THE TRANSPORTATION TECHNOLOGY CENTER INSTITUTIONAL ISSUES PROGRAM AND EMERGENCY PREPAREDNESS [a]

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ABSTRACT

The Institutional Issues Program of the Transportation Technology Center (TTC) and one component of that program dealing with emergency response is discussed. The process that one state (New Mexico) used in writing an Emergency Response Plan was followed closely by a TTC contractor.

BACKGROUND AND OVERVIEW

In 1978 the US Department of Energy (DOE) established the Transportation Technology Center (TTC) at Sandia National Laboratories to support transportation responsibilities vested in DOE's Albuquerque Office. Since its inception, an activity of the Center has been institutional issues--also called intergovernmental issues--involving the transport of radioactive materials. These sensitive issues are widely recognized as impediments to the US nuclear option.[1, 2, 3] Careful research and documentation of institutional issues can be a step toward reducing or eliminating potential impediments to transporting radioactive materials. Mitigation or removal of impediments will help implement DOE waste management programs.

Institutional issues include concerns, conflicts, disagreements, and problems within or among public or private institutions. Issues may originate from one or more sources, including national policies, laws, regulations, or positions advocated by elected officials and public interest groups. Institutional issues may differ from technical problems in that progress often requires difficult political decisions; institutional issues may be subject to cyclic variation of interest, concern, and action; and some issues may not be amenable to solution.

The institutional issues program at the TTC has tracked the activities of government and industry to maintain awareness of existing or potential institutional problems of transporting radioactive materials. Specifically, a main objective of the TTC's institutional issues program is to support DOE's radioactive waste management program. However, the institutional questions are often so broad as to spread beyond the boundaries of radioactive waste management. Acquiring information and analyzing issues is of value because these activities lead to broad views and new perspectives. The goal of the program is to present to the DOE a digest of issues and possible alternative solutions to problems for use in developing policy or in providing information.

Examples of Institutional Issues

The following are examples of institutional issues:

1. Preemption. A welter of nonuniform state and local laws, largely unenforced, seek to control routes and local exposures during the transport of nuclear materials. Many such laws and regulations are of uncertain validity and may be preempted under federal law. It is uncertain whether and under what circumstances efforts by the Federal Government to preempt such laws will be upheld.

2. Liability. State officials have raised concerns as to how and under what circumstances coverage would apply under the complex system of insurance or indemnity coverage for liability associated with incidents in transporting radioactive materials.

3. Emergency Preparedness. The level of response capability required of state and local government for radioactive materials transportation accidents needs clarification. Planning for and maintaining emergency response capability presents issues of how to finance these activities.

TTC's Framework for Addressing Institutional Issues

The TTC has developed a continuing surveillance program of institutional issues through which to track and evaluate changes in policy, legislation, and regulations. The TTC's conceptual framework for viewing these issues involves three steps:

1. Identifying issues to provide advanced warning of potential problems.

2. Evaluating potential problems to determine which might impede the successful transport of radioactive materials.

3. Presenting possible solutions or mitigating measures to the DOE for action.

Federal Legislation Addressing Institutional Issues

In recent years efforts to more completely address the institutional issues associated with

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nuclear materials have resulted in several major pieces of federal legislation:

1. The Uranium Mill Tailings Radiation Control Act of 1978 (Public Law 95-604) addresses concerns over possible health hazards from tailings piles.

2. The Low-Level Radioactive Waste Policy Act (Public Law 96-573) (1) made each state responsible for disposing of low-level radioactive waste generated within its borders, except for certain federally generated wastes, and (2) authorized all states to enter into compacts to establish regional facilities for disposing of low-level radioactive waste.

3. The Nuclear Waste Policy Act of 1982 (Public Law 97-425) charts the national course for developing repositories for disposing of high-level radioactive waste and spent fuel.

All three acts have transportation-related provisions or implications. Such legislation, often developed through an intricate series of steps involving many compromises, is frequently characterized by difficult statutory construction which reflect a tortuous legislative history. While mitigating or solving some institutional problems, this legislation may cause other institutional issues to surface. For example, some regional low-level waste compacts developed under the Low-Level Radioactive Waste Policy Act conflicted with the practice of shipping waste generated by nondefense activities of the US Government to commercial low-level waste burial sites. Also, some compacts went beyond the authority granted by this Policy Act to cover other aspects of waste management besides disposal, including transportation. These provisions conflicted with policies and practices of both the US Nuclear Regulatory Commission (NRC) and the Department of Transportation (DOT).[4]

Present Institutional Issues Work of the TTC

Present institutional issues work of the TTC includes the following:

1. Track and assess transportation issues raised while implementing the Nuclear Waste Policy Act of 1982.

2. Examine transportation issues of the Waste Isolation Pilot Project (WIPP)[b] and West Valley[c] demonstration programs for applicability to future licensed facilities.

3. Develop a written transportation institutional issues analysis plan to support the DOE's Office of Civilian Radioactive Waste Management.

4. Revise and update a study of federal preemption of state and local nuclear transportation regulation.

5. Assess barriers to transporting of radioactive material in the Southern States Energy Board's member states.

6. Research and analyze indemnity, liability, and routing issues.

Future Institutional Issues Work

Future institutional issues work will be accomplished within the Albuquerque DOE Transportation Lead Office. Present plans include continued surveillance and analysis not only of presently known institutional issues, but also issues to be defined in the future. Work is planned to better define, document, and track the status of institutional issues. Other work includes collecting data, developing case histories, and analyzing the developing pattern of special agreements between industry and state and local governments for shipping spent fuel and high-level radioactive waste. The NRC proposed rule for modifying protection requirements for spent fuel shipments will also be followed. NRC is considering moderating present interim requirements for protecting shipments of irradiated fuel cooled for 150 days or more. (Results from recent research conducted by the NRC and the DOE indicate that present requirements may be too strict). Issues raised during the comment period should provide an opportunity for assessing the impact of the rulemaking on the Federal, state, and local governments, and on the transportation industry.

