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Intergovernmental Consultation and Coordination: Mitigating Public Concerns Relating to Implementation of the U.S. Army's Chemical Stockpile Disposal Program

David L. Feldman

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ENERGY DIVISION

INTERGOVERNMENTAL CONSULTATION AND COORDINATION: MITIGATING PUBLIC CONCERNS RELATING TO IMPLEMENTATION OF THE U.S. ARMY'S CHEMICAL STOCKPILE DISPOSAL PROGRAM

David L. Feldman

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INTERGOVERNMENTAL CONSULTATION AND COORDINATION: MITIGATING PUBLIC CONCERNS RELATING TO IMPLEMENTATION OF THE U.S. ARMY'S CHEMICAL STOCKPILE DISPOSAL PROGRAM

David L. Feldman

ABSTRACT

Intergovernmental consultation and coordination are means of incorporating the concerns of state and local governments, tribal nations, and the general public in the implementation of programs characterized by real or perceived high risk and public opposition. While incorporation of public concerns is required by law and regulation prior to commencement of programs generating significant environmental impact, agencies are given few guidelines as to how they may be encompassed, particularly during program implementation. This generic problem is complicated by national government supremacy in environmental policymaking, resistance by some agency personnel, historically, to broad public input and open decision-making, and the absence of prescribed mechanisms for mitigating public opposition in the law itself. Through an examination of democratic theory and the practical experience of intergovernmental consultation and coordination in comparable programs, such as those involving the disposal of nuclear waste, it is shown that effective consultation and coordination is contingent upon incorporation of four goals: (1) coherent understanding of the intent of federal law; (2) maintaining citizen concurrence and gaining public support for a program; (3) viewing consultation as a means of maximizing program legitimacy; and (4) commitment to the promotion of publically held democratic values. The potential for success of the Intergovernmental Consultation and Coordination Board (ICCB), designed to provide oversight and guidance for the U.S. Army's Chemical Stockpile Disposal Program (CSDP), is assessed in light of these goals. Single agency management, early public involvement, and means for small-group advising and sharing of information, as well as consideration of issues through mediation and negotiation, are likely to optimize effective incorporation of public concerns and public acceptance of the CSDP.

1. BACKGROUND TO THE CHEMICAL STOCKPILE DISPOSAL PROGRAM: AN OVERVIEW

Public Law 99-145 directs the Secretary of Defense to destroy the nation's stockpile of lethal unitary chemical agents and munitions stored throughout the Continental United States (CONUS) by September 30, 1994, in conjunction with the acquisition of newer-generation binary weapons. The Army has selected on-site incineration at eight CONUS sites in the states of Alabama, Arkansas, Colorado, Indiana, Kentucky, Maryland, Oregon, and Utah as its preferred alternative for destruction of this stockpile (Ambrose, 1988: p. 1). The deployment of this current stockpile, and the eight sites themselves, are discussed in Sect. 3.1.

Chemical agents included in this stockpile are of two basic types-nerve and blister agents--configured in a variety of munitions and bulk containers. Nerve agents, designated as GA, GB, and VX, are odorless, colorless, and tasteless organophosphorus esters which are highly toxic and can cause, in small doses, convulsions and death due to paralysis of the central nervous system. The blister agents, designated as H, HD, HT, and L, attack exposed tissues, potentially causing skin blisters and eye and respiratory tract injuries. They are highly toxic and carcinogenic.

The munitions containing nerve or blister agents include projectiles, cartridges, mines, rockets, and aircraft deliverable munitions and are stored in earth-covered ammunition bunkers. Chemical agents stored in bulk containers are stored in warehouses or outdoors at the eight CONUS installations. These munitions and containers range in age from 19 to over 40 years old. Although the areas surrounding these eight installations range from relatively rural to suburbanized settings, alternatives which have been under consideration at one time or another for destruction of this stockpile have nevertheless raised concerns over the impacts to public health, the environment, and community welfare and well-being at each site.

Environmental impacts from the normal operation of disposal plants will result from airborne emissions, transport of chemical munitions from storage sites to disposal plants, and solid wastes generated from incineration of chemical agents. It has been determined that none of these activities should result in unmitigable impacts or significant impacts to health or the environment. However, the potential for risk from accident, given the relative newness of the disposal technology and its perceived complexity, has heightened public concern for assurances that program safety and security will not be compromised. At some sites, prior incidents involving chemical munitions have raised public concern in this area and generated a lack of confidence in the Army. Moreover, at all sites, some members of the public have expressed a desire to be consulted and informed about program operations to ensure that risks, however small, will be kept to a minimum. For these reasons, intergovernmental consultation and coordination mechanisms have been incorporated into the Chemical Stockpile Disposal Program (CSDP).

2. INTERGOVERNMENTAL CONSULTATION AND COORDINATION: PURPOSES AND PROBLEMS

2.1 INTERGOVERNMENTAL CONSULTATION AS A MITIGATION MEASURE

Intergovernmental consultation and coordination are means of incorporating the concerns of state and local governments, tribal nations, and other affected members of the public in the implementation of government programs that encompass risk, real or perceived, and that are likely to generate public opposition. They are widely used techniques in programs involving the disposal of hazardous waste and the siting of noxious facilities that are complex, controversial, and politically contentious. In many instances, as shown by Table 1, intergovernmental consultation and coordination are mandated by federal laws which require the incorporation of public concerns before commencement of programs entailing the potential for significant environmental impact. In all cases, however, they can be useful devices for building public support, resolving potential conflicts, and improving programmatic quality.

This study examines methods and concerns appropriate to the general problem of intergovernmental consultation and coordination in the U.S. Army's CSDP. It also explores the implications of the Intergovernmental Consultation and Coordination Board (ICCB), which is designed to provide advice and review in the implementation of the CSDP and thus satisfy the requirements of federal laws providing for the incorporation of public concerns in the mitigation of this program's impacts. If a particular public concern, such as the monitoring of toxic substances is itself one of the perceived impacts of a program, it is also encompassed by these laws and regulations. This ICCB, and its advisory role, are discussed in the Final Programmatic Environmental Impact Statement for the CSDP (U. S. Department of the Army, 1988, Vol. 1: pp. 4-168) and the programmatic record of decision (Ambrose, 1988: p. 7). Appendix A provides relevant information from both of these sources.

2.1.2 Intergovernmental Consultation and Coordination

In the implementation of programs posing risk to the environment and human health, state and federal authorities have increasingly come to rely upon the concept of consultation and coordination as a procedural arrangement to facilitate: (1) institutional planning for emergency response, (2) upgrading of transportation and other components of the community infrastructure impacted by potentially hazardous facility siting, and (3) development of tools for enhancing public acceptance through programmatic oversight.

An example of the first use is U.S. Department of Energy (DOE) technical assistance to states and communities for mitigating impacts associated with the federal low-level nuclear waste disposal program (Kerr, 1982). An example of the second is afforded by U.S. Department

Table 1. Intergovernmental consultation and coordination requirements and guidelines associated with the Chemical Stockpile Disposal Program

Statute	Form of assistance prescribed[a]	Consultation required[b]		Coordination procedure required or recommended[c]
		State	Local	
General Environmental Laws and Regulations				
National Environmental Policy Act (P.L. 91-190) or NEPA. Also 40 CFR Sec. 1500.1, 1502.14, and 1502.16.	Technical assistance for impact mitigation; incorporation of diverse values and public concerns (Sec. 101-102 and 40 CFR Sec 1500.1).	X	X	Scoping meetings, public hearings, distribution of environmental impact statements to public prior to decision on proposed action.
Resource Conservation Recovery Act (P.L. 94-580) or RCRA	Grants to states for monitoring hazardous wastes (Sec. 3007-3012).	X	--	None required, recommend independent state monitoring (see Sect. 4.2 of TM).
	Conformance with state permitting requirements (Sec. 3006).	X	--	None required; however, C and C with state EPA's is recommended.
	State consultation with local communities for waste management planning and special assistance for rural communities in planning (Sec. 4006, 4009).	--	X	C and C with state governors, designated state officials and local elected officials.
Toxic Substances Control Act (P.L. 94-469) or TSCA	Exchange of R and D data on toxic substances Sec. 10).	X	X	Elected state and local officials designated state officials.
	Response to citizen petitions to modify/repeal rules (Sec. 20-21).	--	--	No explicit requirement, recommend integration of citizen input (see Sect. 4.2 of TM).
	Grants to states to mitigate "unreasonable risks to health or environment (Sec. 28).	X	--	No explicit requirement, recommend integration of citizen input (see Sect. 4.2 of TM).

