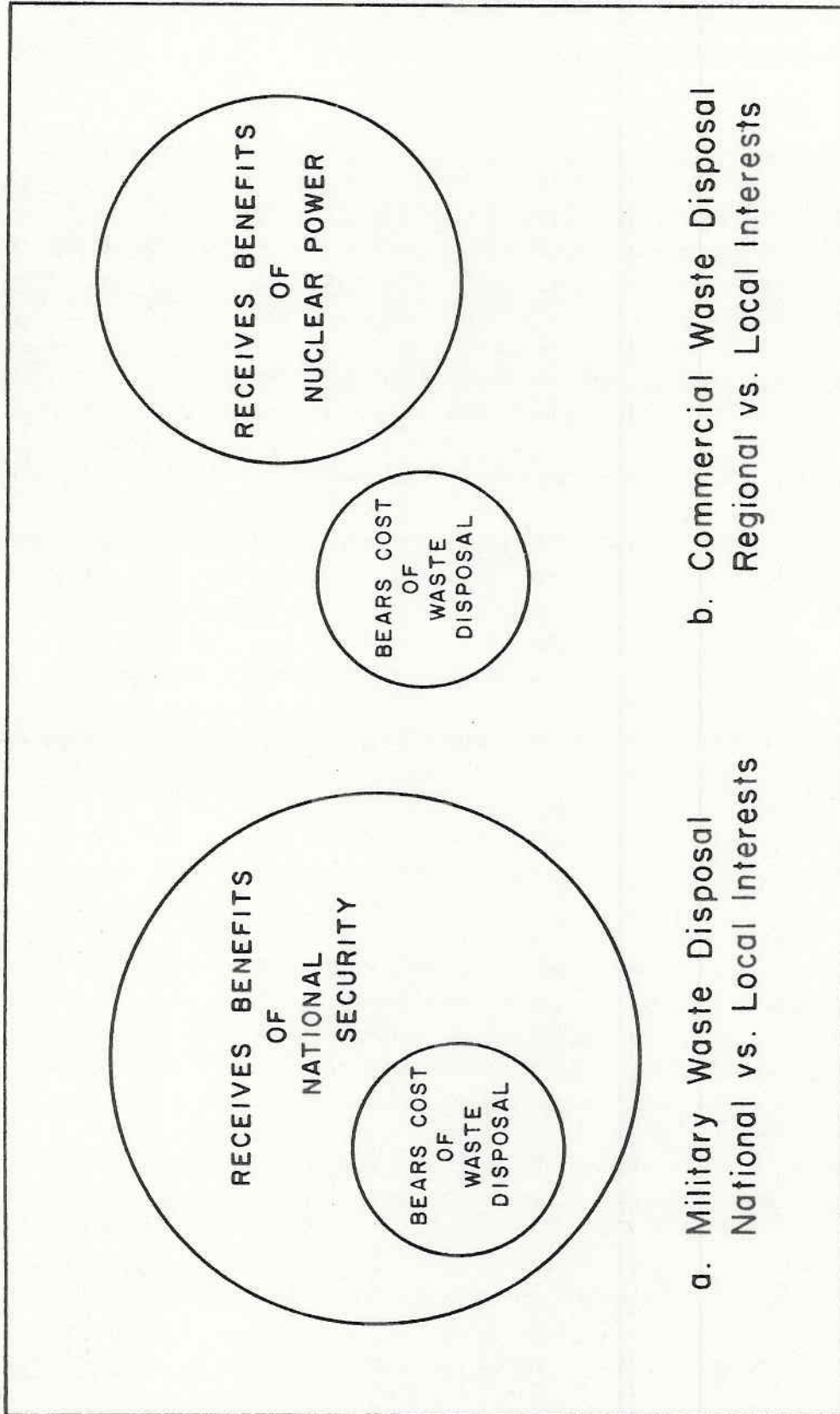


FIGURE 1. Competing Sectors of the Public in Repository Siting

is likely to be illegitimate. By the same token, if a consensus existed that the likely risks from the repository were acceptably low, then the balancing of local costs against national interests would become theoretically possible, along with a legitimate siting decision.

In short, achieving consensus about the likely safety of a military repository is a necessary prerequisite for its political legitimacy, even though the repository may clearly be in the national interest. All safety assessments concerning the repository thus have political content, for each suggests an estimate of likely health effects, and offers an implicit conclusion about whether or not those effects are reasonable. As a result, the process of building public consensus that a repository is likely to be safe—a conscious goal of the WIPP developers—necessarily involves a combination of making technically sound decisions and earning credibility.

The importance of safety in the legitimation of a siting decision also applies to commercial waste disposal, for the possibility of violating individual rights by imposing unacceptable health hazards is common to both. The patriotism argument, however, does not work for commercial waste disposal, for, beginning at least by the mid-1970s, no national consensus has existed that commercial nuclear power is essential to the national interest. The benefits of commercial disposal would not be shared by all citizens, but would be distributed unevenly around the country, accruing only to those individuals whose interests are served in some way by nuclear electricity. Little, if any, overlap would be likely between the population bearing the costs and that receiving the benefits, for almost all potential repository sites are in regions not served by nuclear power plants. In siting a repository for commercial wastes, DoE was not weighing local interests against an indisputable national interest (at least prior to the passage of the Nuclear Waste Policy Act of 1982) but against the interests of separate regions of the country. Any such decision, therefore, necessarily favored a dispersed, regionalized *majority* at the expense of a localized *minority*, changing the grounds for establishing the legitimacy of the decision.<sup>8</sup>

During the 1970s, a legitimate federal siting mechanism for commercial wastes could have been achieved in three different ways. Firstly, if Congress had expressed in law a clear-cut commitment to nuclear power as in the national interest, DoE could legitimately have made unilateral siting decisions akin to those for military facilities. This was not a viable option, however, for the development of intense public controversy had made it impossible for Congress to provide the technology with a renewed blanket endorsement.

Secondly, representatives of the dispersed majority and the localized minority could have sought to reach a bilateral agreement that would have established a voluntary contract between the two interested regions, a contract that others would have had little standing to challenge. Since the existing legal structure vested exclusive control over all repository siting in the hands of the federal government, the appropriate parties to such an agreement would have been DoE and the government of the potential host state. DoE's siting authority made it the *de facto* representative of the benefited population, while state governments, concerned that DoE would not adequately represent their local populations, had already begun to assert themselves as the legitimate representatives of intrastate interests. Unfortunately, as New Mexico would soon learn, the existing law prohibited DoE from

diluting its authority by entering into such agreements, making this option also unviable. Although politically legitimate, a federal/state agreement was not technically legal.

Thirdly, even while not endorsing nuclear power, Congress could have modified the structure of legal authority over nuclear waste disposal by designating the federal and state governments as formal representatives of the dispersed and localized interests, respectively, and designing a decision-making process that would include both. Although numerous attempts were made to realize this option during the WIPP dispute, it was eventually achieved only with the 1982 Act (see Epilogue).

