



A SUPPLEMENTARY STUDY OF

# HAZARDOUS MATERIALS TRANSPORTATION IN TEXAS





**Lyndon B. Johnson School of Public Affairs  
Policy Research Project Report  
Number 88**

# **A Supplementary Study of Hazardous Materials Transportation in Texas**

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## **FOREWORD**

The Lyndon B. Johnson School of Public Affairs has established interdisciplinary research on policy problems as the core of its educational program. A major part of this program is the nine-month policy research project, in the course of which two or three faculty members from different disciplines direct the research of ten to twenty graduate students of diverse backgrounds on a policy issue of concern to a government agency. This "client orientation" brings the students face to face with administrators, legislators, and other officials active in the policy process, and demonstrates that research in a policy environment demands special talents. It also illuminates the occasional difficulties of relating research findings to the world of political realities.

This is the second part of a two-year study on the transportation of hazardous materials in Texas. It was conducted during the 1987-1988 academic year under the direction of Associate Professors Leigh B. Boske and Susan G. Hadden. Funding for the project was provided by the State Department of Highways and Public Transportation.

The curriculum of the LBJ School is intended not only to develop effective public servants but also to produce research that will enlighten and inform those already engaged in the policy process. The project that resulted in this report has helped to accomplish the first task. It is our hope and expectation that the report itself will contribute to the second.

Finally, it should be noted that neither the LBJ School nor The University of Texas at Austin necessarily endorses the views or findings of this study.

Max Sherman  
Dean



## **ACKNOWLEDGMENTS**

We would especially like to thank the Texas State Department of Highways and Public Transportation for funding this project. A project of this magnitude depends heavily on the contributions of many different individuals. Most are noted at the end of the report's various chapters; they are far too numerous to mention here. However, we wish to give special acknowledgment to Charles Harrison and Ociel Nava, City of Austin Emergency Management Office; Jack Lamkin and William F. McFarland, Texas Transportation Institute, Texas A&M University; Dorothy Kellogg, Chemical Manufacturers Association; Tom Milwee, Mike Scott, and Captain Virgil Walsmith, Texas Department of Public Safety. We also wish to thank the officials and citizens of the counties participating in the two surveys for their time, patience, and cooperation.

The report was prepared in cooperation with the Texas Department of Highways and Public Transportation and the National Highway Traffic Safety Administration of the United States Department of Transportation. The conclusions and opinions expressed in this document are those of the authors and do not necessarily represent those of the State of Texas, the Texas Department of Highways and Public Transportation, or any political subdivisions of the state or federal governments.



## **Introduction**

As the Texas economy has grown in technological complexity and sophistication, the type and number of chemicals and materials in use has grown as well. Although transportation and storage of materials pose a potential hazard to worker and community health, these subjects have only recently received careful scrutiny by public officials. New policies emphasize coordinated and effective gathering of information and planning for response in the event of an accidental release or spill.

One of several recent accidents illustrates some of the issues and problems associated with hazardous materials and their transportation. On December 12, 1987, 16 of 85 Union Pacific railroad cars that had separated from the rest of the train derailed near Round Rock in Williamson County. On the first day of the incident, emergency response officials thought that three cars containing vinyl chloride and liquid propane gas were burning. Five thousand area residents were evacuated. A railroad spokesman assured officials and reporters that "as long as [the cars] are on fire they are safe" and that there was no hazard from the smoke. While smoke from burning liquid propane is not toxic, burning vinyl chloride produces phosgene, a deadly gas. Whether in a liquid or vapor state, vinyl chloride is highly toxic. Since the cars containing the vinyl chloride did not, in fact, leak or burn, there was no danger. However, the incident highlights the need for information on what materials are being transported, for correct identification and information concerning those materials, and for effective planning and training in emergency response procedures.

### **1987 STUDY**

In 1986, a policy research project study team composed of students and faculty at the Lyndon B. Johnson School of Public Affairs began a review of Texas state policies concerning the transportation of hazardous materials. The results of the review, undertaken for the State Department of Highways and Public Transportation, were published in 1987. One of the primary findings of the earlier report was the "lack of coordination among relevant Texas agencies... (T)here is no single policy for hazardous materials transport in the state; rather there are different policies for different modes of transport and even for different geographic areas."<sup>1</sup> In 1987-88, a new team continued the study, focusing on issues that were still in flux at the time of the first report.

The 1987 study surveyed four areas of activity concerning hazardous materials: federal regulations, intergovernmental relations and regulatory consistency, private industry involvement, and information management systems. The study then examined hazardous materials transportation in Texas and six other states.

The federal government, through preemptive power and financial inducements, has the potential to encourage state uniformity in regulations. The study found, however, that responsibilities and powers are fragmented among modal administrations and are poorly coordinated. Since the federal role is paramount on issues such as classification, packaging, and placarding, which depend upon uniform national standards, state roles focus on enforcement of regulations and the development of accident prevention and response plans.

In many states, private associations and interest groups (such as chemical producers, processors, transporters, and insurers) are active in programs dealing with hazardous materials. Some private programs, which range from community awareness activities to hazardous materials emergency response training, are strong enough to be the base for state programs seeking to replicate or improve them. The Community Awareness and Emergency Response (CAER) program initiated by the Chemical Manufacturers Association is perhaps the most prominent of these.

In formulating policy or evaluating their programs, state agencies are hampered by a lack of comprehensive data. State and federal data bases are often incompatible, incomplete, and inadequate.

In Texas, several agencies share authority over transportation issues. The Texas Department of Public Safety (DPS), which licenses drivers of motor vehicles, also collects accident data and is authorized to adopt federal hazardous materials regulations and apply them to motor carriers. The Railroad Commission (RRC) regulates intrastate for-hire motor carriage and is responsible for pipeline safety. The State Department of Highways and Public Transportation (SDHPT) registers vehicles in conjunction with counties, maintains 72,000 miles of state highway, and may assist localities in developing routing plans. The Texas Water Commission (TWC) regulates most businesses involved in processing, storing, disposing, or transporting hazardous waste. Finally, the Texas Department of Health (TDH) licenses and registers those who possess, use, or transport radioactive materials (including wastes). The most important finding was that federal regulations applicable to most state motor carriers were not enforced by the state unless the federal standard had a direct counterpart in Texas statutes.