Table 1 (continued)

Statute	Form of assistance prescribed[a]	Consultation required[b]		Coordination procedure required or recommended[c]
		State	Local	
Comprehensive Environmental Response, Compensation, and Liability Act (P.L. 96-510) or CERCLA	Furnish information to all affected governments on accidents/incidents; participate in cost-sharing activities associated with monitoring of hazards; provide assistance for emergency response. This act forms the basis for SARA.	X	X	C and C with state/local elected officials; incorporate "private entities" involved in disposal.
"Superfund" Amendments and Reauthorization Act (P.L. 99-499) or SARA	Technical assistance for upgrading emergency response infrastructure (Title III).	X	X	C and C with state/local emergency response coordinators and commissions.
	Notification of states/communities in event of accidents/incidents (Sec. 302-304)	X	X	Same as above. Assist communities in emergency planning (Federal Register 52: 13379-13396, April 22, 1987).
	Establishment of uniform inventory format for identification of chemical hazards for use by state/local authorities (Sec. 311-312).	X	X	Same as above. Reporting provisions provide public access to information (Federal Register 52: 2836, January 27, 1987).
Endangered Species Act (P.L. 93-205)	Cooperate with states prior to acquisition of land/water rights for chemical disposal program (Sec. 6).	X	--	None prescribed; cooperation with appropriate state agencies recommended.
Hazardous Materials Transportation Act* (P.L. 93-633) or HMTA	Conformance with state/local laws affording equal or greater protection to public during transit of chemical munitions (Sec. 112).	X	X	None prescribed. DOT shall determine effectiveness/appropriateness of state and local ordinances; thus C and C with DOT and DHHS review committee for program oversight recommended.
Clean Air Act of 1970 91-604)	Conformance with "State Implementation Plans" (SIP's) for air quality (Sec. 106, 107, 110).	X	--	State air pollution control agencies interstate APC's, and regional intrastate APC's.

Table 1 (continued)

Statute	Form of assistance prescribed[a]	Consultation required[b]		Coordination procedure required or recommended[c]
		State	Local	
Clean Air Act of 1977 (P.L. 95-95)	Conformance by federal agencies and contractors with SIP air quality requirements and local air pollution ordinances (Sec. 116).	X	X	Same as above.
Armed Forces Laws				
Armed Forces Appropriation Act of 1970 (P.L. 91-121)	Conformance with DHHS regulations regarding overall public health and safety in transportation and testing and prior notification of states in transport (Sec. 409).	X	--	State governors. DHHS is charged with mitigation of state/local health/safety concerns; thus consultation with DHHS recommended.
Armed Forces Appropriation Act of 1971 (P.L. 91-441)	Prior notification of testing or disposal of chemical munitions.	X	--	State governors.
Defense Authorization Act of 1986 (P.L. 99-145)	Conformance with all applicable laws providing "maximum protection for the environment and public" (Sec. 1412).	X	X	None prescribed with states; recommend integration of public input (see text). C and C with EPA and DHHS required.
National Defense Authorization Act of 1987 (P.L. 99-661)	Optimize public safety and cost-effectiveness of chemical munitions disposal program (Sec. 154).	X	X	None; however, community oversight groups are consistent with these goals. (Federal Register 52: 4646, February 13, 1987).

*If off-site transportation alternative had been selected (see Appendix B of TM).

[a]Prescribed means explicit in noted sections of laws, or in the law itself.

[b]Required consultation is also explicit in these laws.

[c]If procedure is required, it is so stated in the law; if recommended, recommendation is author's in text.

of Transportation (DOT) and Federal Emergency Management Agency (FEMA) training of state and local inspectors charged with regulating transported hazardous materials through DOT's State Hazardous Materials Enforcement Development Program and FEMA's Federal Radiological Preparedness Coordinating Committee (Office of Technology Assessment, 1985: p. 186; Smith, 1982: p. 15). The third case is exemplified by the incorporation of formal conflict resolution mechanisms in waste repository siting requirements prescribed by the Nuclear Waste Policy Act (NWPA) of 1982 (U.S. DOE, 1986a: p. 58). These mechanisms are designed to alleviate objections raised by eligible states and affected Indian tribes.

This report illustrates how and why intergovernmental consultation and coordination are useful instruments in the CSDP. In addition, the goals of consultation and coordination in mitigating public opposition to similar programs are discussed. And finally, specific methods and techniques likely to facilitate its effective use in the CSDP are examined. Moreover, by comparing the characteristics of the ICCB with consultative arrangements developed for comparable programs, it can be shown how known obstacles to the effective incorporation of public concerns may be overcome.

2.2 DEFINING CONSULTATION AND COORDINATION: LACK OF A CLEAR, SINGULAR DEFINITION

In a federal system, few administrative activities are performed solely by one layer of government. In the United States, implementation of policies potentially affecting public health and safety, environmental protection, emergency planning, and the disposal of toxic or hazardous waste--areas of special concern in the CSDP--have typically been shared simultaneously by several layers of government. This sharing has been characterized as a "marble cake" arrangement (Grodzins, 1983) to underscore both shared responsibility and the apparent lack of absolute hierarchy among these layers. Nevertheless, law, precedent, tradition, necessity, and vastly greater resources place the national government in a supreme position in determining programmatic direction for each of these policy areas.

Consultation and coordination can be distinguished from marble cake federalism, however, because of the extraordinary complexity of scientific and technological problems in contemporary society, the response to which must take advantage of the special competence in each layer of government. Thus, every layer of government is entitled to share in the management of programs encompassing potential risk.

An example of this notion is afforded by Rosenbaum (1984), who suggests that recent laws designed to encourage consultation and coordination agreements among states, localities, Indian tribes, and the national government in attempts to site a high-level nuclear waste repository constitute "... a prescription for de facto federal-state collaboration in all technical and institutional aspects of such programs ... (up to and including) the right to suspend federal

activities" (Rosenbaum, 1984: p. 183). What Rosenbaum finds problematic about such agreements is that constitutional realities prohibit states or local governments from exercising preemptive vetos over federal programs (Rosenbaum 1984: p. 183). States and localities are free to oppose federal-level policies they disapprove of, but they can neither overturn nor significantly or independently modify them.

Although many policymakers involved in controversial environmental decisions affecting states and communities concur that public involvement should be facilitated, it is not entirely clear what intergovernmental consultation and coordination are expected to achieve or how they are supposed to be facilitated. In a strictly legal sense, the concept is somewhat ambivalent. Under law, state and local governments have a legitimate right to be informed of federal agency decisions affecting their welfare and to have their concerns officially registered through a number of technical and lay public hearings. However, they do not generally have a right to initiate major decisions themselves or, as noted, to veto decisions initiated by the national government. Exceptions to this practice are worthy of note because they are both rare and exemplify this ambivalence. Under provisions of the 1982 NWPA, for example, an affected state or tribal nation may lodge a formal objection with Congress over a DOE site-selection decision. That objection takes effect unless overturned by passage of a joint resolution of both houses of Congress. These unprecedented rights of limited veto were incorporated into NWPA to build public support for a high-level waste repository and to eliminate acceptance of "an unreasonable or patently unsafe siting proposal from DOE" (Office of Technology Assessment, 1985: pp. 180-83). In short, the highly controversial nature of this program has necessitated unusual steps to incorporate the concerns of states, communities, and tribal nations.

Because few laws allow this type of option to be exercised by states, communities, or other affected members of the public, however, the manner in which these institutions will be incorporated in similar decisions is usually open to considerable negotiation. Although some types of consultation must be facilitated, in few cases are federal agencies required to actively incorporate states, localities, or Indian tribes in the decision-making process leading to the siting of hazardous facilities. Thus, the meaning of consultation and coordination depends, in good measure, upon the willingness of federal agencies involved in potentially hazardous waste or noxious facility siting to share decision making with states, localities, affected Indian tribes, and the general public through deliberate, interactive consultation.

3. GOALS OF INTERGOVERNMENTAL CONSULTATION AND COORDINATION: A FRAMEWORK FOR ANALYSIS

In a democracy, the public's desire for full and open participation in the formulation of decisions which may place the public at risk must be reconciled with the limits imposed by national security and the uncertainties of policy outcomes. From the standpoint of intergovernmental consultation and coordination, this is the principal problem confronting the Army's CSDP and the citizens residing in, or near, the eight CONUS sites where chemical weapons are stored.

Intergovernmental consultation provides one means of reconciling the desire of some of the public to advise and review the program with the Army's explicit need to retain primary authority in its management.

3.1 THE ROLE OF INTERGOVERNMENTAL CONSULTATION AND COORDINATION IN THE IMPLEMENTATION OF THE CSDP

Public Law 99-145 directs the Secretary of Defense to destroy the nation's stockpile of lethal unitary chemical agents and munitions stored throughout the continental United States by September 30, 1994. Each of the CONUS sites is an Army installation located in, or adjacent to, communities of various size, population density, and socioeconomic character. The Army CONUS installations include

1. Aberdeen Proving Ground (APG) near Edgewood, Maryland;
2. Anniston Army Depot (ANAD) near Anniston, Alabama;
3. Lexington-Blue Grass Army Depot (LBAD) near Richmond, Kentucky;
4. Newport Army Ammunition Plant (NAAP) near Newport, Indiana;
5. Pine Bluff Arsenal (PBA) near Pine Bluff, Arkansas;
6. Pueblo Depot Activity (PUDA) near Pueblo, Colorado;
7. Tooele Army Depot (TEAD) near Tooele, Utah; and
8. Umatilla Depot Activity (UMDA) near Hermiston, Oregon.

Site-specific variables (e.g., the local economy and public trust in the Army as a result of past or current installation activities) have contributed to varying levels of public support for the Army's preferred alternative for destruction of the stockpile (disposal of the agents and munitions at the sites where they are stored). This also happens to be the environmentally preferred alternative. Considerable opposition has been manifested toward this alternative at APG, LBAD, and NAAP.

However, other alternatives which were under consideration for destruction or continued management of the Chemical Munitions Stockpile Program also generated opposition. This is because each of these alternatives: (1) continued storage at the eight sites, (2) regional disposal at ANAD and TEAD, (3) a national disposal center at TEAD, or (4) partial relocation of the APG and LBAD stockpiles raised a number

of contentious issues. These issues ranged from the risks of continued storage (e.g., potential agent exposure through handling activities or unforseen external events), the complexity of emergency planning (Ambrose, 1988: pp. 3-5), and the review and assessment role of transportation corridor communities through which these munitions would have to be shipped if a transportation option had been selected (see Appendix B).