Throughout the 1970s, a significant gap thus existed between the theoretical requirements of political legitimacy and the formal constraints of existing law. As I will show later, the WIPP project both revealed and was a victim of this gap. By merely extending exclusive federal authority from the military to the commercial realm, an entirely reasonable step given the early optimism about the technical and economic prospects of nuclear power, the early enabling Acts failed to recognize the unique intergovernmental difficulties raised by putting under federal control the disposal of commercial wastes, and these laws ultimately proved incapable of grounding a legitimate siting mechanism. For its part, in attempting to resolve the conflict engendered by its even more problematic proposal to mix military TRU wastes and commercial spent fuel at one site, DoE was shackled by the dual constraints of legitimacy and law, and it vacillated uncertainly among the strategies of: (1) asserting its exclusive authority, (2) seeking a bilateral agreement with the state, and (3) convincing Congress to authorize a new federal/state siting model.<sup>9</sup>

#### *WIPP's Beginning: Solving a Military Problem*

The public search for a nuclear waste repository in New Mexico actually commenced in November 1972 when a team of officials from the AEC and Teledyne Corporation visited local officials in Carlsbad to propose the construction of an underground repository on land owned by Teledyne (Figure 2). The local officials included the mayor and members of the city council, state senators and representatives, county commissioners, and selected representatives from the Chamber of Commerce and local press. The AEC was fresh from an unsuccessful attempt to site a pilot repository in an abandoned salt mine near Lyons, Kansas, and was trying to avoid the problems it had experienced there.<sup>10</sup>

The purpose of the Kansas facility had been to permanently dispose of a large volume of military TRU wastes produced in Colorado during a 1969 fire at the Rocky Flats Weapons Facility and stored in Idaho at the AEC's National Reactor Test Station. The area surrounding the site was riddled with gas and oil drill holes, however, and 175,000 gallons of water were present somewhere in a nearby mine, having disappeared in an earlier mining operation. Unable to defend the technical adequacy of the site, the AEC lacked the necessary scientific grounds for claiming that the repository would be adequately safe. When it continued to press for the site despite these problems, the agency undermined its own credibility and made it still more difficult to establish a convincing technical case. Faced with ever-increasing state opposition and resulting procedural delays, the AEC elected to cancel the

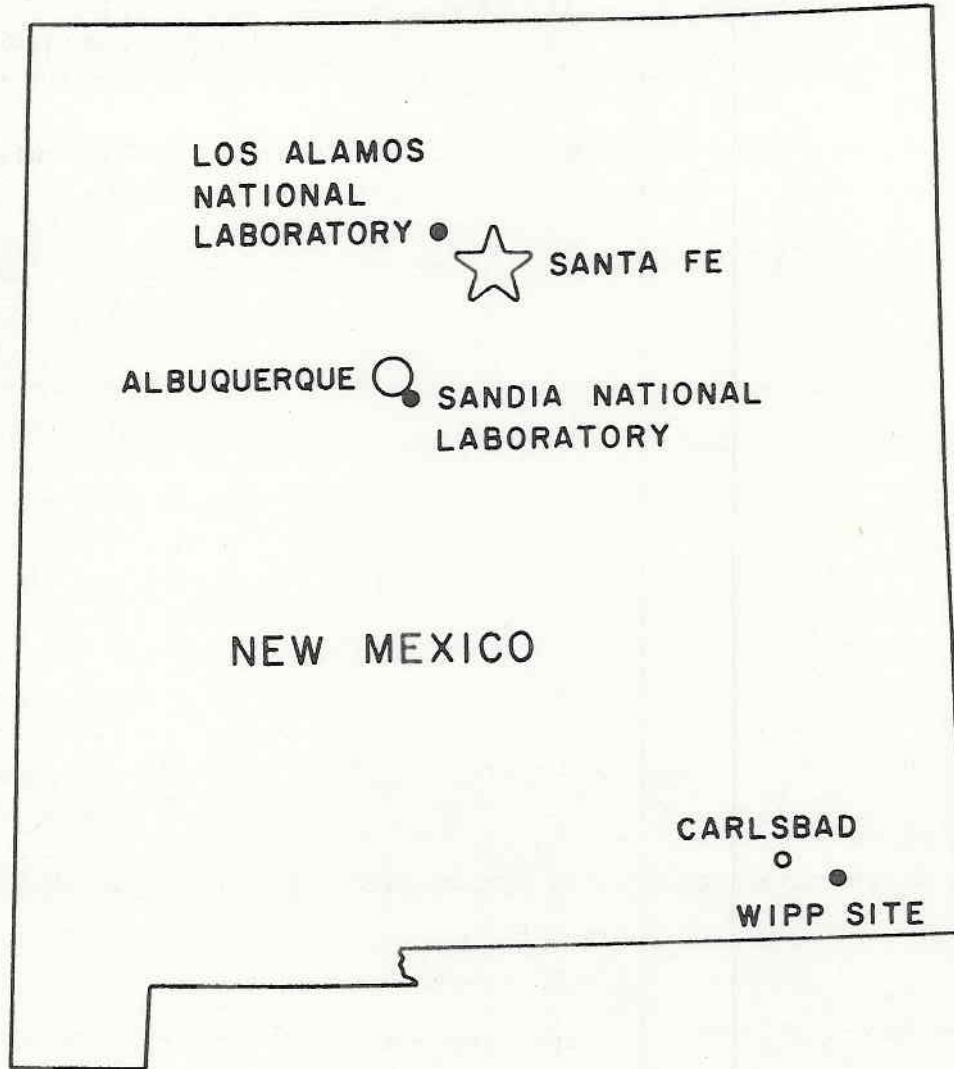


FIGURE 2. Location of WIPP Site

project. Yet, because an agreement with Idaho to remove the stored wastes from the state by 1980 pressured it to quickly find a new solution, the AEC turned immediately to the extensive beds of salt in southeastern New Mexico, and to the more technically defensible concept of mining the repository.<sup>11</sup>

Carlsbad was a vulnerable city in 1972. With its local economy built insecurely on the extraction of potash, oil, and natural gas, and on tourism at the Carlsbad Caverns, the city was totally dependent upon a narrow set of external economic conditions. In 1967, the discovery in Canada of rich deposits of potash had caused a rapid population decline in the city, leaving 1,250 vacant homes by 1970 and a population of 21,000 people, down from 25,500 in 1960. Although the local potash industry did recover and stabilize, it was projected to decline gradually over the long term. To stimulate economic growth, business leaders enlisted the aid of the Urban Land Institute, and mounted a campaign to promote new industrial development in the area. They formed a development corporation, Carlsbad Industrial Action, Inc., consisting of representatives from the city, school administration,



Jaycees, Chamber of Commerce, downtown merchants association, and a local labor organization. The city government, in turn, created a parallel Department of Development, whose paid director headed both organizations.

Although the area was serviced by a good railroad system and had a supply of fresh water sufficient to support a population of 100,000 people, prospects for the development of new industries were limited by poor airline transportation and a location far from the interstate highway system. As a supplement to courting new industry, the Carlsbad Industrial Action/Department of Development sought to establish the city as a retirement community, to increase the number of local tourist attractions, and to secure federal funding for a flood-control dam that would enable downtown businesses in the 100-year flood plan of the Pecos River to qualify for FHA and VA loans.<sup>12</sup>

Carlsbad officials were understandably delighted with the AEC proposal to build a repository for nuclear wastes. Not only did the individual project represent a significant economic opportunity, but it also raised the possibility of a future federal reprocessing plant and other facilities involving the back end of the nuclear fuel cycle. The employees of such facilities would likely be highly trained professionals, the most desirable type of new resident. Everyone in New Mexico was well aware of the respect commanded by the communities surrounding Los Alamos and Sandia Laboratories, and now Carlsbad had an opportunity to get a piece of that action.<sup>13</sup>

Yet local officials were also aware of Kansas's recent experience with the AEC, and that an unsafe repository was a politically illegitimate repository. Thus, while endorsing preliminary study of the site and then regularly expressing confidence in the AEC's ability to construct a safe repository, they were also scrupulous in including the demonstration of safety as a criterion for their eventual acceptance.<sup>14</sup>