Six other states (Louisiana, California, Illinois, New York, Massachusetts, and Tennessee) were reviewed. Each has implemented innovative policies in areas such as fine systems, licensing, and database utilization, among others.

The 1987 report made several recommendations. Perhaps the most important was that Texas should adopt the Federal Motor Carrier Safety Regulations (FMCSR), which address truck maintenance, equipment, loading, operation, and driver conditions. Only by adoption of FMCSR could Texas begin to overcome the problems noted above; for example, with FMCSR in place, DPS troopers can place vehicles out of service for equipment violations, one of the most common causes of hazardous materials accidents. In the final weeks of the regular session of the 70th Legislature (1987), both the house and the senate passed bills that authorized the DPS to adopt and enforce FMCSR beginning January 1, 1988. On that day, however, an injunction was sought and granted to postpone implementation until 1989, after the legislature meets again and could take new action. A complete account of this action and its implications is found in this report.

Another recommendation concerned implementation of Title III of the 1986 Superfund Amendments and Reauthorization Act (SARA). Title III has two purposes: 1) to plan for emergencies involving hazardous materials and 2) to give the community the "right to know" what hazardous materials are being stored and used nearby. Such fixed-site information can give city officials a good indication of the nature and locations of materials transported through their localities. Some communities have found that a very high percentage of their hazardous materials shipments can be explained by materials either originating or terminating in their areas. By July 17,

1987, state emergency response commissions were to have designated emergency planning districts that would set in motion the activities of local emergency planning committees (LEPCs). The project team recommended that the state and localities make every effort to implement all of the provisions of Title III.

Among the other recommendations were the following:

1. centralize, coordinate, and expand the data collection system for information concerning hazardous materials transported in Texas, including modifying the state accident reporting form;
2. strengthen enforcement efforts for nonhighway transportation of hazardous materials, including authorization for the Railroad Commission to enforce federal rail safety standards and enhancement of pipeline safety measures; and
3. increase coordination among affected departments.

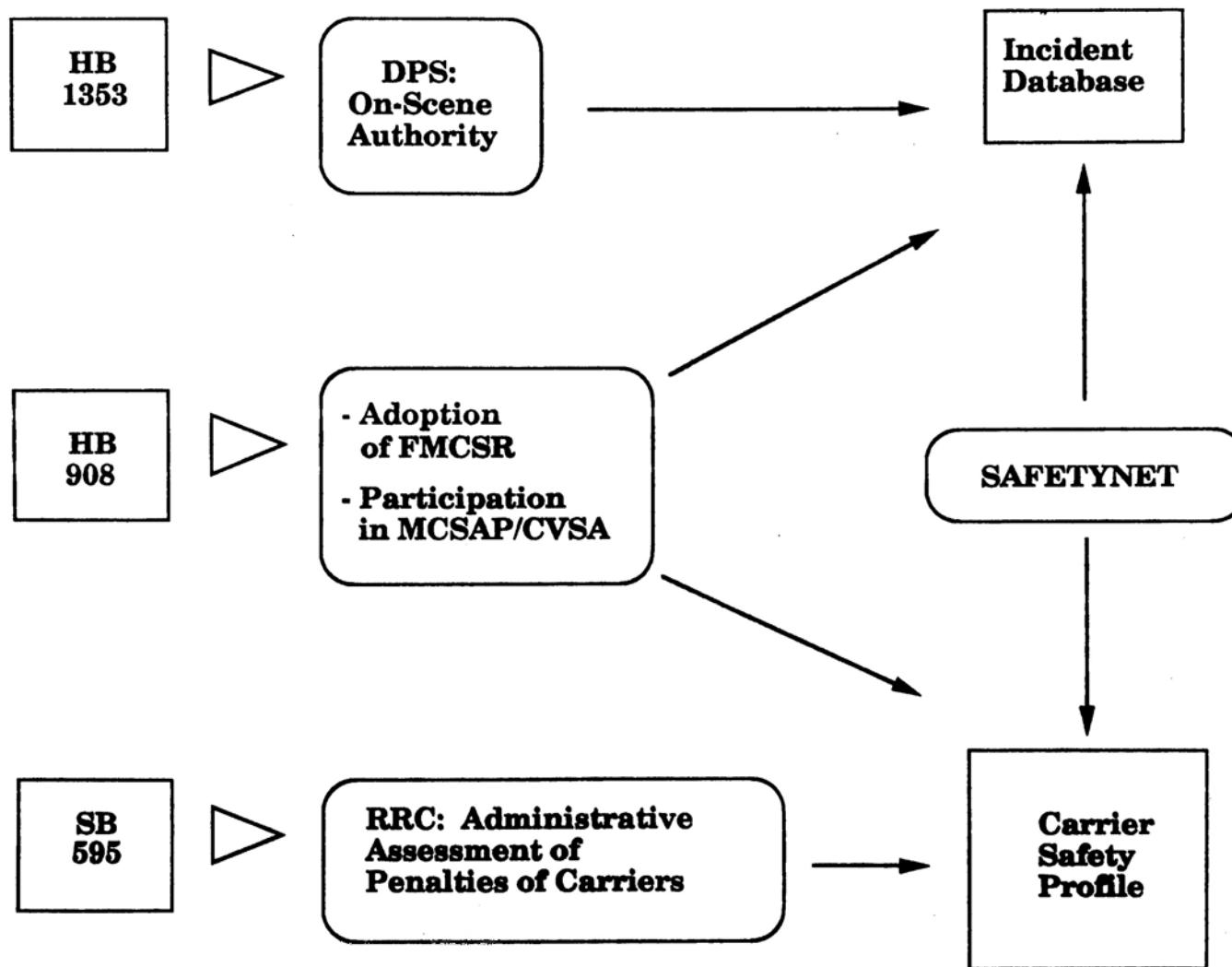
## 1988 STUDY

The second study focuses on implementation of state legislation, data management, and implementation of the emergency planning and community right-to-know provisions of Title III. It especially emphasizes implementation of the Texas statutes passed in 1987. Chapter one reviews legislation passed in 1987 and provides an overview of the data collection and management activities of the Railroad and Water commissions and the Department of Public Safety. Chapter two describes the Federal Motor Carrier Safety Regulations as they have been enforced in Texas and other states.