In addition, another apparent problem which has confronted the Army is establishing and maintaining credibility in managing the CSDP competently. A number of issues have been raised at public hearings pertaining to Army sensitivity to public concerns, the possible impacts of past Army activities at one or more of the eight CONUS sites, and the possible lack of Army recognition of the political, social, and cultural complexities underlying public perceptions of program risk.

Although these opinions may not be representative of most local residents, some measure of the dimensions of this credibility gap is exemplified by the following statements from public hearings at the eight sites. A state representative from Harwood County, Maryland, for example, suggested the need for closer consultation with local governments in the CSDP and criticized the Army for its understanding of population density at APG:

> We are called medium population density for the purposes of the Army's report (but) . . . it doesn't seem that Regional Planning Council documents have been used to indicate how many people travel into this site daily. How many people work here? How many people just travel through here? . . . We think (they) should be included in the population figures (or) the report is incomplete in that the population figures are unreliable.

At Richmond, Kentucky, the following comments were made about the relationship between prior accidents at LBAD and public distrust of the Army's preferred alternative for destruction of the chemical stockpile:

> Due to the actions of the Army, both past and present, there is no way that they'll ever convince us that an incinerator in our backyard is the best and safest method to dispose of their rockets . . . . They're not ours. The Army has no trust (and) no credibility in this community on this matter.

Additional comments by other speakers at LBAD hearings echo the same sentiments by focusing upon specific perceived deficiencies at the installation as they affect Army competence to manage the CSDP. From a resident of Madison County came this typical remark:

> . . . we read in the newspaper only this week that there apparently are serious personnel problems at (LBAD) with respect to the security force . . . Even though you say there is no danger of an imminent catastrophe (you must) make a personal investigation to determine whether or not in fact

> (these) personnel problems exist . . . Any organization that has a turnover of 30% in 12 months is in serious trouble.

Finally, from the Director of the Kentucky Environmental Quality Commission came this additional observation on the relationship between public consultation and the mitigation of public skepticism toward the program:

> . . . it is paramount that impact on communities be included in a more broad and meaningful way in the decision-making process. Failure (to do this) will likely mean at the very least litigation as groups seek to use the courts to obtain the kind of recognition and influence that moves them through the Army's current decision-making process.

At other sites, witnesses who generally expressed support for the Army's preferred alternative of on-site incineration likewise acknowledged a concern with Army credibility and the need for some kind of independent oversight of the CSDP. At Clinton, Indiana, one witness noted:

> Favorable state and local officials should be invited to form independent commissions to oversee the construction and design of incinerators. . . . The Army should cooperate and offer assistance and the Environmental Protection Agency (EPA) should run tests independent of the military.

Another resident of the NAAP area expressed the following apprehension about security and Army competence in the CSDP: "What kind of assurance can I be given that I will not be the victim of a saboteur?" The remark was prompted by reports of an alleged "party" at the NAAP installation.

On the subject of perceived Army competence to run a full-scale incinerator, came the following comments from public hearings held at Hermiston, Oregon:

> Historically, (UMDA) has no expertise in industrial-sized production or destruction of chemical agents . . . . It is now apparent that many of the sites that have engaged in such activities have serious chemical contaminant problems that threaten the environment . . . . More recent events also raise doubts about the Army's ability to protect chemical facilities from thieves and/or terrorists . . . . If the Army cannot secure its sites against inquisitive children, . . . I do not want them plying their destructive business in my or anyone else's backyard.

Finally, the following statement from a public hearing at Pueblo, Colorado, exemplifies apparent concern over the relationship between ongoing Army activities at the eight sites and program safety in the CSDP:

> I saw earthquakes mentioned on the chart. I heard nobody talk about approximately 30 bombs that go off out at PUDA everyday. That's sort of an earthquake I think. There's a lot of things that escape from the Army depot (like) gasoline ration stamps. . . . If you people can't handle paper up there, how in the world can you handle this deadly gas? I am a little bit bitter about it, I really am.

In light of the public's perceptions of the program, Oak Ridge National Laboratory has recommended the development of consultative mechanisms to (1) mitigate public skepticism of the safety of disposal techniques, (2) ensure the effectiveness of emergency management and other hazard mitigation measures, and (3) heighten public confidence in the Army's ability to manage the CSDP. To some degree, while these actions may be viewed as confidence-building measures to heighten public support, it must be realistically conceded that any alternative chosen by the Army for destruction of the nation's chemical stockpile would be fraught with controversy. For example, additional study of each of the eight sites could uncover information that would warrant reconsideration of the programmatic alternative. Moreover, the risks to the installation and surrounding communities from accidental events are never entirely absent (Ambrose, 1988: pp. 3-4). Thus, ongoing expressions of public concern can be expected as this program gets under way.

A secondary purpose of intergovernmental consultation and coordination should be to facilitate ongoing public participation in the management of this program so that community concerns can be duly registered and, where appropriate, incorporated in its operation. Thus, intergovernmental consultation and coordination in the CSDP can be further defined as a means of holding the Army accountable. By providing an advisory mechanism for reviewing the consequences of the program, consultation and coordination may enhance public trust in the selected demilitarization alternative.

Because the perceived risks associated with each alternative in the CSDP have generated considerable debate, consultation and coordination mechanisms developed for the program will be used to address a number of issues. At the most basic level, programmatic and site-specific ICCBs must satisfy those federal laws depicted in Table 1 that require incorporation of public concerns in the program. A two-tier system of intergovernmental consultation and coordination boards has been established for this program. However, while not explicitly required, it would be prudent for ICCBs to assist in alleviating other problems, such as building and maintaining public support for the program, hastening implementation of the CSDP, and facilitating representation of a broad range of views in the program.

3.2 FOUR GOALS OF INTERGOVERNMENTAL CONSULTATION AND COORDINATION: THEORY AND PRACTICE

Four different but complementary goals of intergovernmental consultation and coordination have been identified: (1) meet the requirements of federal laws, (2) maintain citizen concurrence with, or gain public support for, a program, (3) maximize program effectiveness by minimizing delay and legitimizing decisions; and (4) promote democratic values shared by members of the public.

3.2.1 Intergovernmental Consultation and Federal Statute Requirements

A variety of intergovernmental consultation and coordination mechanisms are mandated by federal law. Several statutes place special obligations upon the U.S. Army's CSDP. In its Final Programmatic Environmental Impact Statement and its programmatic record of decision, the Army supported the formation of the ICCB to provide independent oversight of the program. The purpose of ICCB is to meet a number of legal requirements and guidelines (see Table 1). Appendix A details the specific structure of the ICCB.

The ICCB is intended to address public concerns regarding the following:

- Financial and technical assistance to states, communities, and native Americans for upgrading emergency response capabilities and environmental quality in potentially affected communities [NEPA--in regards to technical assistance for the implementation of site-specific reviews of documentation in support of environmental assessments (EA's) or environmental impact statements (EIS's) at each of the eight sites, RCRA, TSCA, CERCLA--as regards cost-sharing activities for emergency planning, SARA].

- Direct notification of all aspects of the disposal program, including any required but unanticipated program changes affecting communities, states, or native Americans (RCRA, CERCLA, SARA, Armed Forces Appropriation Acts of 1970 and 1971).

- Coordination of disposal activities with federal, state, local, and tribal authorities responsible for enforcing environmental laws governing air quality, and, if applicable, endangered species, and hazardous waste. States are sometimes charged with implementing specific requirements of federal laws. In other instances, state requirements may be more stringent than those prescribed by federal law (RCRA, SARA, Clean Air Acts, Endangered Species Act, Defense Authorization Act of 1986).

- Provision of accurate and timely information concerning the nature, amount, and dispersion of hazardous substances resulting from the disposal process (on-site or off-site), whether through accidental release or normal operations (RCRA, TSCA, CERCLA, SARA, HMTA).

While many of the statutes noted above and presented in Table 1 require initiation and continuation of an exchange of information with states and communities to ensure protection of public health, safety, and environmental quality, exact procedures for intergovernmental consultation and coordination are rarely prescribed. This is precisely why a special ICCB has been proposed for the CSDP. However, the range of public concerns over each of these goals raises further questions concerning how an advisory and review role for the public may be satisfied. The public has many different perceptions about the program. Some are most concerned with simply being informed about the program, for example, while others want specific assistance for emergency planning or other concerns. Thus, other purposes of intergovernmental consultation and coordination will ultimately shape the parameters of the ICCB, as noted below.

3.2.2 Maintaining Citizen Concurrence and Gaining Public Support Through Intergovernmental Consultation

Previous experiences with intergovernmental consultation and coordination procedures developed in response to comparable programs involving hazardous waste disposal and the siting of noxious or unwanted facilities suggest that techniques which effectively integrate community concerns can maintain citizen concurrence and enhance public support in programs like the CSDP which are perceived as risk-laden (Lewis and Weigert, 1985; Bidwell et al., 1987). Likewise, similar programs suggest that public confidence in the selected alternative for disposal of the nation's chemical stockpile can be increased if state, local, and tribal authorities are directly involved in an advisory role (Wilson, 1986).