But local endorsements were not sufficient for establishing a preliminary consensus about the project. After the Carlsbad meeting, the entire group of AEC, Tele-dyne, and Carlsbad officials flew to Santa Fe to meet with state representatives and obtain the endorsement of Governor Bruce King. Ranked 37th among states in per capita income, the state was also in a vulnerable economic position. New Mexico had, in fact, a long history of economic reliance upon the nuclear weapons industry, for the state is the home not only of Los Alamos and Sandia Laboratories, but also of White Sands Missile Range and Kirkland Air Force Base; and it has been the nation's leading supplier of uranium yellowcake, the mined and milled raw material in most nuclear processes. Funding for the labs and military bases came through the Congressional armed services committees, which would also oversee the development of the nuclear waste repository. Like the Carlsbad officials, Governor King agreed to support preliminary study of the proposed site, but reserved full endorsement of the project until completion of the study.<sup>15</sup>

The AEC did not proceed immediately with the project, however. The furor over Lyons had convinced officials at headquarters to abandon the geologic disposal program and turn to a retrievable surface storage facility (RSSF) as an interim solution for not only the Idaho wastes, but all military and commercial wastes generated through the year 2000. The US Environmental Protection Agency, however, fearing that institutional inertia would cause temporary storage to become a technically inadequate method of permanent disposal, gave the plan its lowest possible rating,

and the RSSF concept never gained acceptance. In a repeat of the Lyons experience, the AEC's inability to defend the safety of temporary storage undercut the legitimacy of its plan. Shortly after its creation in 1975, and under mounting pressure to "solve" the problem of nuclear waste disposal, the Energy Research and Development Administration (ERDA) scrapped the RSSF and returned to the dormant New Mexico project, reviving it under the name of the Waste Isolation Pilot Plant.<sup>16</sup>

#### *ERDA Assumes Exclusive Authority*

At first, the project advanced deliberately as a wholly military operation for disposing of TRU wastes and experimenting with the storage of high-level wastes. In April 1975, Sandia Laboratories initiated its role as principal investigator of the WIPP site by taking control of the exploratory drilling operation from Oak Ridge National Laboratory, which had drilled two holes during the previous year. Sandia's duties eventually expanded to include providing comprehensive geologic surveys of the site, the facility's conceptual design, the project's draft environmental impact statement (DEIS), and mechanisms for distributing information to the public.<sup>17</sup>

Mindful of the AEC's technical failures at Lyons and with the RSSF, Sandia investigators were intensely concerned about safety, wanting above all to "avoid any surprises" and to find "a super-safe place." Although they encountered a brine pocket on their first test hole and were forced to shift the operation a few miles to the southwest, project officials felt they had found a textbook-perfect site. The repository would be in bedded salt, the geologic medium that committees of the prestigious National Academy of Sciences had long recommended as most advantageous for long-term disposal, and the area had experienced little previous drilling, minimizing the problem of man-made pathways to the biosphere. Both ERDA and Sandia were aware of the political necessity to convince public officials and citizens of the state that the project would be adequately safe, which they sought to do by designing a comprehensive geologic survey of the site and then mounting an extensive public information campaign to emphasize its thoroughness and conservatism. The project's director, Wendell Weart, made frequent appearances before interested groups to build confidence by sharing information.<sup>18</sup>

Since the new site was on federal land held by the Department of Interior, ERDA headquarters worked to secure sufficient acreage for the project by withdrawing 18,960 acres from public use and by filing several requests over the next few years to prevent existing oil and gas lease-holders from continuing operations. In April 1977, Sandia forwarded the completed DEIS to ERDA for agency review, and in September, ERDA selected Bechtel, Inc., a San Francisco architectural and engineering firm, to do a detailed repository design.<sup>19</sup>

Throughout this period in which WIPP was a purely military facility, the state played no significant role in decision making. Not only did ERDA have no intentions of seeking the state's formal approval by including it in the decision-making process, the state itself did not request such authority. Rather, it accepted a role of reviewing and commenting on the safety-related aspects of ERDA's plans. In July 1975, for example, Governor King directed his advisory Technical Excellence Committee, whose membership included the heads of the major scientific institutions

in the state, to review the technical components of the project and report to the appropriate state agencies. Since the Committee's chairman was also Sandia's president, a subcommittee was created to evaluate the project by receiving quarterly briefings from Sandia and ERDA.<sup>20</sup>

Government officials in the state gave the external appearance of being moderately supportive, or at least tolerant, of the project, which at this point was still a preliminary study. Local officials and state representatives from Carlsbad were clearly excited about the projected economic benefits. Governor King's successor, Jerry Apodaca (1976-1980), showed his tacit acceptance by refusing to request state veto rights over the project. Formal inaction by the legislature appeared to indicate its tolerance of the project, while its strongly pro-nuclear Legislative Energy Committee even went so far as to openly solicit even bigger projects. It proposed in a 1976 letter that ERDA locate "a demonstration [*i.e.*, federally controlled] nuclear fuel cycle center composed of reprocessing, enrichment, mixed-oxide, and waste repository facilities in this state."<sup>21</sup>

#### *State Role Enhanced as Scope Changes*

But while the project moved ahead with deliberate speed, by 1977 it was no longer clear toward what end. Although Congress had authorized the project to accept only defense wastes, Sandia and ERDA project officials suggested on numerous occasions that including tests for the storage of commercial high-level wastes was a distinct possibility. While pointing out that only Congress could make such a decision following a request from ERDA policy makers, project officials were also working to define WIPP as broadly as possible in order to build in the flexibility to allow for a future expansion in scope. From New Mexico's point of view, however, the result was increasing equivocation in ERDA public pronouncements.<sup>22</sup>

By considering WIPP as a potential storage site for commercial wastes, ERDA was responding to pressures applied elsewhere in the nation. In Fall 1976, California enacted a statute directly linking further nuclear power development within the state to the successful demonstration by the federal government of a permanent waste disposal technology. Although designed as a softer measure to prevent passage of Proposition 15, which later failed in its November attempt to impose a moratorium on all nuclear development, the California law created a new sense of urgency at ERDA headquarters. In a hastily conceived response, the agency confidently applied its exclusive siting authority to the commercial realm, and announced early in December a 36-state search for six repository sites to hold spent fuel from commercial nuclear plants. Although the first two sites were to be in salt, New Mexico was explicitly excluded because of its ongoing military project.

ERDA's national search failed miserably, however, for few states expressed even a moderate willingness to host a site. All parties were quick to realize that commercial disposal posed in some way a novel decision-making problem and that for ERDA to simply overrule state objections would be an act of questionable legitimacy and dubious intelligence. So when most states either informally indicated their reluctance or explicitly disinvited ERDA from exploring within their borders, the agency soon abandoned all attempts to do so.<sup>23</sup>

But the nature of this new decision-making problem was not yet clear. Rather than concluding that military and commercial wastes should be separated in principle and then proposing legislation to create a formal federal/state decision-making mechanism applicable to commercial waste disposal, ERDA instead opted for short-sighted opportunism and looked for a pliable state to receive commercial wastes. With a state government that appeared to be supportive, and a project already well underway, New Mexico appeared to fill the bill. During the following year, ERDA steadily shifted the project's scope toward commercial waste disposal. In January 1977, WIPP project manager Delacroix Davis announced that ERDA was designing the facility to be "licensable" by the Nuclear Regulatory Commission (NRC). Although the announcement was formally ambiguous, since NRC licensing was a statutory prerequisite for any permanent HLW repository, whether military or commercial, the ambiguity was superficial. At a meeting of the Governor's advisory committee in February, Davis removed all doubt by reaffirming his oft-stated position that if no negative aspects were found in the geophysical survey, "consideration would obviously be given to making it a commercial site."<sup>24</sup>

The movement toward commercial waste was temporarily interrupted during the summer, pending the expected October creation of DoE. While it was clear that the new Secretary of Energy James Schlesinger wanted to make WIPP a commercial site, ERDA was unwilling to anticipate his decision. ERDA therefore decided to withhold the completed WIPP DEIS, throwing the project into, as Davis put it, "a state of flux." Momentum continued to build, however, as the US General Accounting Office recommended that DoE take advantage of "public acceptance" in New Mexico, evidenced solely, and remarkably, by the Legislative Energy Committee's earlier letter, and make WIPP a commercial repository.<sup>25</sup>