In 1987 during its 70th session, the Texas Legislature adopted several bills affecting different aspects of hazardous materials transportation. From the standpoint of the project team, the most important of these was House Bill (HB) 908, which directed the Department of Public Safety (DPS) to adopt FMCSR. The 1986-87 study team had made adoption of FMCSR the centerpiece of its recommendations; the final report, however, includes only a brief discussion of the importance of these regulations because late in the study period the passage of HB 908 made the other arguments moot. On May 17, 1988, however, the commissioner of DPS adopted an amendment that deferred implementation of FMCSR until September 1, 1989, when the legislature would have had time to reconsider its action. Chapter two is therefore devoted to a discussion of the arguments for and against FMCSR, a brief history of the regulatory actions, and a description of FMCSR and reductions in accidents in other states.

Chapter one discusses two of the other laws passed in the 1987 session, including their provisions, their effects on the several regulatory agencies, and how they are being implemented. Figure 1 shows the agencies that are most affected by each bill and the major databases that will receive the relevant data. The chapter discusses the question of data management, which is mentioned in one of the new statutes and underlies effective implementation of all the laws. It also describes the permit system for overdimension vehicles in Texas. While currently not related to hazardous materials, the system could be useful to data management, routing, and centralization of transportation regulations in the future.

**Figure 1. Agency Flow Chart**



Chapter three describes Title III and its data submission and maintenance requirements as well as examines local perspectives on hazardous materials transportation issues and Title III. Team members visited 11 Texas counties and contacted another 36 by telephone; both public and private sector officials were interviewed extensively. Reports of the individual visits and a copy of the questionnaire can be found in appendices A and B. Chapter four outlines the final recommendations of the study.

The major findings of the current study may be summarized as follows:

1. Implementation of three laws passed in the 1987 session of the Texas Legislature is proceeding slowly.
2. Plans are being implemented for coordinating data in the Department of Public Safety, where five separate databases will be mutually accessible.
3. The Office of Motor Carrier Safety Field Operations of the Federal Highway Administration is conducting a study on the Motor Carrier Safety Assistance Program (MCSAP). The office found that states generally saw a decrease in the number of commercial vehicle accidents per million miles after implementation of MCSAP.
4. Visits to the 11 counties show that both implementation of and interest in Title III of the Superfund Amendments and Reauthorization Act (SARA) differ markedly, with some areas complying actively and expecting to use the data made available through Title III for controlling hazardous materials and others relatively unconcerned. One important problem became evident in visits to Brownsville and El Paso, where transportation of hazardous materials across the Mexican border is almost completely unquantifiable and is, of course, not subject to the requirements of Title III. The 1987 report mentioned the U.S.-Mexico border as an area of concern as well.
5. As a result of the visits and the telephone survey, it is evident that a two-tier county system has developed in which one class has an infrastructure for emergency response and planning, and the other has not the resources nor the motivation to comply.

**Notes**

1. Lyndon B. Johnson School of Public Affairs, Hazardous Materials Transportation in Texas, Policy Research Project Report Series, no. 82, (Austin, Tex., 1987), p. xv.

## Chapter 1. Implementation of New Hazardous Materials Transportation Laws

### **SENATE BILL 595**

Although Senate Bill (SB) 595 does not directly address hazardous materials, it expands the duties of the Texas Railroad Commission (RRC) and thereby provides for a more stable and responsive transportation system. Prior to the 70th session of the Texas Legislature in 1987, the RRC had two primary responsibilities in the transportation of hazardous materials:

1. regulation of for-hire (as opposed to private) motor carriers and transportation brokers; and
2. regulation of liquified petroleum gas (LPG) manufacturers, dealers, and transporters.

The RRC has regulated intrastate motor carrier transportation service since 1929. Permits and certificates are issued by the commission to carriers that show both that they have the ability to provide service to a specific area and that this area is not currently receiving adequate service by granted authority in the state.<sup>1</sup> After a hearing, the RRC is authorized to revoke, suspend, or amend any certification or permit if the holder has violated, refused, or neglected to observe orders, rules, rates, and regulations.<sup>2</sup> Commission staff also audit companies for compliance and establish rates.

The Liquified Petroleum Gas Division (LPG) of the RRC is responsible for administering an exam on regulation and procedures given to drivers of trucks carrying LPG products. This division also determines whether containment and cleanup have been adequate for spills involving LPG or crude oil.

Despite its name, the RRC does not have a very large role in regulating transportation by rail, which is largely preempted by federal authority. The commission nevertheless has authority to adopt federal rail regulations. To enforce previously existing regulations, the RRC had a team of ten inspectors; with the adoption of new regulations, an additional inspector was added.

The RRC is also the sole state agency involved with pipeline transportation of hazardous materials. It assesses civil and criminal penalties for violations and investigates any large leaks and spills. Notification of the RRC is required in losses of liquids equal to five barrels or more. The commission is responsible for overseeing cleanup of spills.

The RRC does not require an environmental impact statement, nor is it empowered to reject a pipeline application that fails to meet environmental standards. Although last year's report indicated that an adjustment of the entire pipeline ruling system was underway at the RRC because it had caused some controversy, in fact no changes are under consideration or development. During the 70th session of the legislature, legislation requiring the RRC to make changes in the application procedure failed to pass.