Intergovernmental consultation and coordination can reduce public opposition by providing institutional arrangements to mitigate socio-economic impacts arising from implementation of this program. A number of related strategies have emerged. One strategy is to make tax-equivalent payments in lieu of revenue losses encumbered in upgrading community infrastructure in areas such as schools and housing. Another involves anticipatory compensation payments before an action commences. A third involves incentive-building measures such as upgrading emergency response capabilities, mitigating health and safety concerns, and providing technical assurances of quality control in program management (Carnes et al., 1982; Office of Technology Assessment, 1985: pp. 107-108).

Successful implementation of incentive-building and compensatory measures hinge upon the satisfaction of a number of pre-conditions. First, agencies in charge of programs perceived as hazardous and risk-

laden programs have often operated under an ethos of secrecy, a closed process of deliberation and a hierarchical command (Kraft et al., 1987; Nelkin, 1981; Freudenburg and Baxter, 1985). As a consequence, agency personnel charged with implementing intergovernmental consultation and coordination programs often lack the experience, training, and inclination necessary to accommodate concerns for broad-based public participation. Moreover, some agencies historically have been resistant to opening their decision making processes to public scrutiny (Kraft et al., 1987; Feldman, 1986; Nelkin and Pollak, 1982). A new operational strategy should be developed at the highest levels of an agency.

Recent criticism of DOE's implementation of the requirements of the Nuclear Waste Policy Act of 1982 illustrates the problems entailed in nurturing such a new strategy, and in encouraging open decision making. Care should be taken to establish a visible, accessible agency presence in the local community where programmatic impacts are felt. Local residents should be constantly informed of programmatic activities and changes, and decision makers should make scientific data as comprehensible as possible (U.S. GAO, 1987: pp. 28-35; U.S. Congress, 1987: pp. 87-92).

Compensation efforts should be explicitly directed at the mitigation of anticipated impacts. Frank discussion over what is being compensated--and why--must take place. Without linkage between programmatic objectives and monetary exchange, charges of "bribery" or "buying consent" are likely to arise (Carnes et al., 1982). More problematically, the scope encompassed by a compensation framework should be carefully conceived. State-level opposition to DOE's proposed Monitored Retrievable Storage (MRS) facility contemplated for Oak Ridge, Tennessee, illustrates this problem (Snyder-McCabe and Fitzgerald, 1987; Taylor, 1986). While DOE believes that it has equitably addressed the need for a multifaceted compensation package for the city of Oak Ridge and for Roane County, the State of Tennessee has vigorously objected to both the package and the presumed need for a MRS. The state has charged that an appropriate compensation package must satisfactorily address the environmental and socioeconomic impacts of MRS upon the entire eastern Tennessee region and not merely the Oak Ridge area (Snyder-McCabe and Fitzgerald, 1987). Moreover, some critics charge that proponents have failed to elucidate the purpose of a temporary MRS given the goals of the national program to establish a permanent high-level waste repository.

Thus, decision makers must train personnel in constructive approaches to public participation in order to overcome bureaucratic inertia. Moreover, compensation measures should be selected as a result of discussion within the intergovernmental consultation framework. Finally, the rationale for policy should be made clear and explicit. Few incentive-building or compensatory measures can generate public trust when a policy alternative is perceived as inherently ineffective.

3.2.3 Intergovernmental Consultation and Policy Effectiveness

A policy is usually considered effective if it solves the problems it was designed to address. However, limited resources, the pressures of time, and public acceptability constitute major concerns in the real world of politics. Thus, it is insufficient to leave this basic definition as it stands. Policy effectiveness in a democracy requires that solutions to problems satisfy several criteria. A good policy is one that is efficient in the use of resources; equitable in its impact upon various groups; feasible (able to accomplish its objectives without generating massive social, economic, and political dislocations); and considerate of noneconomic values such as preservation of the environment and protection of the quality of life. These societal values are not easily quantifiable (Young, 1982).

One purpose of intergovernmental consultation and coordination is to make policy decisions involving the siting of noxious or undesirable facilities feasible, efficient, equitable, and cognizant of noneconomic values. This is achieved by minimizing delays in policy implementation, optimizing the overall quality of decisions, and protecting the environment and human health. Public scrutiny has measurably improved the quality of many controversial siting decisions through the solicitation of broad public input and review.

A good example of this improvement of programmatic quality occurred with the Trans-Alaska petroleum pipeline. Before implementation of this program, participation by the "technical" public through peer review with outside experts took place. Expert review by a variety of agencies apprised decision makers of the need to assess pipeline impacts upon caribou migration routes and ecologically fragile tundra. Public acceptance of the environmental and socioeconomic impacts of the pipeline was also optimized by hearings involving citizen participation. These hearings, similar in scope and character to those being proposed for the siting of a geologic repository for high-level nuclear waste, helped resolve a number of possible obstacles to public acceptance. Failure to resolve such obstacles can cause untimely delays and obstruction of long-term solutions to pressing environmental and energy problems (Office of Technology Assessment, 1985: pp. 190-91).

Along similar lines, once a controversial program commences operation, intergovernmental consultation and coordination can be employed to enhance its legitimacy and build public support. In the operation of hazardous waste disposal installations, dedicated landfills, waste repositories, and similar facilities, voluntary compliance and, in some instances, active cooperation by key individuals and groups in a community may be essential for accomplishment of programmatic goals. If a significant segment of the local populace adjacent to a proposed facility believes that its concerns and recommendations are being ignored, it can direct its resources toward stopping such a project through interest group mobilization and litigation strategies (Office of Technology Assessment, 1985: p. 191; Schoenbaum, 1979).

Involvement of the public and technically competent experts in areas germane to the CSDP may make implementation of the selected alternative more effective, timely, efficient, and equitable by incorporating a variety of concerns relating to emergency response and public safety. Moreover, by providing a forum for representation of diverse interests, potential conflicts involving program operation may be resolved before its commencement.

Scoping meetings and public hearings to prepare the CSDP Draft Programmatic Environmental Impact Statement and to receive comments on its contents enabled the Army to gather significant input on a number of public concerns whose incorporation in the program may enhance public support. These concerns include the need for effective environmental and health effects monitoring, improvement of emergency response capabilities, and greater attention to site-specific impacts.

3.2.4 Intergovernmental Consultation, Citizen Participation and Democratic Values

In an era of growing technological sophistication, specialization, and complexity, important political decisions are increasingly made by select groups of experts not directly accountable to the general public. The secluded work of these specialists in the implementation of perceived-hazardous programs increases the distance between citizens and government, reducing the former's opportunity to influence the outcome of decisions critical to health, welfare, and the quality of life (Barber, 1984; Mansbridge, 1983). This lack of accountability and the subsequent political alienation which may result from it pose a significant challenge to democratic theory:

> . . . only fairly demanding forms of citizen participation may help salvage democracy from . . . massive cynicism and very limited forms of citizen involvement such as voting . . . . The trick is to ensure that such vigorous public involvement does not prevent effective and timely response to urgent national problems (Kraft et al., 1987: p. 54).

Citizen participation in the implementation of the CSDP may be viewed as a mechanism for constructively channeling democratic impulses in a manner likely to enhance public trust, fulfill popular desires for participation in an important program affecting the welfare of many Americans, and hold decision makers accountable for programmatic impacts and methods of prescribed mitigation.

There are several reasons intergovernmental consultation and coordination enhance these democratic criteria. A trustworthy action is one based upon a decision-making framework perceived by the public as fair, equitable, and rational. Democratic theorists postulate that such a framework must do the following:

(1) Maximize the range of viable, realistic, and unbiased alternatives under consideration in a noncapricious, nonself-interested

manner (Anderson, 1979; Dror, 1968; Kalleberg and Preston, 1975). In the CSDP, such a parameter is exemplified by the Army's genuine consideration of various options for the destruction of the stockpile. This is the case only if the public believes that decisions are not preformed or made prior to consultation--an observation confirmed by studies of nuclear-waste-siting controversies (Peelle, 1987).

Convincing the public affected by the CSDP that the decision for destruction of the stockpile was not preformed is an obvious problem. The Council on Environmental Quality (CEQ) regulations require identification of a preferred alternative for destruction of the chemical munitions stockpile by the Army. This must be done in both the draft and final versions of the environmental impact statement to "present the environmental impacts of the proposal and the alternatives in comparative form, thus sharply defining the issues and providing a clear basis for choice . . ." (40 CFR, Sect. 1502.14). The environmentally preferred alternative and an agency's preferred alternative could differ (e.g., if nonenvironmental factors weighed heavily against the environmentally preferred alternative).

Although the preferred alternative and the environmentally preferred alternative were identical, the latter was not preformed. It would be more accurate to say that the methodology from which the environmentally preferred alternative was derived (U. S. Department of the Army, 1988: Vol. 3, M-3--16) confirmed that the preferred alternative was responsive to public concerns as expressed at hearings and other fora which identified a variety of salient issues. In part, the criteria for deriving the environmentally preferred alternative were selected on the basis of concerns deemed important by members of the public and outside experts (U. S. Department of the Army, 1988: Vol. 3, M-3). These concerns included human health impacts, especially risk of fatalities; long-term health risks; risks to ecosystems and the environment; and the effectiveness of emergency planning and preparedness measures. The Army chose the environmentally preferred alternative because it best addresses these concerns.