State officials were not happy with the expected change in scope, for, from their point of view, the magnitude of the change was so great as to demand a new decision-making role for the state. In a letter to Schlesinger at the beginning of November, New Mexico's Congressional delegation warned him not to assume that "this Delegation, and the citizens of our state, would readily accept the major restructuring of the functions of WIPP." The letter first expressed disappointment about the potential inclusion of high-level wastes, but not because of a concern that spent fuel might be more hazardous than TRU wastes. Rather, since the decision to pursue a license was made "without prior consultation with any of the members of this Delegation," a "significant departure from customary procedures," they saw it as a thinly veiled attempt to move toward commercial disposal. "[I]t seems likely," the Congressmen concluded, "that DoE may soon give undue credence to the notion that the WIPP site is the most suitable location in this country to receive both domestic and foreign radioactive waste materials from commercial reactors." In their view, DoE had no legitimate authority to make such a decision unilaterally: "We want to register our conviction that this position cannot reasonably be taken by the federal government without the informed concurrence of the people of New Mexico."<sup>26</sup>

Although the letter did not specify a particular set of procedures, the Delegation was demanding a change in the siting process to allow fuller participation in decision-making by the state. Review and comment would no longer be sufficient.

In contrast with ERDA's earlier submission to state opposition, DoE's first re-

sponse was to assert its exclusive authority, and move the state further *out* of the decision-making process. At the end of November, DoE formally notified the NRC of its intent to alter the project's scope and seek an operating license. Yet four days later the same senior official wrote in a letter to New Mexico's Congressional delegation that DoE was still only "considering" such a move. Although DoE could have been more tactful, the agency was relying upon proper legal authority in failing to consult with the state, for nowhere in existing law was state participation of any sort required. But this confident reliance upon existing law left DoE unprepared for the strength of the state's response.<sup>27</sup>

Officials in the state, including WIPP's strongest supporters from the Carlsbad area, found DoE's attempt to unilaterally expand WIPP's scope highly offensive, and the legislature moved to assert state authority in the siting process. During the even-year session beginning in January, which was restricted to considering only fiscal matters and constitutional amendments, the legislature considered a constitutional amendment to ban the storage or disposal of any radioactive waste brought into the state. Although the bill would eventually fail, following an intense debate and a close vote in the House of Representatives, it prompted a dramatic response from DoE. Just prior to the final vote, Secretary Schlesinger met with the New Mexico Congressional delegation and shocked them by offering the state *veto* authority over the WIPP project.<sup>28</sup>

The offer of veto authority was an overreaction; it was far more than the Congressmen had hoped for in their initial request. Nonetheless, Schlesinger's action suggested to the state the DoE was finally ready to incorporate it into the siting process as a full and equal negotiating partner. In fact, the siting process now appeared to require something like a bilateral contract between DoE and the state. This appearance was in total contrast with the impression given by recent events, so state officials were cautiously appreciative. Knowing that the promise was discretionary and could be removed by a successor, Senator Domenici tried to have Congress incorporate it into the formal authority structure by passing supporting legislation, but without success.<sup>29</sup>

Following the initial offer, DoE attempted to reassure the state and solidify its promise through the force of repetition, but in the process of reassurance, it also re-introduced uncertainty. In March 1978 the director of DoE's Office of Energy Research, John Deutch, testified to a Senate subcommittee that DoE was taking no action "that could not be undone by a state veto exercised later in the process." But in a meeting with the state's Congressional delegation on that same day, John O'Leary, DoE's deputy secretary and former staff director of New Mexico's Energy Resources Board, suggested that DoE and state officials meet to discuss how the state would exercise its "right to concurrence." Concurrence authority is far more equivocal than veto authority, because it does not suggest a clear-cut mechanism for resolving a state of "nonconcurrence." In a July speech in New Mexico, O'Leary repeated the initial offer of a veto, adding that it was "from the heart."<sup>30</sup>

However, at a briefing for state officials in October, O'Leary once again characterized the state's role as concurrence authority. In short, by late 1978 DoE was clearly hoping to secure the state's cooperation by enhancing its role in the siting mechanism, but whether or not the agency would make the state a full partner in decision making remained eminently unclear.

Meanwhile, in March 1978 the long-expected but heretofore unannounced change in WIPP's scope to include commercial wastes became a formal DoE proposal to Congress.

### *HASC Opposes the Disposal of Commercial Wastes*

DoE sought legitimacy for its proposal by couching it in the language of national interest, including it as part of a national policy-making effort. As the first step in the formulation of a comprehensive national nuclear waste policy by the Carter administration, John Deutch had headed a three-month DoE task force to review the nation's nuclear waste management program. The Deutch report emphasized the necessity to demonstrate as soon as possible that commercial nuclear wastes can be disposed of in an acceptably safe manner, in order both to gain public acceptance of nuclear power and to satisfy the legal requirements of California law; and it recommended that WIPP be expanded to include the temporary storage of up to 1,000 commercial spent fuel assemblies. DoE thus drew for the first time an explicit connection between the success of the WIPP project and the future of the commercial nuclear industry.<sup>31</sup>

Although the temporary storage of commercial spent fuel may have been sufficient to satisfy California's legal definition of demonstrating waste disposal technology, DoE was clearly interested in permanent disposal. A month after the Deutch report was released, O'Leary said in a Carlsbad public meeting that DoE had "not ruled out" the option of allowing WIPP to expand into a permanent repository for commercial high-level wastes, a statement that was widely interpreted as indicating a not-yet-formally-announced plan to do so. For by this point, DoE was moving rapidly again. In May, the agency selected Westinghouse to provide technical support in developing the facility's design and in revising the WIPP DEIS, which had never been released. By July, DoE had added the planning of a transportation system to Sandia's list of duties, had filed its fifth condemnation proceeding, and had opened a project office in Carlsbad.<sup>32</sup>

When the President's Interagency Review Group issued its draft report in October, the force behind expanding WIPP's scope appeared almost irresistible. Charged with extending the work of the DoE task force by designing a comprehensive administration policy, this committee of 14 agency representatives recommended the construction of a licensed *intermediate-scale* repository that would demonstrate the "permanent storage," *i.e.*, disposal, of 1,000 commercial spent fuel assemblies. The document carried great weight, for it represented a hard-earned agreement among competing groups in the executive branch. Its conclusion, for example, that deep geologic disposal was the best method for disposing of nuclear wastes has since been accepted as a definitive consensus statement. But importantly for WIPP, the IRG consensus about geologic disposal was not sufficiently focused, for while the scope and purpose of the intermediate facility pointed clearly in its direction, the project itself was never mentioned.<sup>33</sup>

The omission was conscious, for what appeared to be an irresistible executive force had encountered what would eventually show itself to be an immovable legislative object, the Congressional House Armed Services Committee under the chairmanship of Melvin Price. Put in other terms, a national consensus on WIPP as a

commercial facility would never be truly realized by a Congressional vote. Like the State of New Mexico, HASC was concerned about the expansion of WIPP's scope, but for diametrically opposed reasons.

In attempting to alter the project, DoE had shown its intent to submit to NRC regulation by seeking a license and had presented itself as willing to contract a bargain with the state by granting it greatly enhanced participation in decision making. HASC believed, however, that the exclusively federal decision-making process that had been acceptable to all parties when WIPP was a military-only facility was still the only appropriate mechanism for the project, for the potential delays created by NRC licensing and state participation would set a dangerous precedent that could compromise the future siting of other military facilities. If the repository were to hold military wastes, then the structure of authority had to be consistent with that governing other military activities.