APPLYING FEDERAL EMERGENCY RESPONSE GUIDANCE TO A SAMPLE STATE

In documenting the application of the federal emergency response guidelines to a sample state, the TTC sought to mitigate problems related to heightened interest in a state for improved emergency response capability due to the development of a major waste facility. A discussion of this effort follows.

Perhaps the earliest work in emergency response planning for nuclear materials was under the auspices of the NRC and had to do with fixed-site facilities such as nuclear reactors. In 1974 the NRC contracted with the Western Interstate Nuclear Board (WINB) of Denver, Colorado to prepare a guide and example plan for developing a state emergency response plan for transportation-related radiation incidents.[5] Some attempts were made to revise the WINB document, but in 1975 the DOT and the NRC jointly decided to prepare a new emergency planning document for transportation accidents and incidents. This document was also aimed at officials in state and local governments to assist them in planning.

TTC staff were members of the multiagency task force responsible for producing federal guidelines for incidents involving the transport of radioactive materials. The task force was originally chaired by H. E. Collins of the Office of State Programs, NRC, and later co-chaired by V. Wingert of the Federal Emergency Management Agency (FEMA) and W. Carriker of the Materials Transportation Bureau, DOT. The task force deliberated on developing the emergency response guidelines from 1980 until their

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b According to the authorizing legislation (PL 96-164), WIPP is for the express purpose of providing a research *and development* facility to demonstrate the safe disposal of radioactive wastes resulting from the defense activities and programs of the US. The project is located at the Los Medanos Site in the Delaware Basin of southeast New Mexico near Carlsbad.

c The Department of Energy has been authorized by Public Law 96-368 to carry out a high-level liquid nuclear waste management demonstration project at the Western New York Services Center in West Valley, New York.

publication for public comment in March 1983.[6] In developing guidance rather than a model plan, the task force recognized that circumstances may vary from state to state and require different approaches. Task force membership included representatives from the DOE, the US Environmental Protection Agency, the US Department of Health and Human Services, the NRC, a representative from the State of Colorado, and two regional state interest groups--the Southern States Energy Board, and the Western Interstate Energy Board (formerly WINB).

In 1979 the TTC started a program to consider the state of development of emergency response planning for transportation accidents involving radioactive materials. The TTC issued a contract in 1982 to Resource Communities Inc. (RCI) of Santa Fe, New Mexico to document the process of applying the Federal Emergency Response Guidelines to a sample state (in this case New Mexico). The State of New Mexico developed a plan for responding to transportation accidents and incidents involving radioactive material. However, the most important product of this program to other states is the so-called "process report" documenting the three phases pursued by the state of New Mexico: 1) initial assessment and preplanning, 2) developing the emergency response plan, and finally 3) evaluating the plan. This report[7] is intended for distribution to state and local officials so that they can observe some typical considerations made in developing a state emergency response plan. The report is an example of a single application of the federal guidance.

In the course of New Mexico developing the plan, considerable legislative interest developed. This interest was centered mainly in the joint House-Senate Radioactive Waste Consultation Committee of the New Mexico Legislature. The Radioactive Waste Consultation Committee (now called the Radioactive Materials Committee) sponsored the Emergency Management Act HB-41, in the 1983 legislative session. (HB-41 was signed into law March 31, 1983.) This Act assigned specific tasks to several state agencies and named the New Mexico State Police as state interagency coordinator for incidents involving the transport of hazardous material. HB-41 also defined a task force responsible for developing New Mexico's hazardous materials emergency response plan.[8] This task force was chaired by the New Mexico Secretary of Transportation, J. Espinosa, who presented the plan to the Radioactive Materials Committee in December 1983. This plan, which addresses all classes of hazardous materials, is based on the federal guidance.

One remaining unknown for the states is state financing of emergency response programs. State and local planning may be jeopardized if plans cannot be implemented properly because of lack of funds. Some states have adopted fees for permits to cover nuclear-related emergency response costs. An inventory and an analysis of these requirements and an assessment of their impacts on carriers have not yet been made. However, diverse fee structures could undermine efforts to develop a comprehensive federal system of transporting radioactive materials. Disparate state revenue-producing systems developed to support emergency response efforts are likely to create an administrative and economic burden on interstate carriers and may precipitate attempts to preempt this kind of revenue production. This would be an unfortunate by-product of trying to promote uniform application of federal emergency response guidance by including provisions for administering and monitoring the state plan.

CONCLUSION

Careful research and documentation of institutional issues can reduce or eliminate impediments to the transportation of radioactive material. After identifying issues and evaluating potential problems, solutions or mitigating measures may be presented. An example of this process is the involvement of the Center in the development of FEMA guidance on responding to radiological emergencies and the Center's documentation of the phases in developing an emergency response plan for use, as applicable, by other states. Efforts to facilitate the development of state emergency response programs can do much to alleviate fears of radioactive material shipments and contribute to a resolution of tranportation issues. However, resolution of one issue may lead to the emergence of new issues such as disparate revenue-producing systems developed to support emergency response programs.

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