**SB 595 affects the RRC in five ways:**

1. It requires the registration of all motor vehicles that transport shipments of general commodities weighing in excess of 500 pounds. To implement this part of the law, the RRC set the registration fee at one dollar. The commission is sending out 123,000 applications to known truck owners. Proof of registration and insurance will be in the form of window decals and cab cards. Issuance of these began on December 1, 1987, and was to have been completed by February 1, 1988. By May 1988, however, only 100 applications for registration of vehicles had been received by the RRC.
2. It allows the RRC to assess penalties for violations of any of its regulations. This penalty may not exceed \$10,000. All penalties will be credited to a Motor Carrier Fund, which is used to fund the operations of the agency. An administrative penalty can be assessed for violators.
3. It requires that the DPS include in any citations issued to vehicles registered with the RRC the name of the person, company, or entity owning the vehicle in addition to the name of the driver, and to report information on all citations to the RRC once a month. DPS began forwarding the magnetic tapes containing information on carrier violations to the RRC in January of 1988. When the system is fully implemented, carrier profiles will be available to the public. Violation notices will be used by the RRC to rank priorities for their carrier terminal inspections. Auditors visit regulated carriers now and will have an expanded role under SB 595, including testing of carrier safety records for consistency and compliance with regulations. Due to a current lack of funds, a program has not yet been set for hiring additional inspectors. Terminal management audits are the only kind of inspection carried out by the RRC to regulate trucking.
4. It allows the RRC to revoke or suspend the registration certificate for unlawful operation.
5. It requires the RRC to hold an annual state of the transportation industry conference starting in 1988 to determine if existing rules, regulations, and rates are promoting a safe, stable, responsive, and adequate transportation system. HB 908, discussed in chapter two, had one provision that supplemented SB 595 and affected the RRC. It requires motor carriers to maintain liability and property damage insurance covering each vehicle operated by the motor carrier and to file proof of that insurance with the RRC. The fee for filing proof will be \$25. To provide proof of insurance with the RRC, carriers must ask their insurance companies to send them a document called Form E. If an insurance company drops coverage of a carrier, they will file a Form K with the RRC. These forms can alert both the DPS and the RRC to the possibility of carrier violations.

No rules have yet been set for the administrative assessment of penalties for carriers. Current rules will be used until they are deemed inadequate.

Although implementation of SB 595 has begun, a variety of problems remain. Among them are the following:

1. The budget for implementation. The RRC's budget was cut by 27 percent in the 70th Legislature. While money from the one dollar registration fee and the \$25 proof of insurance fee should be adequate to cover ongoing costs of the transportation

safety program, it has proven difficult for the agency to fund the start of the program. The fact that only 100 applications for registration had been received by May 1988 suggests that it will be some time before enough registrations are received even to pay for administering the fee.

2. Possible resistance from carriers on the \$500,000 insurance minimum. In July 1987, the RRC proposed regulations establishing the registration process and a minimum insurance-coverage requirement of \$500,000.<sup>3</sup> Critics complained that the requirements would place substantial burdens on certain businesses.

3. Consistent enforcement and application of fines so that RRC fines are compatible with FMCSR fines and other hazardous materials regulations. Before passage of SB 595, the RRC regulated only common, contract, and specialized motor carriers that operate solely within the state; private carriers that transported their own goods were not covered. The commission previously had adopted some of the federal safety regulations to apply to those carriers under its jurisdiction. Although the regulations generally have not been enforced, there is potential for confusion.<sup>4</sup>

4. Duplication of inspection of carrier terminals. Inspections are also carried out by the U.S. Department of Transportation (DOT) and by DPS. Since trained staff and resources are so scarce, only one agency should undertake these inspections, reporting the results to the others.

5. Most important, uncertainties about the applicability of SB 595. As noted, the RRC formerly regulated only intrastate for-hire carriers. SB 595 requires commercial motor vehicles to register with the commission. But how much more authority to regulated commercial carriers does the law give to the RRC?

One source of the difficulty is the overlapping and sometimes conflicting definitions of motor carriers and commercial vehicles in the various state and federal laws and regulations.<sup>5</sup> Other problems stem from the RRC's own rules, promulgated to implement the registration provision. When the RRC adopted the regulations, it limited their application to "commercial vehicles" whose gross weight exceeds 10,000 pounds.<sup>6</sup> The definition of commercial vehicle was further modified to exempt various occupations such as farmers, ranchers, agricultural cooperatives, gins, regulated alcoholic beverage businesses, tow truck owners, rural electric cooperatives and rural telephone cooperatives.<sup>7</sup> The minimum insurance coverage for "commercial vehicles" whose gross weight is less than 48,000 pounds was lowered to \$75,000, the amount required of all other Texas motorists.<sup>8</sup> Despite all of these exemptions, however, some private carriers continued to be regulated under these rules, which took effect on April 1, 1988.

While some private carriers complained that the RRC's regulations were burdensome, others asked the commission to consider requiring motor carriers to file a safety certification as well as to register. The commission responded that requiring carriers to file a safety certification might exceed its statutory authority. The commission nevertheless said that it would likely propose a "system of safety enforcement in conjunction with the DPS."<sup>9</sup>

On October 21, 1987, the RRC requested an attorney general's opinion on whether it has the authority to promulgate safety rules, such as those later postponed by DPS, for those private commercial vehicles required to register under SB 595. The

commission contended that the legislature could not have enacted SB 595 "with the explicit purpose of improving the safety of the transportation system for the public as a whole" without also granting to the commission the power to regulate the safety of operations of the newly registered vehicles. The attorney general's office has not yet taken action on the opinion request, and the commission has not issued any of its own safety regulations separately from DPS.<sup>10</sup>

DPS's postponement of the implementation of FMCSR as they apply to private carriers that haul their own goods (discussed in detail in chapter two) has compounded the uncertainties about the RRC's authority to implement similar safety regulations and apply them to private carriers.