HASC initially served notice by refusing in May 1978 to authorize funds for DoE to seek an NRC license, and then it successfully prevented Morris Udall, chairman of the House Interior Committee, from restoring them. Although Domenici's presence on the Senate's Armed Services Committee gained its consent for NRC licensing, the compromise eventually reached in a House-Senate conference provided only for a study of the impact of licensing while it eliminated three-quarters of the project's funding.<sup>34</sup>

#### *DOE Unable to Steer between the State and HASC*

The state's concerns about hosting a commercial repository were heightened in 1978 by new indications that a salt repository might not be as safe for the high-temperature, high-level commercial wastes as it would be for TRU wastes at room temperature. Testimony before Congress in April by a US Geological Survey official and a White House report released in July both suggested that while there was as yet little knowledge on the subject, significant amounts of corrosive brine in the salt could migrate to a concentrated heat source. The challenge to salt was extended later in the year to the proposed use of glass containers for the wastes, as scientists from Stanford University and the Geological Survey argued that the glass could break down under repository conditions of a brine solution under high temperature and pressure. Finally, a Sandia contractor raised site-specific questions about WIPP, suggesting that ongoing processes of salt dissolution by water present in the area might threaten the repository's long-term integrity.<sup>35</sup>

By suggesting that the WIPP site might not be adequate for commercial waste disposal, these pronouncements added credence to the argument that the health effects from the repository could become unacceptably high, and that its siting could interfere with the rights to life and health of local citizens. Citizens groups that had recently begun to actively oppose the project were, in fact, using such information to make that very point. The major supplier of technical information to the dozen or so active anti-WIPP groups was the Southwest Research and Information Center in Albuquerque. Providing information and legal support to a variety of "movements for social change," Southwest Research argued that the hazards from WIPP would be unacceptably high by challenging DoE assurances on scien-

tific grounds and by conveying an image of DoE as systematically providing misinformation in order to serve its own interests. Often both persuasive and timely, the group's claims placed great pressure upon the state government, for while such claims might not justify granting the state formal authority in military decision making, they would, if true, certainly justify state opposition to the project, condemning any state governmental body that disagreed.<sup>36</sup>

Placing still more pressure on the state government, the veto-type control that DoE had promised throughout the year—however indistinct it was—dissolved completely by the end of 1978. The word veto itself was lost forever when the Interagency Review Group rejected it in favor of a concept of "consultation and concurrence," which proved to be a highly compelling but ambiguous label. The crowning blow to the state came in December when, responding in an official opinion to a House subcommittee request, the General Accounting Office held that, according to existing law, DoE had *no authority* to offer either veto or concurrence authority to a potential host state for any kind of repository. Furthermore, it said that DoE's own Office of General Counsel had reached the same conclusion in an internal memorandum the previous March, after which several such promises had been made. Thus while DoE's attempt to share decision-making authority with the state was entirely consistent with the political conditions for legitimizing its commercial disposal decisions, the absence of legal authority to make such an offer, combined with its failure to be candid, created an atmosphere of severe mistrust.<sup>37</sup>

The state attorney general, Tony Anaya, reacted angrily with a strongly worded criticism of DoE's credibility, while legislators, this time in full session, once again engaged in a flurry of activity to define and assert their desired role in the decision-making process. They considered four separate proposals: (1) a two-year moratorium on the project until the state's technical review was completed; (2) a constitutional amendment prohibiting the project; (3) a 10% gross receipts tax on the transport of radioactive materials; and (4) a two-hour notification procedure for any shipment of nuclear wastes. Each of these bills eventually failed, but the legislature did pass a committee substitute that unilaterally asserted the state's right of concurrence and created a legislative committee and an executive task force to study and design a federal/state concurrence process.<sup>38</sup>

While the state sought to check DoE's advances by asserting a role for itself, HASC worked DoE's rear flanks. In December 1978, Secretary Schlesinger proposed to Melvin Price that WIPP's military function be dropped completely and that the repository become wholly commercial. Intent on maintaining jurisdiction over the project, Price responded with the wry suggestion that Schlesinger go to another committee for authorization, and then successfully prevented him from doing so. In May 1979, HASC took WIPP hostage by eliminating from its fiscal 1980 authorization all funding for the project. Either WIPP would be exclusively military or it would be no project at all. Shortly thereafter, the Senate Armed Services committee yielded to HASC, authorizing funds for WIPP but without any provision for the storage of commercial wastes.<sup>39</sup>

This Senate action closed the door on commercial wastes for the WIPP repository. With no funding in sight to further pursue the commercial option, DoE finally yielded to HASC in a July 1979 announcement that it was abandoning the March



1978 proposal to store 1,000 spent fuel assemblies at WIPP, and it returned WIPP to its original scope.<sup>40</sup>

Although HASC had clearly won, the state refused to allow its role to return to *its* original scope, for having authority only to review and comment gave the state no protection against future changes, and no opportunity to insure that the project would be adequately safe. Since state officials also no longer placed any trust in DoE's credibility, they could not guarantee that local residents would not be exposed to unacceptable health hazards. Being forced to return to a bystander's role appeared to the state as, in a way, an illegitimate violation of the Constitutional rights of its citizens. Congress thus found itself with the novel problem of defining an acceptable role for the state government in an exclusively federal decision-making process. The Senate committee set the tone for negotiations that were to last throughout the summer and into the fall, for its WIPP authorization had challenged HASC by still including concurrence authority. In July, HASC offered to agree to authorize WIPP if the state would accept "consultation and review" as its role, but New Mexico Representative Harold Runnels, himself the chairman of a key Interior subcommittee, rejected the offer as grossly insufficient. About the same time, DoE's new Secretary of Energy Charles Duncan pledged to guarantee the agency's earlier promise of "consultation and concurrence," but then he himself later tried to convince the Governor to accept a role more closely approximating consultation and review. The Governor refused.<sup>41</sup>

When the House authorization bill finally came to a floor vote in November, Price surprised his rivals by proposing to reverse his committee's recommendation and fund WIPP, but without state participation in decision-making. The House approved the proposal, setting up a direct confrontation with the Senate, whose commitment to state concurrence authority had remained intact. During the conference period, the New Mexico delegation and Governor King made a last ditch effort to secure concurrence authority by proposing that DoE and New Mexico be given a year to design a workable concurrence mechanism, but the HASC conferees simply would not accept concurrence. Finally, in the middle of December at the eleventh Congressional hour, the committee agreed on yet another concept, "consultation and cooperation," and gave DoE and the state until September 30, 1980, to define what it meant.<sup>42</sup>

#### *Continued Struggle between DoE and the State*

Although Congress had restored decision-making authority over the project to the federal government, the state had no legitimate grounds for challenging its decision, for the compromise had in fact expanded the state's legal role in a strictly military project. Congress was well aware that the state had been riding on a DoE roller coaster for some time, but by no means would it allow DoE to dilute its authority to make siting decisions on a military project. Granting the more limited authority to consult and cooperate thus became a convenient device for requiring DoE to accede as much as possible to the state's wishes. For the state, acquiring the authority to participate formally in the siting decision was no longer a feasible goal, but the precise form of its eventual role was still a matter involving negotiation with DoE.