(2) Provide citizens with information sufficient to express thoughtful preferences about each of these alternatives. This requires that policy objectives be made transparent and scrutable so that risks entailed in a program may be consented to only after a full appraisal of the facts (Rawls, 1971). At several junctures, public hearings on the Draft Programmatic Environmental Impact Statement for the CSDP revealed considerable public concern over the meaning, interpretation, and eventual application of the risk assessment incorporated in the selection of the environmentally preferred alternative. Publicly expressed concerns for depicting risks as lucidly as possible appear to be related to the notion that the more clearly the components of a programmatic risk assessment are depicted, the better able the public will be to understand what it is they are being asked to consent to (Blackwell, 1987: p. 41).

(3) Facilitate mechanisms for holding policymakers accountable. Implicit in these mechanisms would be their acceptance of liability for

policy failure as demonstrated by their willingness to compensate citizens for the impacts of their actions (Young, 1982; Anderson, 1979). A principal reason the Army supports the formation of an ICCB is the hope that such a consultative mechanism can constructively enhance the implementation of emergency planning and preparedness mitigation. This would be achieved through the ICCB's monitoring and provision of advice and review of mitigation measures.

(4) Assure adequate debate and deliberation to provide the public a genuine role in the shaping of policy. This encompasses the further assurance that policy choices will not be made under duress (Taylor, 1961; Griffiths, 1958). Given the risks of continued storage of chemical munitions, a government may establish reasonable deadlines for policy implementation--as Congress intended in the selection of a 1994 deadline for destruction of the nation's chemical stockpile. The key to meeting such deadlines democratically is to ensure that the public is consulted to the maximum extent practicable and that the affected citizenry retain rights to review, assess, monitor, and evaluate the impacts of the program once it commences.

A question of equity that has arisen in the context of the CSDP concerns whether or not some communities are better able to sustain the long-term, possibly indeterminate environmental impacts of a catastrophic release through an accident. Given potentially wide variations among the eight sites in terms of population density and economic character, the ability of some communities to recover from an accident may be seriously hampered. This is an additional challenge that both site-specific and programmatic ICCBs will be asked to address.

The closer an intergovernmental consultation and coordination framework conforms to these democratic ideals, the greater the likelihood that such a program will mitigate public concerns, resolve disputes, and generate public trust in the integrity and competence of policymakers charged with program implementation.

4. THE INTERGOVERNMENTAL CONSULTATION AND COORDINATION BOARD: ITS ROLE IN THE CSDP

The Army supports the formation of an ICCB to provide advice and review in the development, implementation, operation, and closure of facilities associated with the selected disposal alternative. The ICCB is intended to provide a mechanism for consultation with interested publics and coordination of disposal operations with potentially affected states, communities, and tribal nations.

As a focused forum for the exchange of information to mitigate public concerns and effectively resolve potential conflicts, the ICCB will be a two-tiered structure comprising programmatic and site-specific consultation and coordination instruments. The two tiers will be linked, ensuring integrity of the program across sites. The structure, function, and membership of the ICCB are described in detail in the CSDP-FPEIS, Vol 1, (U. S. Department of the Army, 1988: pp. 4-167-4-168) as well as in Appendix A. The rationale for the ICCB is also examined in light of the experience of comparable programs.

4.1 ICCB RESPONSIBILITIES: LESSONS FROM COMPARABLE PROGRAMS

It is intended that the programmatic and local ICCBs will be involved in all aspects of implementing the CSDP, such as providing program guidance; monitoring and evaluating program effectiveness; ensuring the protection of public welfare while resolving conflicts; and protecting human health and the environment throughout construction, operation, and closure of CSDP facilities. Local ICCBs may in some instances be involved with monitoring of disposal operations; the resolution of any conflicts between facilities and communities; facilitation of public information and communication concerning all aspects of the program; and, based on monitoring of disposal operations, identification of potential needs for additional mitigation. This section focuses upon the preferred alternative for destruction of the chemical stockpile--on-site incineration. Appendix B discusses intergovernmental consultation and coordination problems involved in off-site transportation. Although this option was not selected by the Army for the CSDP, problems which were revealed in the investigation of this alternative may be useful for comparable programs involving hazardous waste.

While normal operations are not expected to pose significant community impacts, comparable programs reveal that public confidence in normal operations can be enhanced if on-site monitoring by states or local communities is permitted (U.S. GAO, 1986). For example, the Low-Level Radioactive Waste Policy Act of 1980 requires DOE-provided technical assistance to impacted communities, state-appointed resident waste-site inspectors, escalated enforcement options by states, and the establishment of regional compacts for safe and efficient disposal of low-level nuclear waste. While some degree of public opposition to continued low-level waste disposal persists, South Carolina, Washington, and Nevada, three states most directly affected by the storage of such

wastes prior to this act, have not categorically withdrawn their use as repositories as they once threatened. Moreover, specific opportunities for their participation in this program has lessened perceptions of regional inequity (Kerr, 1982).

Ideally, any conflicts between the Army and local communities affected by disposal operations should be resolved through mediation and negotiation. Studies of conflicts between government officials charged with managing hazardous programs and members of the public affected by the potentially adverse impacts of the programs reveal that constructive negotiation is most likely to take place through informal face-to-face communication and small group discussion (Lang, 1987; Bidwell, et al., 1987). Consistency of communication and continuity of contacts can be facilitated by ICCBs of manageable size and coherent membership. In the case of the programmatic and site-specific ICCBs proposed for the CSDP, the suggestion to employ a six- or seven-member board for the former, and a five-member board with state and local government representation for the latter, would seem to satisfy this requirement.

Disputes over comparable programs also reveal that the most serious conflicts are often bred by differing perceptions of risk (Bacow and Wheeler, 1984; Bidwell, et al., 1987). Negotiations between parties through small-group review bodies can mitigate these conflicts by facilitating frank discussion. While by no means able to resolve every difference of opinion, studies suggest that the use of these review bodies can avert the most potentially litigious conflicts (Bacow and Wheeler, 1984).

The site-specific ICCB can also serve as a clearinghouse for information about local operations. The experience of low-level nuclear waste disposal activities suggests that when trusted state and local officials are incorporated in such boards, their high visibility, coupled with an open-door policy on information, can mitigate distrust and misinformation about program impacts (Kerr, 1982; Smith, 1982).

Finally, ICCBs can identify impacts justifying additional mitigation or compensation. The need to upgrade emergency response capabilities has been discussed in public hearings. The Oak Ridge MRS experience provides a useful example of how confidence-building measures may be structured around incentives and commitments for compensation. A local DOE-funded task force has identified needs for training of local emergency response personnel, improvements to transportation and public safety infrastructure, and measures to mitigate possible economic losses to the community through promises of direct payments and certain types of insurance. Local input sensitized DOE to unique on-site concerns and the need for a more permanent advisory body for the program (Peelle, 1987; King, 1986). Despite previously noted criticisms of MRS by the State of Tennessee, in Sect. 3.2.2, the local experience of confidence-building provides a constructive point of departure for the CSDP's ICCB.

The proposed Waste Isolation Pilot Plant (WIPP) for storage of defense high-level nuclear waste in New Mexico illustrates other advantages of an ICCB. Initial failure to consult with state officials

on disposal-site investigations and local criticism of DOE for insufficient guarantees of adequate funding for emergency planning resulted in an agreement between New Mexico and DOE for a compensation program tied to health and safety concerns. Studies indicate that such linkage reduces the perception of compensation as bribery and thus increases public trust (Office of Technology Assessment, 1985; U.S. GAO, 1986). In the case of the CSDP, the Army has acknowledged that the manageability of emergency planning was an especially important parameter in selecting on-site destruction of the chemical stockpile (Ambrose, 1988: p. 4-5). Thus, the selection of one alternative over another does not make compensation over this task any easier. This is also important to reduce perceptions of bribery.

In essence, if the Army had rendered its decision regarding the CSDP on the basis of cost of compensation, it could have been accused of divorcing compensation from the decision-making process. Not only would this potentially constitute a bribe, but it could conceivably initiate a bidding war among distressed communities that might perceive economic benefits from the CSDP as a result of its compensation package (Solomon and Cameron, 1985: p. 578).

4.2 ICCB'S AND PROGRAM ADVICE AND REVIEW: LEGAL GUIDELINES

The advisory and review procedures can (1) assist the Army in obtaining permits for program operation, (2) ensure conformance to environmental statutes, and (3) strengthen public confidence in the selected alternative.

Under RCRA, interim status facilities (such as chemical munitions disposal plants) must have plans for closure that protect human health and the environment. Public Law 99-145 also mandates closure at the end of stockpile disposal operations. Establishing technical standards for these plans has strengthened the role of states in RCRA implementation. Many states have chosen to involve the public in these plans through distribution of newsletters, local hearings, and independent site monitoring with the assistance of local officials (Skinner, 1981; U.S. GAO, 1983). Such activities are consistent with ICCB's role.

The Toxic Substances Control Act (TSCA) also encourages citizen input. The Army is required to obtain research and development permits for polychlorinated biphenyl (PCB) disposal at those installations where M-55 rockets are to be incinerated and to exchange data on toxic substances with state and local authorities to facilitate standardization of analysis and testing procedures. In this instance, because some M-55 firing tubes are contaminated with PCBs, EPA approval will be required at any facility scheduled to incinerate these items. Fixed-site ICCBs can serve as clearinghouses to review, assess, and provide guidance over this activity.

The Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and the Superfund Amendments and Reauthorization Act (SARA) incorporate contractors and other private entities in

emergency response planning activities. Representatives from state emergency response organizations could serve on site-specific ICCBs to facilitate rapid exchange of information and to identify specific needs for financial and technical assistance. In addition, the success of coordinated emergency response drills, mandated by SARA, can be enhanced by plans developed with the assistance of ICCBs whose community roles are established in advance.