## **HOUSE BILL 1353**

House Bill 1353 concerns response to hazardous materials spills. Two major provisions are

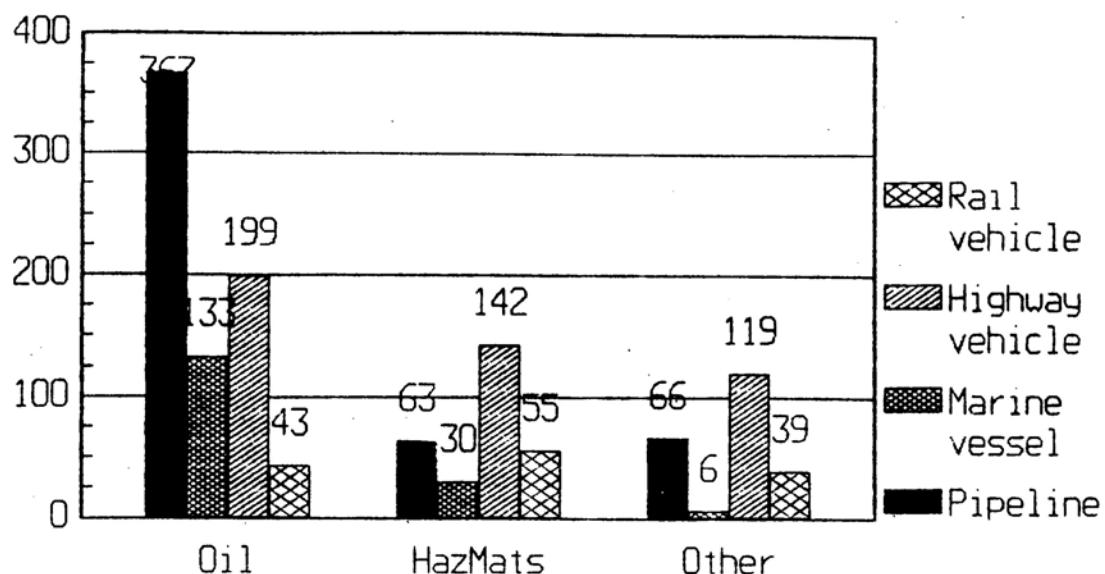
1. DPS is given the responsibility for on-site coordination of hazardous materials transportation emergencies; and
2. DPS is required to store all statistical information relating to incidents involving releases of hazardous materials.

Many accidents involving the release of hazardous materials occur. Since Texas is the second-largest generator of hazardous materials, many of these accidents occur here. From 1985 to 1987, more than 1,200 incidents involving hazardous materials on the highways, waterways, and railroads of Texas were reported to the TWC (figures 2 and 3). Many spills are never reported, however, and incomplete statistics make preventive and emergency planning difficult.

The first responder's ability to take proper action on the scene of a hazardous materials incident can have a major effect on the success or failure of the overall emergency response and final cleanup. With little time for analysis and decisionmaking, the first responder must coordinate such activities as medical attention for the injured, fire control, identification of the substances involved, determination of appropriate protective measures, and evacuation of the surrounding area. It is also necessary to have one person designated as the primary decisionmaker and coordinator of the response effort. This on-site coordinator (OSC) must have a clear understanding of the unique problems related to hazardous materials and of the proper response techniques.

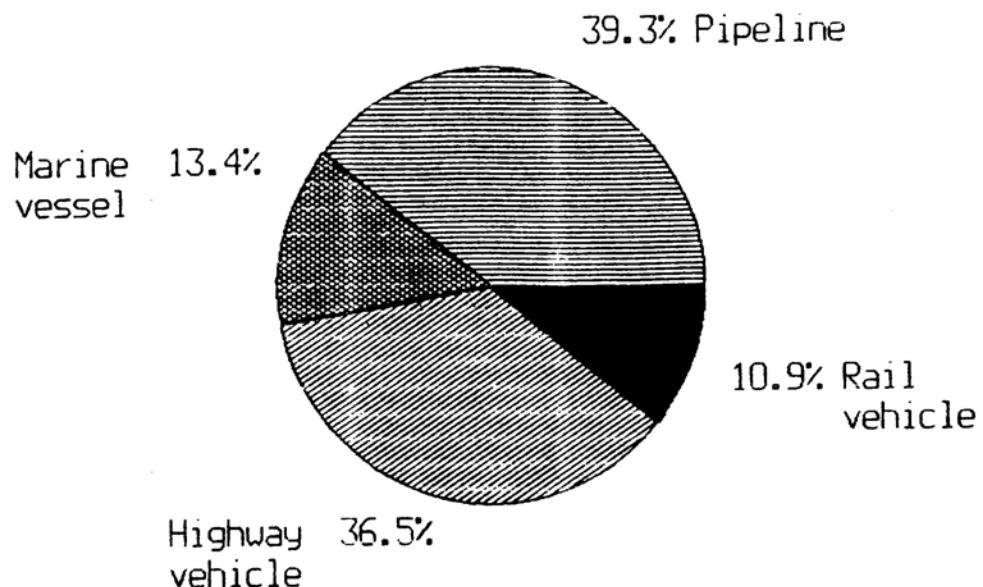
Until passage of HB 1353, Texas law did not clearly designate a coordinator for hazardous materials transportation emergencies. Under the state disaster statute passed in 1976, 27 state agencies have some responsibility for disaster management in Texas.<sup>11</sup> Along with the Red Cross, these agencies are members of the Texas Emergency Management Council, which is headed by the DPS Division of Emergency Management. Annex Q to the state disaster act suggests that the district fire chief be in charge of hazardous materials including incident response and on-site coordination. This plan is recommended to cities and counties by DPS, but areas without effective plans continue to lack a clearly designated on-site coordinator.

**Figure 2. Transportation-Related Spills, 1985-87  
(Sorted by Mode of Transportation and Type of Material Spilled)**



Source: Printout from Spill Incident Information System, Provided by Donald Fawn, Jr. Emergency Response Unit, Field Operations Division, Texas Water Commission in letter dated May 6, 1988.