But much to everyone's surprise, before negotiations got underway President Carter stepped in and cancelled the project. As outlined in a February 1980 policy statement, Carter's reasoning was that by eliminating the requirement for NRC licensing, the WIPP compromise violated his recently completed nuclear waste policy, which included NRC licensing as a prerequisite for all permanent geological repositories. He therefore requested that Congress rescind all funds for the project. HASC prevailed yet again during the spring, however, as Congress voided the President's request by failing to act on it. Still authorized as a military TRU repository but without NRC licensing, WIPP became an embarrassing anomaly for the Carter administration, by far the most advanced disposal project underway yet never mentioned in its comprehensive "National Plan for Radioactive Waste Management." Congress had become WIPP's guiding policy maker.<sup>43</sup>

In spite of the Presidential proposal to cancel WIPP, DoE held monthly meetings with New Mexico's administrative task force in order to design a consultation and cooperation mechanism. The parties reached agreement on a document in August and a public hearing was held, but, two days prior to the September 30 due date, the state attorney general, Jeff Bingaman, announced it was inadequate. Bingaman recommended that the Governor not sign it unless DoE agreed to two stipulations: (1) that its provisions be enforceable in court, making the agreement a legally binding bilateral contract, and (2) that by signing the contract the state did not waive its right to seek judicial review of any DoE decisions. DoE balked, and the Governor refused to sign.<sup>44</sup>

In the absence of a formal agreement with the state and buoyed by Ronald Reagan's election, DoE seized the reins late in 1980 and moved quickly to bring the military project to construction. Having released the final environmental impact statement in October, DoE rejected the state's December request for an extension of the 45-day comment period. Then on January 23, 1981, one day after the new Secretary of Energy James Edwards took office, DoE announced in a final "Record of Decision" that the nine-year-old "preliminary" site investigation was now complete and that it was proceeding with construction. Adding to the chagrin of state officials, the WIPP project manager declared, "We don't need anything else from the state, legally or officially." In just eleven months, WIPP had gone from cancellation to construction.<sup>45</sup>

New Mexico officials felt that DoE was once again ignoring the state, for the Governor was notified after the fact both of the Record of Decision and of a later agreement between DoE and the Department of Interior on the withdrawal of federal land for the project. Seeking to protect what was now legally-granted authority, the attorney general sought a federal court injunction against the project on the grounds that DoE had failed to follow Congress's 1979 mandate to consult and cooperate with the state. DoE backed down in July 1981 and settled out of court, signing the Agreement for Consultation and Cooperation according to the state's stipulations, in exchange for the state's approval to continue construction. A joint state-federal task force, chaired by an executive branch department head from the state, was created to monitor the construction process.<sup>46</sup>

Construction has proceeded in two phases. The first phase, Site and Preliminary Design Verification, consisted of sinking two shafts to repository level (2150 ft.)

and then constructing a series of underground tunnels, all to verify the integrity of the site. While conducting preparatory geotechnical field tests, however, DoE struck a large, pressurized brine reservoir, and, at the request of the state, shifted the repository about a mile to the south. The new site was found to be secure, and on July 1, 1983, DoE announced its decision to go ahead with the second phase, full construction of the repository facility. The repository is now scheduled for completion sometime in 1988.

In 1982, Tony Anaya was elected Governor of New Mexico, and he proceeded rapidly to translate into formal action his continuing concern that WIPP would someday be used for commercial wastes. Demanding negotiations with DoE to modify the Agreement for Consultation and Cooperation, Anaya focused on holding DoE to the project's stated mission as a TRU facility with experiments in the storage of high-level wastes. Since these "experiments" could last as long as 20 years, the administration's concern, according to Sally Rodgers, the Governor's environmental adviser, was that "this may be the camel's nose under the tent." "[B]ased on the size of this facility, the way it is being designed, and the way the schedule for building high-level waste repositories in other states is slipping," she continued, "we worry that there may be plans to permanently store high-level wastes here." Since the potential repositories in other states are all for commercial wastes only, the administration's central concern with commercial disposal was clear. "Otherwise," Rodgers concluded, "why would they spend so much money [\$2.1 billion]?"<sup>47</sup>

Although negotiations proceeded slowly, a new agreement was finally reached on November 30, 1984. The agreement met the state's concerns as much as possible, setting limitations on the types and amounts of TRU wastes to be shipped to the site and asserting that "WIPP is not designed for the permanent disposal of high-level waste, nor has the WIPP site itself been characterized for such permanent disposal." Still, DoE did not, and could not, make a formal commitment that WIPP would never be used for commercial wastes, because that decision could be made legitimately only through a national consensus instantiated in Congressional legislation.<sup>48</sup>

#### *Conclusion: Conflict over WIPP as a Boundary Dispute*

Although all nuclear waste repositories must meet an indistinct — but common — criterion of acceptable safety in order to be legitimate, the political legitimacy of a decision-making mechanism for repository siting also depends upon the extent to which it adequately represents the interests of affected groups. The evolution of intergovernmental conflict at WIPP demonstrates that siting decisions for military waste disposal and commercial waste disposal do not rely on the same political grounds for their legitimacy, for the prospect of bringing them together in one repository caused a boundary dispute between the realms of legitimate federal and state decision-making authority. HASC and the state government resided on opposite sides of the boundary, exercising clearly-defined roles in defending long-established principles of authority. Unambiguously representing the nation's interest in defense, HASC was confident of its authority over any military project, and well aware of its lack of authority over a commercial one. Just as unambiguously

representing the local population that would bear the costs of disposal, the state government accepted as legitimate its initial role as an interested observer of a military project, but felt it deserved much-expanded authority in any commercial operation. DoE occupied unstable ground between HASC and the state, for although existing law had assigned it a single role with exclusive authority over all disposal activities, DoE had in fact, according to long-accepted conditions of political legitimacy, two distinct roles. Dependent upon whether the wastes were military or commercial in origin, these roles collided in the scope change at WIPP. In making a military siting decision, it legitimately represented a national interest, but in a commercial siting decision it merely represented one side of a set of competing regional interests.

Although ERDA had wisely yielded to state opposition to its 1976 search for six commercial sites prior to returning to the WIPP project in New Mexico, DoE fell back upon its exclusive authority when that state protested the change in scope. Yet, when it later reversed course and sought to expand the state's role, DoE was actually exceeding that legally granted authority. While the old model of exclusive federal authority was no longer appropriate, it was still the only legal model. Although state participation in commercial siting decisions appeared legitimate to all concerned parties, it would not *become* legitimate until Congress enacted a supporting statute.

By failing to recognize the contrast between the legitimacies of military and commercial siting decisions, DoE was also unable to anticipate the response from HASC, the dogmatic protector of military interests. The Committee's actions to prevent the illegitimate erosion of federal authority over a military project carried the irony of siding it with the state in halting the expansion in WIPP's scope, but for entirely opposed reasons and with directly conflicting interests.

When DoE attempted to bury military and commercial wastes together at WIPP, it overlapped the legitimate authorities of the federal and state governments and then vacillated among the strategies of asserting unilateral control, enhancing state participation, and seeking a new model from Congress, as it tried to convince both sides to give ground and sanction a new boundary. The boundary problem was resolved only when HASC forced DoE to abandon the attempt and Congress created a compromise model for New Mexico to participate in the siting process. The consultation and cooperation process thus became an ingenious solution to what was now a wholly unique decision-making problem at WIPP, requiring DoE to listen closely to the state but without giving away its legitimate authority over the restored military project.

#### *Epilogue: A Generic Solution for Commercial Waste Disposal*

Although Congress resolved the site-specific problem in New Mexico by restoring the WIPP project to its original scope, the federal/state boundary dispute raised by commercial waste disposal was still in need of a solution, for the outside pressures first applied to ERDA in 1976 were felt even more acutely by DoE in 1981. As Congressional staff members had reported in April 1981 to the National Academy of Sciences' committee, the twin problems of military versus commercial waste disposal and intergovernmental conflict had killed the 1980 bill.