Table 1 shows that significant consultative mechanisms are also mandated under the Clean Air Act of 1977, which strengthens state authority to establish air quality standards over federally operated facilities and extends compliance obligations to nongovernmental entities (contractors). Citizens may sue in cases of failure to obtain proper permitting or in instances of alleged permit violation.

Finally, while consultation with state governors is mandated by the armed forces laws cited in Table 1, the Defense Authorization Act of 1986 prescribes conformance with all relevant state and local laws. Site-specific ICCBs, by providing ongoing exchanges of information through face-to-face discussion, can facilitate an atmosphere conducive to satisfying the requirements of these acts.

5. INTERGOVERNMENTAL CONSULTATION AS AN ALTERNATIVE TO CONVENTIONAL PUBLIC PARTICIPATION

5.1 APPROPRIATE AND INAPPROPRIATE EXPECTATIONS IN INTERGOVERNMENTAL CONSULTATION AND COORDINATION

Consultation and coordination mechanisms developed for the CSDP will not eliminate intergovernmental conflict. Programs with the potential for significant environmental impact will almost always generate some degree of uncertainty, skepticism, and contentious debate. Some decision makers and members of the general public will find this frustrating, but this fact is even acknowledged in federal laws mandating consultation and coordination. Incorporation of ongoing means for advice and review is predicated upon the assumption that conflicts are likely to arise and that constructive means of mitigation, compensation, and incentive building can manage them as they are encountered.

Moreover, it is not necessary to resolve all possible conflicts to mitigate public opposition, maximize program effectiveness, or promote democratic values. Experience with comparable programs suggests that when the expression of public concerns is facilitated, sources of programmatic opposition emerge sooner. This is likely to lead to timely mitigation of opposition; this, in turn, may avert sources of obstruction that can lead to program delay (Bacow and Wheeler, 1984). It is in this manner that instruments for assuring meaningful public participation, such as ICCBs, increase perceived competence in government and trust in decision makers (Cook, 1982; Wilson, 1986).

How can the Army maximize the likelihood that the ICCBs being developed for the CSDP will address public concerns effectively and facilitate the resolution of intergovernmental conflict? An emerging literature on the problems of political participation in advanced industrial democracies suggests that one major key to effective accommodation of public concerns is to view techniques such as intergovernmental consultation and coordination as a form of unconventional or alternative participation. Unlike voting, lobbying before a legislature, or communicating with decision makers through peaceful protest or demonstration, intergovernmental consultation and coordination provides a means of expressing and considering public concerns about a particular program after a controversial decision has already been made.

This view of intergovernmental consultation and coordination would contend that such a form of participation is especially important in advanced industrial democracies because technical and scientific programs require the forging of a consensus among diverse groups and institutions that are impacted in complex ways. Some examples of these impacts relating to the CSDP are health effects from normal operations of demilitarization facilities, effects upon a community's historic and archaeological resources, and perceptions of the quality of life as a result of demilitarization.

From the perspective of democratic theorists who worry that technologically complex programs generate distance between citizens and government, it could be argued that consultation and coordination are desirable because some segments of the public might perceive it as one of the few ways--perhaps the only way--to hold technically specialized decision makers accountable in the implementation of programs encompassing potential risk. Such theorists would contend that complex, interdependent technologies such as those employed in the CSDP (e.g., stockpile feed lines, multiple incineration furnaces, pollution abatement systems, air monitoring devices, and emergency plans) are intrinsically prone to accidents. Thus, accidents may be seen as normal (Perrow, 1984). If so, then methods must be identified to hold the operators of such technologies accountable for their decisions.

5.2 MAXIMIZING PUBLIC ACCEPTANCE AND PUBLIC INVOLVEMENT

A growing body of literature relating to alternatives to citizen participation in technological decision making suggests several keys to maximizing effective public involvement and, thus, public acceptance of controversial programs. As synthesized by Kraft et al. (1987) and Solomon and Cameron (1985), these keys include (1) placing a credible, competent agency in charge of decision making; (2) involving citizens in the process of decision making as early as possible; (3) providing adequate financial support to ensure full and representative public participation; (4) allowing sufficient time for extended preparation of the framework for participation; (5) providing forums for interaction between the public and decision makers to encourage problem solving rather than posturing; and (6) providing an objective public education and information program separate from the agency.

5.2.1 Agency Credibility and Competence

Credibility and competence are maximized by placing authority for operation of a program generating risk and uncertainty in a single agency. This agency should have a highly visible presence in the community where impacts may occur. If a procedure can be instituted to ensure that the agency gives periodic reports on problems encountered in implementing its mission and efforts expended in mitigating these problems, then it is likely that the program will develop a well-deserved image as being competent.

The history of the United States's high-level nuclear waste program is instructive in this vein. After investing authority for the management and disposal of high-level nuclear waste in a variety of agencies over a 30-year period, the Nuclear Waste Policy Act of 1982 established an Office of Civilian Radioactive Waste Management (OCRWM) within DOE whose sole task is to implement provisions of the act. OCRWM has been charged with development of a specific mission plan to carry out the Act's objectives, including establishment of all necessary agreements with state and local governments and Indian tribes, as well as other

intergovernmental consultation and coordination mechanisms deemed appropriate for siting a permanent waste repository (Office of Technology Assessment, 1985: p. 107). Moreover, the agency is explicitly charged with managing civilian nuclear wastes rather than defense-generated nuclear material, thus easing apprehensions that an ethos of secrecy will predominate in its deliberations.

Army investment of the CSDP in a Program Executive Officer-Program Manager (PEO-PM) for Chemical Demilitarization is an encouraging and warranted sign that a single, responsible agency will be charged with program management and intergovernmental consultation, especially since the PEO-PM will chair the programmatic ICCB.

5.2.2 Early Citizen Involvement, Adequate Funding, and Sufficient Time for Preparation of Public Involvement

During the National Environmental Policy Act (NEPA) review for the CSDP, the Under Secretary of the Army, Mr. James R. Ambrose, authorized the expenditure of funds for community groups to perform independent evaluation of the Draft Programmatic EIS for the CSDP, to review and comment on additional studies addressing specific areas of concern, and to perform independent studies of a variety of technical issues (Federal Register, 52, No. 30: p. 4646). These groups have provided an important instrument for gathering information on a number of concerns expressed by community residents.

This particular form of intergovernmental consultation may be thought of as a means of establishing program acceptability in a specific locale. The DOE-sponsored Clinch River Task Force, which is charged with initial review and evaluation of the viability of the proposed MRS facility in Oak Ridge, Tennessee, offers an example of the usefulness of laying the groundwork for public acceptability. Initial discussions focused upon (1) the need to upgrade emergency response capabilities, (2) compensation for community impacts, (3) the need to mitigate unfavorable impacts of past DOE activities on the Oak Ridge reservation, (4) a desire for independent state monitoring of MRS, and (5) a further desire for clear policy closure (i.e., that the MRS, if built, will be a temporary storage facility of fixed size and capacity).

DOE has acknowledged the importance of this preliminary public review procedure in identifying important public acceptability problems (King, 1986; Peelle, 1987; U.S. DOE, 1987). Likewise, the Army has acknowledged the importance of community groups in addressing needs for continuing dialogue, lucid presentation of risk data, and mitigation of possible risks and health effects resulting from the program. This is exemplified by Army funding of these studies and the absence of any attempt to sway the citizen's' groups as to the content or tone of their findings (U. S. Department of the Army, 1988: Vol. 3, R-3).

Not only have these study groups helped to lay some of the groundwork for extended public participation and oversight of the CSDP; the inclusion of an ICCB framework within the CSDP-FPEIS itself provides

appointing state and local officials with a means of identifying relevant persons to serve on site-specific boards once they are established.

5.2.3 Encouragement of Problem Solving Rather than Political "Posturing," by Providing Public Education, Information, Communication

Programs characterized by potential risks, complexity, and environmental impacts generate vigorous, sometimes contentious debate. This was the case with the CSDP, as evidenced by the transcripts of a number of public hearings conducted as part of the NEPA process. In a democracy, such debate can sometimes lead to a forthright exchange of views. However, experience suggests that large public forums may not be advantageous to constructive public involvement in the review and assessment of programs encompassing potential risk. The principal limitation of public hearings is that information tends to flow one way, from the citizen to the government or vice versa. Those who attend public hearings make their statements and go home. Decision makers who hold such meetings brief the public and leave behind a sometimes bewildered and perplexed audience.

There is little opportunity for an extended exchange between decision makers and citizens. Such meetings often lead to a polarization of views (Kasperson, 1986: p. 280; Kraft et al., 1987). In addition, the presence of the media, whose interest is often focused around the existence of controversy rather than the components of a dispute, may not be conducive to free and open dialogue.

As noted in Sect. 4.1, conflicts between the Army and citizens, as well as between the Army and other federal agencies, are most likely to be resolved effectively through mediation and negotiation. Small-group discussion, consistency of ICCB membership, the opportunity for face-to-face communication, and--in the case of the site-specific ICCB--participation by trusted members of state and local governments, can increase the chances for successful negotiation. ICCB participants and members of the public should not expect to resolve every issue to everyone's satisfaction. However, as the experience of comparable programs discussed in Sects. 4.1-4.2 suggest, the establishment of a well-conceived, deliberative procedure for consultation and coordination that represents the community and that is linked to higher decision-making channels through an appeals system should be able to resolve many issues. Linking the procedure to conventional channels such as continued public input before relevant Congressional committees and expressions of concern in the media should improve chances for successful resolution of issues.