**Figure 3. Percentage of Spills, 1983-87  
(By Mode of Transportation )**



Source: Printout from Spill Incident Information System, Provided by Donald Fawn, Jr. Emergency Response Unit, Field Operations Division, Texas Water Commission in letter dated May 6, 1988.

HB 1353 designates DPS staff members as OSCs for hazardous materials transportation incidents. This designation created some difficulties, since, according to the Texas Hazardous Substances Spill Prevention and Control Act, the TWC is the state's lead agency in spill response.<sup>12</sup> Furthermore, the legislation stipulates that it is the TWC's responsibility to "prevent the spill or discharge of hazardous substances into the waters in the state and to cause the removal of such spills and discharges without undue delay." The problem has been resolved with the DPS reassuring all relevant agencies that it intends to act only as a coordinator in an accident situation that would require it to defer to an agency with specific statutory responsibility in a given situation.

The reporting provisions of HB 1353 also created potential conflicts with existing practices. Before passage of the law, no agency was designated to receive all reports concerning release of hazardous materials. Rail carriers of hazardous materials were required to report incidents to the RRC, and all hazardous materials spills had to be reported to TWC. Under HB 1353, DPS is required to store all statistical information relating to hazardous materials releases. Moreover, as Texas has implemented Title III of the Superfund Amendments and Reauthorization Act (SARA), TWC will receive additional required spill reports. (Title III is discussed further in chapter three.) Thus HB 1353 has compounded, rather than relieved, confusion about reporting and has increased the need for an interagency agreement to coordinate both the receipt and the computerization of hazardous materials spill information.

## DATA MANAGEMENT

Efficient management of the large quantities and various types of hazardous materials information is essential to the planning, prevention, and response activities of governmental entities at the federal, state, and local levels. The requirement of HB 1353 that DPS store all the statistical information relating to hazardous-materials releases suggests that the legislature understands the importance of data to any program regulating hazardous materials transportation. Because of the amount and variety of information involved, however, and because of the fragmentation of responsibility for the program, efficient information management remains an elusive and difficult objective for Texas and its localities.

Determining the purpose served by the information, who needs access to it, the conditions under which the information will be needed, and the most efficient means of dissemination are all important considerations in designing and maintaining information systems. For instance, information regarding the chemical properties of hazardous materials will be important to a response effort. Other users have other needs; for example, regulatory agencies may want time-series data to see whether compliance has been changing over time. This section describes the collection and management of data relating to hazardous materials transportation by three implementing agencies: the Texas Water Commission, the Texas Department of Public Safety, and the Texas Railroad Commission. Table 1 summarizes the databases kept by these three agencies.

**Table 1. Texas Hazardous Materials Databases**

<b>Agency</b>	<b>Software</b>	<b>Fields</b>	<b>Hardware</b>
Texas Water Commission	Sperry UTS Terminal Simulation Mapper	Responsible Party Date of Spill Material Spilled Type of Vehicle Involved Spill Location Agencies Responding TWC Coordinator	Mainframe
Department of Public Safety	Motor Carrier Profile	Name of Carrier Address of Carrier Carrier Telephone Number Size of Fleet For-Hire Number	Mainframe
	Complaint D-Base	Name of Carrier Complaint Lodged	Mainframe
	Accident D-Base	Size of Vehicle Type of Vehicle Commodity	Mainframe
	Arrest D-Base	Name of Carrier Name of Driver Date of Arrest Arrest Violation	Mainframe
	Hazardous Materials D-Base	Accident/Incident Information Train/Truck Information	Mainframe
Railroad Commission	Inspection D-Base	Numeric Record of Inspections	Mainframe
	ICC Waybill Samples	Name of Carrier Commodity Value Commodity Type Commodity Quantity Location	Mainframe
	ICC and Department of Commerce, Bureau of Economic Analysis Public Use Tapes	Car Tonnage Revenue Figures Commodity Figures Interstate Commodity Flows	Mainframe

Source: On-site Interviews.

## Texas Water Commission

The TWC is the lead authority in protecting Texas' coastal, inner, and groundwater areas. To fulfill this responsibility, TWC has developed a spill response plan for all types of incidents that might threaten water. The plan includes a proposed response to a hazardous materials transportation incident. In the plan, TWC acts as the on-scene coordinator (OSC) upon arrival at a hazardous materials accident. Under this plan, all parties that are responsible for a spill and any state agency that responds to a spill or discharge are to report the incident to the Texas Emergency Response Center (TERC), a division of TWC. The center has a 24-hour telephone number. The primary purpose of notification is to allow the state to provide assistance in preventing pollution and protecting public health.

From these reports of spills and incidents from responding agencies or the responsible party, TWC has developed an extensive database. The Spill Incident Information System (SIIS) has approximately 32,000 lines of spill data. This information is obtained from the Oil or Hazardous Material Accidental Discharge or Spill Report (figure 4). This information is updated on a weekly basis from newly filed reports and can be sought and retrieved by all the fields in the system. Currently, TWC has information on SIIS dating from 1983 to the present, and staff are putting information from 1970 to 1983 onto the system.

TWC also maintains a database for logistic response. For each county in Texas, TWC has listed all groundwater areas, park facilities, or nature areas that could be adversely affected by a spill. TWC will provide this information upon request to local authorities through the TERC.

TWC also manages a chemical database called the Chemical Information System (CIS). This system can retrieve a chemical file in 10 seconds. The TWC, however, has only about 165 chemicals on this system. The staff have developed their own chemical database using the chemicals that TWC confronts most often. This system was developed rather than purchase a commercial database that had materials which TWC felt were unneeded. Further, the more information in a database, the longer it takes to retrieve it.