As that year progressed, Congress debated a large number of proposed generic mechanisms for commercial waste disposal. The key issue was how to operationalize the concept of "consultation and concurrence," which DoE had officially adopted as the role of potential host states in siting decisions. But although the concept had become generally accepted as an appropriate description of the state's role, it was nothing more than an empty slogan unless an acceptable mechanism could be designed for dealing with state "nonconcurrence." The only mechanism that appeared to have a chance of gaining Congress's approval was for the Congress to assume for itself a key role in the siting process, for it was the only government actor that could provide the official stamp of national consensus likely to be needed for each siting decision. After a prolonged legislative battle both within and between its two houses, and only hours before adjournment, Congress reached agreement on a siting model in the form of the Nuclear Waste Policy Act of 1982.<sup>49</sup>

The model that finally passed proved to be a remarkably creative innovation, for it successfully provided states with a substantive role in the repository siting mechanism without yielding federal control over the final decision. In particular, the Act operationalizes the concept of consultation and concurrence in a two-step siting procedure. The first step is simply that of consultation and cooperation, and involves a state role in DoE's screening and characterization studies that is similar to New Mexico's role in the WIPP project. The key change lies in the second step, which authorizes the potential host state to halt a recommended site by formally notifying Congress of its disapproval. While a federal constraint remains, in that the state "Notice of Disapproval" is subject to the legislative override of both houses of Congress, the Act has dramatically altered the hierarchical relationship between DoE and the states by recognizing them as formal adversaries and as equals in the siting process.

While it possessed exclusive authority over all siting decisions, DoE was responsible for internally balancing the interests of the separate populations that would bear the costs and receive the benefits of commercial disposal. Figure 3a provides a schematic model of this pre-1982 authority structure, in which all authority resided in the federal government and the key relationship was between Congress and DoE, through which Congress authorized DoE's site-selection activities. The dotted lines connecting Congress and DoE to the government of the potential host state indicate the problematic nature of the state's role in this model, for the state had no formal authority over radiological matters.

By granting the state disapproval authority in the site selection process, the Act explicitly designated the state government as the primary legal representative of the local interests. The state now formally represents all intrastate concerns. As indicated in Figure 3b, the Act equalizes the decision-making statuses of DoE and the potential host state by casting them in the roles of negotiating adversaries subordinate to the final decision maker. On the one side, the state government has benefited significantly by gaining access to the final decision-making process independent of DoE's influence. On the other side, DoE is now free to act more decisively in selecting repository sites, for as long as it complies with the formal requirements of the consultation and concurrence process, it can be secure in the knowledge that it has not interfered with the representation of local interests. The two are required to work together, but each makes a separate siting recommendation to

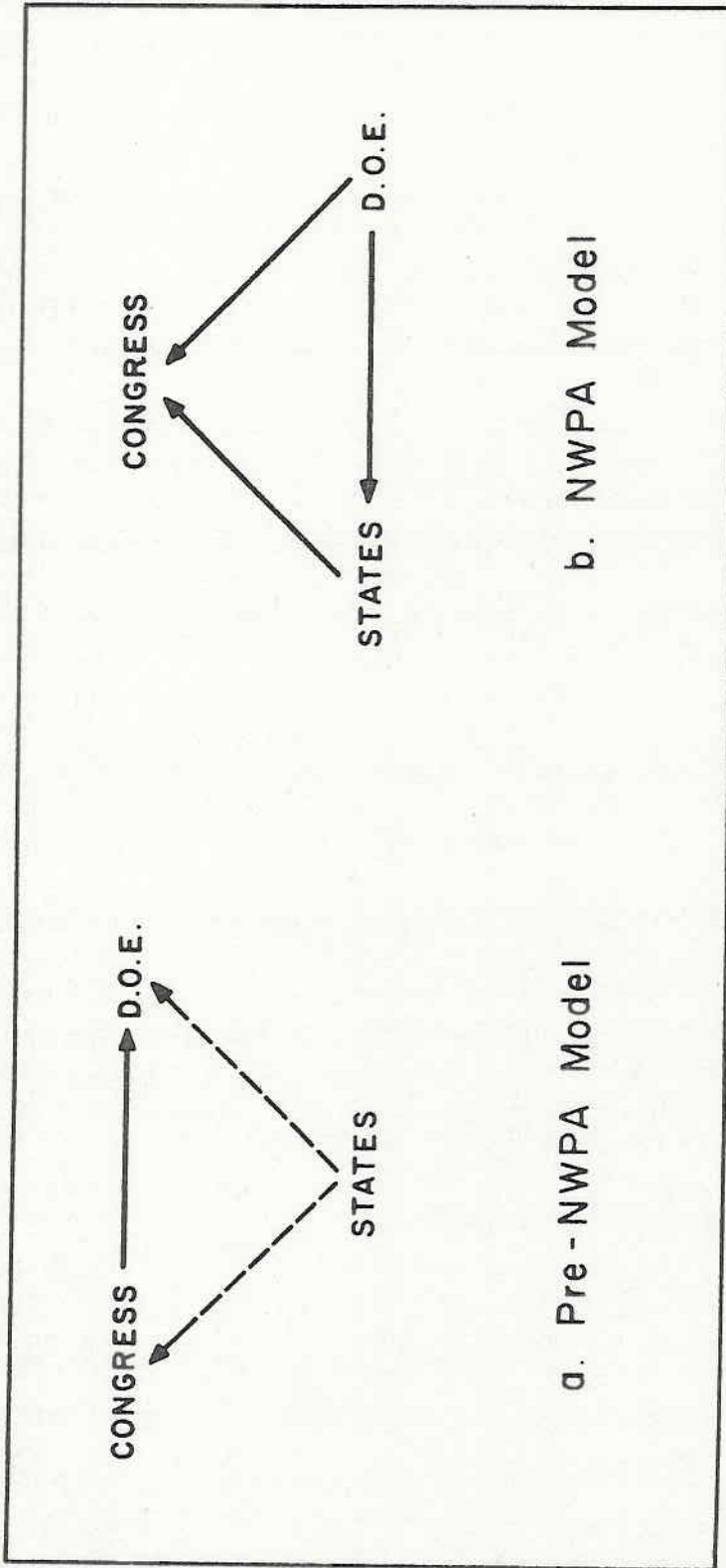


FIGURE 3. Impact of the Nuclear Waste Policy Act on Federal-State Relationships

Congress. Still, as indicated by the connecting arrow, DoE remains in control of the production of knowledge about each site, which the host state needs in order to make a realistic evaluation of its position. So while possessing equal decision-making authority, the state is still dependent upon DoE for information.<sup>50</sup>

By reconstituting the separation of governmental levels, the Act puts the directly competing interests of those who bear the costs and those who receive the benefits in the hands of directly competing actors, DoE and the state governments. The resulting mechanism is far superior to its predecessor in that it does not require DoE to internally balance competing interests, a process that the WIPP experience has shown to be both somewhat opaque and unpredictable. Although it appears awkward for Congress to make individual siting decisions, the consensus-assessment process that takes place in the Congress best achieves the unique balancing of regional interests that is demanded in each case.

The Act is not without its own problems, however. First, it grants disapproval authority both to the governor and to the legislature of potential host states, raising the possibility of disagreement within a state government. Each state must now face the problem of how to organize its own decision-making to insure that the state reaches a single decision to approve or disapprove of the site.

Second, many observers have suggested that no Congress is likely to support a state's disapproval decision. If such occurs, will the host state accept the Congressional decision as genuinely representative of a national consensus or will the state challenge it as illegitimate domination by a self-interested majority?

Finally, since the Act provides only for a commercial disposal mechanism, what about the original problem of whether to bury military and commercial wastes together or separately? According to the Act, the military is authorized to construct its own nuclear waste disposal facilities, while the President is required to recommend by January 1, 1985, whether or not to allow defense wastes into commercial facilities. As of May 1985, however, no such recommendation has been made, and the problem remains unresolved. Until it is resolved, the State of New Mexico must live with the possibility that someday the scope of WIPP will once again be changed to include commercial wastes.