Along these same lines, while the process of public hearings has constituted a means of public information about the CSDP, it may be advisable for the Army to establish a central education and information office for the CSDP. The responsibilities of this office should be explicitly described, even if housed in site-specific ICCBs.

The State of Washington and various tribal nations have recently complained of DOE's failure to keep them adequately informed about program activities at the Hanford site (U.S. GAO, 1987: p. 35). Ironically, DOE maintained that because little site-characterization activity was taking place at Hanford, informing these institutions of the activity was not imperative (U. S. GAO, 1987). To the public, states, communities, and tribal nations, even the absence of activity may constitute a noteworthy concern. Experience with the CSDP has shown that it is prudent to develop continuous means of information via the ICCB system before disposal operations commence, while they are occurring and during closure of the facilities. If this is the case, then long-term commitment to ICCBs would be necessary. Given the perceived risks of the CSDP and the range of other public concerns associated with it, this may be the most appropriate way to ensure that ICCBs conform to the democratic theory's notion of the necessity for unconventional or alternative participation.

6. CONCLUSIONS: CONSULTATION AND COORDINATION AS A MITIGATION MEASURE IN THE CSDP

Intergovernmental consultation and coordination can be an effective means of incorporating public concerns in programs such as the CSDP that are characterized by perceived high risk and complexity. Effectiveness increases if (1) the purposes of consultation and coordination are made clear at the outset of a program; (2) the incorporation of public concerns is then used to maintain citizen concurrence and gain public support for the program; and (3) consultation and coordination are viewed as a form of unconventional or alternative participation to constructively resolve contentious issues through small group, face-to-face discussion.

To make the purposes of consultation and coordination clear, policymakers need to establish how the public will be involved in an advisory and review capacity. This includes resolving the issue of how states, communities and indian tribes will be involved in the process of decision making. Resolution of this issue will necessitate consideration of how much input the latter will have in helping to formulate and implement decisions. As for mitigating sources of public opposition, consultation and coordination should go beyond the legal requirements of various federal statutes in order to build public trust. This can be done by providing incentive-building and compensatory measures to states, communities, and Indian tribes. It can also be done by reducing the natural inclination of some organizations invested with management of risk-laden programs toward secrecy and inscrutability of decisions. Finally, it can be facilitated by clarifying the rationale for the policy.

Decision makers also must view consultation and coordination as means of genuinely improving the effectiveness of policy. The public is concerned about the efficiency, equity, feasibility, and non-economic impacts of the CSDP and similar programs. Public input can measurably improve such programs and ensure their timely implementation by addressing contentious issues that could lead to litigation or other forms of political obstruction.

Finally, consultation and coordination should be viewed as mechanisms for enhancing democratic accountability. Complex programs that are perceived to be hazardous or risk laden generate public distrust partly because they are viewed as overly centralized, difficult to manage, and accident prone. Democratic accountability can be optimized by ensuring that management of a complex program will be placed in a single agency that has a high visibility in the affected community. Democratic accountability can also be enhanced by (1) early citizen involvement in program review and assessment; (2) sufficient financial support and time to establish effective intergovernmental consultation and coordination mechanisms; (3) concerted public education and information programs; and (4) special forums that provide the opportunity for problem solving through face-to-face discussion, formalized appeals processes, and broad representation of diverse groups.

While consultation and coordination will not eliminate intergovernmental conflict or resolve all public concerns, it can lead to early detection of sources of programmatic opposition. In the process, it may avert some of these sources of opposition, avoid delays in program implementation, enhance public trust and the perception of agency competence, and permit implementation of a program to reduce or eliminate potential impacts to the environment.

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Appendix A

THE INTERGOVERNMENTAL COORDINATION PROCESS IN THE CSDP: PRESCRIBED MECHANISMS IN THE FINAL PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT

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The Army supports the formation of an intergovernmental consultation and coordination board (ICCB) to provide independent oversight and guidance in the development, implementation, operation, and closure of the selected disposal alternative. The structure of this ICCB is depicted in Sect. 4.5.2.4 of the Final Programmatic Environmental Impact Statement for the CSDP (U. S. Department of the Army, 1988: 4-167). The Army has officially committed itself to establishment of an ICCB in its record of decision for the CSDP (Ambrose, Record of Decision, CSDP, February 23, 1988: 7). The ICCB will provide a mechanism for consultation with interested publics and coordination of disposal operations with affected states, communities, and indian tribes. It will address public concerns regarding:

- Financial and technical assistance to states, communities, and Native Americans for upgrading community health facilities, public safety and emergency response capabilities consistent with the Emergency Response Concept Plan (ERCP) (U. S. Army Engineer Division, 1987) and environmental quality and transportation infrastructure in potentially affected communities.

- Direct notification of all aspects of the disposal program, including any required but unanticipated program changes affecting fixed-site or transportation corridor communities, states, or Indian Tribes.

- Coordination of disposal activities with federal, state, local and tribal authorities responsible for enforcing environmental laws.

- Provision of accurate and timely information concerning the nature, amount, and dispersion of hazardous substances resulting from the disposal process, whether through accidental release or normal operations.

The ICCB will be a focused forum for the exchange of information among diverse interests to mitigate public concerns and effectively resolve potential conflicts concerning the disposal program. It will be a two-tiered structure comprising programmatic and site-specific consultation and coordination instruments. The two tiers will be linked, ensuring integrity of the program across sites.

The programmatic ICCB will be comprised of a six-member board chaired by the PEO-PM Chemical Demilitarization, with representatives from:

(1) Department of the Army
(2) Department of Health and Human Services
(3) Federal Emergency Management Agency
(4) Environmental Protection Agency
(5) the National Academy of Sciences

A seventh board member representing the Department of Transportation would be present if off-site transportation were to be involved in the selected disposal alternative.

Site-specific ICCBs at the eight CONUS sites will consist of five-member boards with representation from state and local governments and affected indian tribes. In addition, a dedicated emergency planner, post commander, and operations manager will be included. If off-site transportation had been selected as the preferred alternative for the CSDP, additional members, representing state departments of transportation, would have been appointed to site-specific ICCBs. State and local government representatives will be appointed by state governors. Site-specific boards will elect a chairperson from their ranks as well as liaison officers to represent site-specific ICCB concerns before the programmatic ICCB.

The programmatic ICCB will be involved in all aspects of implementation of the CSDP; providing program guidance; monitoring and evaluating program effectiveness; ensuring the protection of public welfare while resolving conflicts; and protecting human health and the environment throughout construction, operations, and closure of CSDP facilities. Local ICCBs will be involved with independent monitoring of disposal sites, the resolution of any conflicts between facilities and communities, facilitating public information and communication regarding all aspects of the program, and identification of potential needs for compensation. The site-specific chairperson will work with members of the ICCB and the potentially affected communities in achieving these ends.

The liaison officer will represent site-specific interests with the programmatic ICCB by serving as the primary communication link with the latter. Issues not resolved by the site-specific ICCB may be passed by the liaison officer to the programmatic ICCB for resolution. Upon rendering a resolution of site-specific issues, the programmatic ICCB will inform all site-specific ICCBs and other interested parties of resulting policies, decisions, and changes in program guidance.

Finally, it must be understood that the detailed structure, functions and responsibilities of the ICCB, as well as the relationship between the ICCB and other federal, state, and local entities constitute an evolving charter not yet firmly established.

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Appendix B

ICCB's AND THE TRANSPORTATION ALTERNATIVE

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ICCB's AND THE TRANSPORTATION ALTERNATIVE

The process of intergovernmental consultation and coordination in any program involving the disposal of hazardous substances is complicated by off-site transport to one or more regional or national disposal sites. Nevertheless, advice and review procedures developed for other programs involving hazardous materials transport provide guidance in resolving these problems. This fact is useful for two reasons. First, in the event off-site transport becomes a viable option for the CSDP, (the record of decision leaves open the possibility that additional study may warrant the reconsideration of the programmatic decision) the experience of comparable programs may be incorporated into a transportation ICCB. Second, in the event programs similar to the CSDP develop transportation options of one type or another, they may find it useful to draw upon Army findings in establishing intergovernmental consultation and coordination mechanisms of their own.

In the event a transportation option becomes viable in the CSDP, the Army may claim federal preemption in regulating various aspects of it. However, in dealing with outside agencies, states usually claim preemptory authority in transportation issues falling within their boundaries (Smith, 1982). While the scope of consultation and coordination is made more difficult by considerations of area, since transport corridors are constantly moving circles of emergency response impacts (Emergency Response Concept Plan, 1987), the number of institutions that need to be represented on site-specific ICCBs is actually simplified. Some institutions are especially adept at area-wide planning such as Councils of Government (Harrigan, 1984), highway district offices, state police detachments, and the Red Cross. In addition, Health Maintenance Organizations (HMOs) may be especially useful in amassing basic data about hospital and clinic use and capacity, while region-wide facility managers such as community college districts may be relevant for evacuation sheltering plans. The proposed ICCB structure in the FPEIS-CSDP acknowledges the need for flexibility in this area by calling for gubernatorial appointment of relevant personnel to these boards (U. S. Department of the Army, 1988, Vol. 1: p. 4-168).