## The Department of Public Safety

The DPS is presently planning to install five separate databases in its data processing system. Although separate, the five databases will be interactive with each other. The databases were originally designed to help the DPS in its enforcement of FMCSR, but even with the delay in the implementation of FMCSR, the DPS still plans to install all five. The DPS system will contain the following databases: carrier profile, complaint, accident, arrest, and hazardous materials. The collection of data began January 1, 1988, although the delay in implementing FMCSR has delayed the installation of the planned databases. The databases will exist in a mainframe environment, thereby enabling DPS to have continuous on-line access to the information. On-line processing will also allow data to be entered continuously. DPS officers are satisfied with the advantages they feel these new databases will offer them in their efforts to enhance their ability to enforce state laws concerning hazardous materials transportation.<sup>13</sup>

#### **Figure 4. Texas Water Commission Spill Report**

**TEXAS WATER COMMISSION**  
**OIL OR HAZARDOUS MATERIAL ACCIDENTAL DISCHARGE OR SPILL REPORT**

**Figure 4. cont.**

9. Origin: (Check One)      1  Fixed Site-Inland,      2  Fixed Site-Marine,      3  Pipeline,      4  Marine Vessel,

5  Highway Vehicle,      6  Rail Vehicle,      7  Other (41)

10. Cause: (Check One)      1  Corrosion,      2  Equipment Failure,      3  Human Error,      4  Vandalism,

5  Intentional Discharge,      6  Act of God,      7  Other (43)

Brief Description \_\_\_\_\_

11. Reported Injuries and Cause: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

12. Anticipated Hazards: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

13. Actions Being Taken: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

14. Cleanup Adequate: (Check one)      1  YES      2  NO (45)      Comments \_\_\_\_\_  
\_\_\_\_\_

15. Inspection By: (Circle)      TWC,      TP&WL,      RRC,      USCG,      EPA,  
Local Authorities \_\_\_\_\_, Other \_\_\_\_\_ TWC Inspector \_\_\_\_\_

16. Others Notified:

TWC	Date	Who	By Whom
District No.			
FO Austin			
Executive Director			

Agency	Date	Where	Who	By Whom
RRC				
TP&WL				
TDH				
EPA				
USCG				
Gov.				
DPS				
NRC				

ADDITIONAL COMMENTS, CORRESPONDENCE, PHOTOGRAPHS ETC. SHOULD BE ATTACHED TO THIS FORM.

SIGNED: \_\_\_\_\_ DATE: \_\_\_\_\_

APPROVED BY: \_\_\_\_\_

TO BE COMPLETED BY CENTRAL OFFICE							
State Funds Expended:	Amount	18	26	Reimbursement	28	36	04
Location:	Description						
Latitude	38 41	49					76
Longitude	43 47	50					109

The carrier profile database, a result of SB 595, will consist of information assimilated from vehicle inspections. The inspections will gather data on the vehicles of each individual carrier (figure 5). Two fields will exist, which will be read when the data is entered, one for interstate trucking routes and one for intrastate. Interstate trucking information will be retained by the DPS and will also be sent to SAFETYNET. Intrastate trucking information will be maintained by the DPS for its own use.

SAFETYNET is a nationwide database that consists of carrier (road-use vehicles) profiles from all member states. As the program is in its early stages, no real indicators of its success are available at this time. There is hope, however, that many states will combine to form a national database that will allow law-enforcement officials in member states access to the complete history of any carrier.

The second database available to DPS is a complaint database. The DPS receives many different kinds of complaints, for example, carriers complain about other carriers, drivers make complaints against the companies who employ them, and individuals contact the DPS to file complaints against carriers and carrier companies. When the complaints are received by the DPS, the carrier profiles will be retrieved and the complaints will be added. The profiles and complaints will be compared to elicit any trends, such as carriers with many violations and many complaints filed on them. The DPS may then decide to pursue further examination of the carrier or company.

The accident database will contain data on both interstate and intrastate carriers involved in accidents on Texas roadways. The vehicles will be inspected, enabling DPS to act if there are violations. There is a one-page violation report that is filled out by the DPS officer who inspects a vehicle that has been in an accident. The accident database will include extra information if the vehicle is registered for or weighs more than 10,000 pounds. A supplementary form will be required to be filled out by any law enforcement officer in the state who fills out an accident report. This requirement includes not only DPS officers, but all law-enforcement officers. The supplementary form will allow DPS officials to have access to more information on larger carriers. This database will also complement the carrier profile database because the profiles being transferred to SAFETYNET are for carriers over 10,000 pounds.

The arrest database will contain information on both violations and related arrests of drivers and carrier officials. This information will be transferred from DPS to the RRC. There will be numerical values assigned to carrier violations to identify problem carriers. The data collected will be entered into the system and then stored on tapes. These tapes will be transferred to the RRC, which will load the tapes into its system, allowing the commission to be in possession of violation information on individual carriers. Information was to have been entered beginning September 1, 1987, but will not be entered until the system has been loaded onto the mainframe at DPS and is ready to begin data processing. The implications for enforcement laws regarding hazardous materials transportation are very important. At this time, the DPS can only issue an individual fine or bring the violator before a justice of the peace. The RRC can issue multiple fines, file for civil action, and ask for a class C misdemeanor.

The fifth database to be installed is the hazardous materials database. The database is a result of HB 1353, which requires the DPS to keep information on hazardous materials transported by all registered carriers.