### Notes

1. Committee on Radioactive Waste Management, National Academy of Sciences/National Research Council, "Participants of Congressional Legislative Review of Proposals Introduced in the 96th Congress Involving Radioactive Waste Management," transcript of meeting 19 February 1981, p. 37.
2. *Ibid.*, pp. 93-99.
3. Nuclear wastes are usually divided into three general categories: (1) *high-level wastes* (HLW) consist both of spent fuel from nuclear reactors and the concentrated fission products left after spent fuel has been reprocessed to retrieve plutonium and unfissioned uranium; (2) *transuranic wastes* (TRU) consist of materials that have been contaminated with elements heavier than uranium, primarily the plutonium used in making nuclear weapons; and (3) *low-level wastes* (LLW) are a residual category consisting of materials that are contaminated with small amounts of radioactive elements. HLW's are at high temperatures and emit intensive levels of radiation. TRU wastes are normally at room temperature and emit a range of somewhat less intensive levels of radiation, but are especially long-lived. Both pose sufficient hazard to warrant disposal in deep geologic repositories, while LLW's are disposed of in near-surface facilities.
4. For further discussion, see Gerry Garvey, "NWTS Policy and Public Choice," (Seattle: Battelle Memorial Institute, Human Affairs Research Centers, January 1979), pp. 16-18.
5. *Atomic Energy Act of 1946*, P.L. 79-585 (60 Stat., pp. 755-75); *Atomic Energy Act of 1954*, P.L. 83-703

- (68 Stat., pp. 919); *Energy Reorganization Act of 1974*. P.L. 93-438 (88 Stat. 1233); *Department of Energy Organization Act* P.L., pp. 95-91 (91 Stat. 565).
6. The total costs of nuclear waste repositories include many of the "conventional" impacts associated with large industrial facilities, as well as the "special" impacts generated by its radiation hazard. The uncertain, and potentially catastrophic, nature of the radiation hazard is what makes nuclear waste disposal a particularly difficult problem in balancing interests, and, hence, an unusually sensitive problem politically. For detailed analyses of the impacts of nuclear waste repositories, see Steve H. Murdock and F. Larry Leistritz, *Nuclear Waste: Socioeconomic Dimensions of Long-Term Storage* (Boulder: Westview Press, 1983), and National Academy of Sciences, *Social and Economic Aspects of Radioactive Waste Disposal: Considerations for Institutional Management* (Washington, DC: National Academy Press, 1984).
  7. For further discussion, see Garvey, pp. 21-26; and Daniel Kevin, "Federal/State Relations in Radioactive Waste Management," in *Management and Disposal of Commercially Generated Spent Fuel and High-Level Radioactive Waste* (draft working papers) (Washington, DC: Office of Technology Assessment, US Congress, December 1980), pp. 8-11 to 8-20.
  8. For further discussion of the distribution of interests in commercial waste disposal, see Roger E Kasperson and Mimi Berberian, eds., *Equity Issues in Radioactive Waste Management* (Cambridge, MA: Oelgeschlager, Gunn and Hain Publishing, Inc., 1983).
  9. Implicit in this analysis is an anthropological theory of law and politics that views organizations of political interests and legal authority structures as two types of social structural models in modern Western culture. From this perspective, the problem of formal governmental authority in Western culture is a problem of mapping a consciously designed authority structure onto arrays of competing political interests in a way that maximizes the correspondence between them. In contrast with analyses in political science and law, this approach does not give analytic priority to either the legal or political domain of social structure, and takes as problematic the nature of the relationship between them.
  10. Walter Gerrells, Mayor of Carlsbad, and Eddie Lyon, former Director of Carlsbad Department of Development, interviews with author, Carlsbad, New Mexico, 13 November 1980; see also "Statement of Walter Gerrells, Mayor, City of Carlsbad, New Mexico," House Subcommittee on Oversight and Investigations, Committee on Interior and Insular Affairs, *Oversight Hearings on Nuclear Waste Isolation Pilot Plant (WIPP)*, 96th Congress, 1st sess., 1980, p. 5.
  11. R.L. Bradshaw and W.C. McClain, eds., *Project Salt Vault: A Demonstration of the Disposal of High-Activity Solidified Wastes in Underground Salt Mines* (Oak Ridge: Oak Ridge National Laboratory, April 1971); Philip Boffey, "Radioactive Waste Site Search Gets Into Deep Water," *Science* 190 (24 October 1975), p. 361; Terry Lash, "Radioactive Waste: Nuclear Energy's Dilemma," *Amicus* 1 (Fall 1979), 2, pp. 29-30; Daniel Metlay, "Radioactive Waste Management Policy Making," (Washington: The Office of Technology Assessment, US Congress, 1981), pp. 60-64.
  12. Gerrells and Lyon, interviews; "Statement of Walter Gerrells," *Oversight Hearings on WIPP*, pp. 5-7.
  13. Gerrells and Lyon, interviews; "Proper Perspective on WIPP," Editorial, *Carlsbad Current-Argus* (hereafter *CCA*), 24 February 1977.
  14. See for example "CIA-DOD Supports WIPP Task," *CCA*, 22 November 1977; "Statement of Walter Gerrells," *Oversight Hearings on WIPP*, 5; and Wil Lepkowski, "New Mexicans Debate Nuclear Waste Disposal," *Chemical and Engineering News*, January 1979, p. 73.
  15. Steve C. Ropp and Janet Clark, "WIPP and Sagebrush: Environment v. Energy in New Mexico," in F. Chris Garcia and Paul L. Hair, *New Mexico Politics* (Albuquerque: University of New Mexico Press, 1981); "Governor Seeking Data on AEC's Repository Plans," *Albuquerque Journal*, hereafter *AJ*, 28 March 1973; DoE never attempted to include the State of Texas in the consensus-building process, despite the fact that its border lay close to the WIPP site and Texas citizens may eventually become part of an affected population. After the decision was made to make WIPP a commercial site, three public hearings were held in Texas to gather public comments, but no one has ever been able to conceive of a way to integrate Texas into the formal decision-making process. As an "interested" rather than a "host" state, Texas holds a subordinate position to New Mexico, and traditional mechanisms of federal/state interaction provide no clear method for integrating the two states together in dealing with the federal government. As a result, Texas's interests have largely been ignored.
  16. See Metlay, pp. 19-23, 64-65.
  17. Boffey, "Radioactive Waste," p. 361; "Statement of Wendell D. Weart, Manager, Nuclear Waste Technology Department, Sandia Laboratories, Albuquerque, New Mexico," *Oversight Hearings on WIPP*, pp. 130-40, 628-83.
  18. Boffey, "Radioactive Waste," p. 361; "Statement of Rolla E. Chandler, Acting Assistant Director for Lands and Right-of-Way, Bureau of Land Management, US Department of the Interior," *Oversight Hearings on WIPP*, pp. 86-95, 471-96; "Nuclear Wastes: We Can't Just Throw Them Away," *AJ*, 20 June 1976; "Promise Seen in Salt Beds," *AJ*, 24 June 1976, "Waste Site Conflict Looms," *AJ*, 25 June 1976.



19. "Waste Site Cordoned Off from Public," *AJ*, 2 December 1976; "Simulated Crash to Test N-Fuel Cask," *AJ*, 17 December 1976; "BLM Gets 8 Protests," *AJ*, 19 January 1977; "ERDA Sues to Preserve N-Waste Site," *AJ*, 10 February 1977; "Salt Beds Called Ideal for N-Waste Storage," *AJ*, 18 April 1977; "N-Waste Site Impact on Carlsbad Detailed," *AJ*, 29 April 1977.
20. "Waste Site Conflict Looms," *AJ*, 25 June 1976; "Public Viewpoint Noted in Waste Site Chances," *AJ*, 15 September 1976; "N-Waste Review Panel Chides State for Silence," *AJ*, 24 April 1977.
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