In the actual operation of ICCBs, states could offer corridor communities the opportunity to draw up lists of concerns. Larger metropolitan areas may choose to develop their own lists. However, rural communities can work directly through site-specific ICCBs--as encouraged by RCRA mechanisms (Sects. 4006, 4009). Prior to transport, ICCB participants in a given state can be asked to give their assent, through memoranda of understanding, to emergency response plans and interface agreements with Army Chemical Accident Incident Response (CAIRA) plans. Holding the Army accountable for all contingencies in this plan will not, of course, be realistically possible, given the

massive communication problems which would be involved following an accident. Elected board chairs would communicate concerns to the Army. The Army would need to identify a single individual as programmatic contact during transit through a given state comparable in stature and authority to a fixed-site installation commander.

The regulatory environment impacting upon transport corridor consultation and coordination is complex and fragmented. Some states and communities attempt to restrict the transportation of hazardous materials through various ordinances. Statutes and court decisions limit restriction of federal prerogatives or preemption and compel regulatory consistency. Nevertheless, reasonable state regulations protecting health, safety, and the environment are permitted if they afford an equal or greater level of protection to the public without inhibiting programmatic uniformity, cause undue burdens to commerce, or discriminate (Hazardous Materials Transportation Act, P.L. 93-633; Office of Technology Assessment, 1986). ICCBs can provide guidance regarding disagreements over contentious state regulations.

The legal environment of hazardous materials transport is fluid and subject to unanticipated changes (Carnes, 1986). The growth of local ordinances in the areas of special permitting and prenotification, a trend which seems likely to continue, has been significant (Knox et al., 1985; Smith, 1982). Several states and municipalities have instituted legislation requiring public notification of hazards associated with chemicals produced or used in a given facility. While these "right to know" laws affect fixed-site and transport corridor communities alike, many were passed in response to transport concerns. Table B.1 depicts the status of these laws in the states where chemical munitions are currently deployed, and through which they may be transported.

In addition, as noted in Table 1 of this TM, Title III of SARA requires consultation and coordination with state and local emergency response commissions even in states not having such "right to know" laws. SARA's notification provisions extend to all corridor states and fixed-site disposal communities. However, there is some uncertainty surrounding SARA's application to the CSDP. Under Title I, which pertains to liability, all federal agencies are subject to compliance with the procedural and substantive provisions of the law (SARA, P.L. 99-499, Title I, Sect. 120a). However, under Title III, the Emergency Planning and "Right to Know" section of SARA, releases which expose persons solely within the installation site, and which do not exceed "threshold planning quantities" of toxic substances as defined by the act, do not require notification (SARA, P.L. 99-499, Title III, Sects. 304, 311; 40 C.F.R. Ch. I, Sect. 355.30--355.40). This being the case, the Army may be exempt from conducting drills and emergency planning exercises.

It should be recalled, however, that reasonable state regulations affording a greater level of protection are permitted by law. These "mini-SARAs" can be tougher and more rigorous than the provisions of

Table B.1 State "Right-to-Know" laws requiring notification of hazards associated with Chemical Stockpile Disposal Program: fixed-site and potential corridor states*

State	Community notification provision	Worker notification provision	Emergency response planning
Alabama	--	X	X
Arkansas	--	X	--
California	--	X	--
Colorado	--	--	--
Illinois	X	X	X
Indiana	--	--	--
Iowa	X	X	--
Kentucky	--	--	--
Maryland	X	X	X
Mississippi	--	--	--
Missouri	X	X	--
Nebraska	--	--	--
Ohio	--	--	--
Oregon	X	X	X
Tennessee	X	X	--
Utah	--	--	--
West Virginia	X	X	X
Wyoming	--	--	--

*While the on-site disposal option was selected for the CSDP, the status of right-to-know laws in potential transportation corridor states is provided for reference and comparison purposes.

Sources: Chemical Manufacturers Association, as reprinted in Book of the States, 1986-'87 (Lexington, KY: Council of State Governments, 1986): p. 413; also, U. S. Congress, Office of Technology Assessment, Transportation of Hazardous Materials, OTA--SET-304, Washington, D.C.: July, 1986, p. 187.

federal law. As a result, some of the CONUS sites where chemical munitions are deployed may afford greater levels of protection. At UMDA, for example, it is claimed that the evolving state-community "right to know" program, under development in Colorado since 1985, is more comprehensive than the federal one provided under Title III because it "includes a larger number of employers" (Umatilla County, 1987: p. A-58). Thus, in all cases, special consideration should be given to methods and criteria for public notification in those states where significant numbers of civilian workers are employed on chemical munitions installations.

SPECIAL CONCERNS ASSOCIATED WITH TRANSPORTATION

The Nuclear Waste Policy Act (1982) and the Low-Level Nuclear Waste Policy Act (1980) acknowledge the need to incorporate state concerns for transport and emergency planning in DOE mission plans to site nuclear waste repositories (Kerr, 1982; Office of Technology Assessment, 1985). Likewise, the proposed MRS repository in Oak Ridge, Tennessee affords an example of how early groundwork in transport corridor consultation and coordination can address problems stemming from public opposition toward the shipment of hazardous substances (U.S. DOE, 1986; 1987).

Three lessons emerge from the rudimentary stages of these programs relevant to chemical munitions transport. First, states generally claim preemptory authority in consultative transportation agreements with outside agencies. Since states are especially concerned with routing plans and incident/accident response (U.S. GAO, 1986), consultation should begin at that level. States can coordinate their efforts with communities and counties if necessary. Only after state consent is obtained should specific discussions with local communities affected by transport be engaged. This is especially prudent given the number of communities affected by transport. Significant security and emergency management burdens will be placed upon smaller, rural communities along transport corridors--especially police and county sheriff departments as well as smaller hospitals and clinics. States may prefer to accommodate these burdens in an integrated manner through a centralized communications center (Smith, 1982; Anderson, 1981).

Secondly, dominant interests along corridor routes should be identified early in order to incorporate their concerns. For example, airport planning authorities may offer valuable insights into air traffic problems as well as peculiar emergency response issues at enroute airfields designated for unscheduled landings. Transportation problems unique to highly urbanized corridor areas could be mitigated with the help of state Departments of Transportation. Over the course of munitions transport, changes in corridor characteristics impacting upon the program may develop. Regional "Councils of Government" (Harrigan, 1984) may make the process of coordinating local government concerns

more manageable since every community along transport corridors will not be equally affected by--or interested in--every issue.

Third, transport corridor discussions related to nuclear waste reveal a practical barrier to intergovernmental cooperation. Local communities seeking mitigation for site-specific environmental impacts may perceive transport corridor communities as rivals for financial assistance. Discussion between New Mexico and DOE over the Waste Isolation Pilot Plant (WIPP) has shed light upon the need to appraise programmatic costs in light of these problems (U.S. GAO, 1986). Adequate compensation can equitably mitigate unique problems of both types of communities while avoiding competition between them. Moreover, direct support for local level monitoring and state inspection of rail carrier arrivals can mitigate public concerns (Smith, 1982).

At the national level the Defense Appropriations Act (1986) requires Army coordination with the Department of Health and Human Services, as well as EPA and DOD's Explosive Safety Board. Consultation with the Department of Transportation (DOT) is required for rail transport. The proposed programmatic ICCB acknowledges the importance of DOT's role by including its representation on the programmatic board should an off-site transportation option be selected. The DOT will work closely with the Military Traffic Management Command in the inspection of railroad equipment, planning of surface movements, and route selection. The latter will be invested with overall management control. In addition, the DOT, in conjunction with the DHHS and EPA, will also help determine criteria for an effective munitions packaging test program.

The Secretary of DHHS is also empowered to establish a committee to review and approve the operation plans, procedures, and equipment used in chemical munitions transport. This committee includes representatives from DOT and the Department of the Interior and constitutes an enforcement procedure to ensure mitigation of intergovernmental consultation and coordination concerns. In addition, because DHHS has substantial review responsibility for the program in regards to overall public health and safety considerations, it is prudent to include their representation on the programmatic ICCB.

Another national vehicle of oversight involves RCRA, which allows states to form interstate compacts for mitigation of waste permitting and monitoring issues. Since Congress has consented to provisions of this act being carried out by compacts, the Army is obliged to consult with compact bodies prior to transport. Finally, the Armed Forces Appropriation Act of 1970 requires notification of governors of affected states prior to commencement of chemical munitions transport.

There is a final set of questions which are likely to arise if a transportation option is selected in programs concerned with the disposal and/or destruction of hazardous waste. These questions pertain to regional, spatial, and inter-generational equity. For example, as regards the consideration of regional and/or national disposal centers once considered in the CSDP--should sites having a small percentage of

the total stockpile by weight (tonnage) of munitions be treated the same as those possessing a far larger percentage (e.g., LBAD with less than 2% and TEAD with over 40% respectively)? Is a regional disposal option more fair than a national disposal option since states east as well as west of the Mississippi River will have to share programmatic impacts of a "single" disposal center?

This second question has arisen in the context of the high-level nuclear waste disposal program. Some residents of Nevada, a state with no nuclear power plants, have voiced opposition to their state's selection as a candidate site for the nation's first repository. Is it fair, they ask, that a geologically suitable region be burdened with the sole responsibility for storing nuclear wastes generated elsewhere without some form of compensation (Rasky, 1987: E-4)? What compounds this problem is recent DOE postponement of a second, "eastern" repository on grounds of economic justification. It remains uncertain when, or even if, a second repository will be needed (U.S. DOE News, May 28, 1986). In short, experience with this program as it evolves may illustrate some of the problems endemic to any program involving the transport and disposal of hazardous waste.

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