**Figure 5. DPS Driver-Vehicle Examination Report**

MCL-F (Rev. 8/87)		1. REPORT NO	2. INSPECTION DATE	3. TIME STARTED					
 <b>TEXAS DEPARTMENT OF PUBLIC SAFETY</b> <b>DRIVER-VEHICLE EXAMINATION REPORT</b>		TX	8/8/87						
		4. INSP LOCATION	5. STATE NO	6. DOT NO					
		7. INTERSTATE? Y N	8. NAME OF MOTOR CARRIER OR LESSEE						
10. STREET ADDRESS		11. CITY	12. STATE	13. ZIP CODE					
14. NAME OF SHIPPER		15. SHIPPING PAPER NO							
16. DRIVER IDENTIFICATION			17. DRIVER LICENSE NO	18. LIC STATE					
LAST NAME		FIRST NAME	MR						
19. COMMUNITY		20. OWNER	21. DESTINATION						
22. FOR HIRE	23. IF CARGO TANK	24. IF H.H. UNDER EXEMPTION	25. LEVEL OF INSPECTION		TYPE FACILITY				
YES NO	SPECIFICATION NO	E NUMBER	1. <input type="checkbox"/>	2. <input type="checkbox"/>	3. <input type="checkbox"/>	4. <input type="checkbox"/> ROADSIDE			
26. MEDICAL CARD		27. CITATION NO	28. EXPIRATION DATE		5. <input type="checkbox"/> TERMINAL	6. <input type="checkbox"/> OTHER			
<b>HAZARDOUS MATERIALS</b>									
1. Butadiene A 2. Butadiene B 3. Butadiene C 4. Butadiene Liquid 5. Butane 6. Butane Gas 7. Butane/Propane Gas 8. Carbon 9. Carbon 10. Carbon 11. Carbon 12. Carbon 13. Carbon 14. Carbon 15. Carbon 16. Carbon 17. Carbon 18. Carbon 19. Carbon 20. Carbon 21. Carbon 22. Carbon 23. Carbon 24. Carbon 25. Carbon 26. Carbon 27. Carbon 28. Carbon 29. Carbon 30. Carbon 31. Carbon 32. Carbon 33. Carbon 34. Carbon 35. Carbon 36. Carbon 37. Carbon 38. Carbon 39. Carbon 40. Carbon 41. Carbon 42. Carbon 43. Carbon 44. Carbon 45. Carbon 46. Carbon 47. Carbon 48. Carbon 49. Carbon 50. Carbon 51. Carbon 52. Carbon 53. Carbon 54. Carbon 55. Carbon 56. Carbon 57. Carbon 58. Carbon 59. Carbon 60. Carbon 61. Carbon 62. Carbon 63. Carbon 64. Carbon 65. Carbon 66. Carbon 67. Carbon 68. Carbon 69. Carbon 70. Carbon 71. Carbon 72. Carbon 73. Carbon 74. Carbon 75. Carbon 76. Carbon 77. Carbon 78. Carbon 79. Carbon 80. Carbon 81. Carbon 82. Carbon 83. Carbon 84. Carbon 85. Carbon 86. Carbon 87. Carbon 88. Carbon 89. Carbon 90. Carbon 91. Carbon 92. Carbon 93. Carbon 94. Carbon 95. Carbon 96. Carbon 97. Carbon 98. Carbon 99. Carbon 100. Carbon 101. Carbon 102. Carbon 103. Carbon 104. Carbon 105. Carbon 106. Carbon 107. Carbon 108. Carbon 109. Carbon 110. Carbon 111. Carbon 112. Carbon 113. Carbon 114. Carbon 115. Carbon 116. Carbon 117. Carbon 118. Carbon 119. Carbon 120. Carbon 121. Carbon 122. Carbon 123. Carbon 124. Carbon 125. Carbon 126. Carbon 127. Carbon 128. Carbon 129. Carbon 130. Carbon 131. Carbon 132. Carbon 133. Carbon 134. Carbon 135. Carbon 136. Carbon 137. Carbon 138. Carbon 139. Carbon 140. Carbon 141. Carbon 142. Carbon 143. Carbon 144. Carbon 145. Carbon 146. Carbon 147. Carbon 148. Carbon 149. Carbon 150. Carbon 151. Carbon 152. Carbon 153. Carbon 154. Carbon 155. Carbon 156. Carbon 157. Carbon 158. Carbon 159. Carbon 160. Carbon 161. Carbon 162. Carbon 163. Carbon 164. Carbon 165. Carbon 166. Carbon 167. Carbon 168. Carbon 169. Carbon 170. Carbon 171. Carbon 172. Carbon 173. Carbon 174. Carbon 175. Carbon 176. Carbon 177. Carbon 178. Carbon 179. Carbon 180. Carbon 181. Carbon 182. Carbon 183. Carbon 184. Carbon 185. Carbon 186. Carbon 187. Carbon 188. Carbon 189. Carbon 190. Carbon 191. Carbon 192. Carbon 193. Carbon 194. Carbon 195. Carbon 196. Carbon 197. Carbon 198. Carbon 199. Carbon 200. Carbon 201. Carbon 202. Carbon 203. Carbon 204. Carbon 205. Carbon 206. Carbon 207. Carbon 208. Carbon 209. Carbon 210. Carbon 211. Carbon 212. Carbon 213. Carbon 214. Carbon 215. Carbon 216. Carbon 217. Carbon 218. Carbon 219. Carbon 220. Carbon 221. Carbon 222. Carbon 223. Carbon 224. Carbon 225. Carbon 226. Carbon 227. Carbon 228. Carbon 229. Carbon 230. Carbon 231. Carbon 232. Carbon 233. Carbon 234. Carbon 235. Carbon 236. Carbon 237. Carbon 238. Carbon 239. Carbon 240. Carbon 241. Carbon 242. Carbon 243. Carbon 244. Carbon 245. Carbon 246. Carbon 247. Carbon 248. Carbon 249. Carbon 250. Carbon 251. Carbon 252. Carbon 253. Carbon 254. Carbon 255. 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Carbon		CODE	807	907	UNIT NO	OUT OF SVC	VIOLATIONS DISCOVERED		
SEE CONTINUATION SHEET		YES	NO						
<b>VEHICLE/DRIVER OUT OF SERVICE NOTICE</b>									
<input type="checkbox"/> Pursuant to authority contained in VCS 6701d Sec. 139 I hereby declare vehicles with defects indicated by an "X" in the Out of Service column of this report Out of Service. No person shall remove the out of service stickers applied to these vehicles or operate such vehicles until the out of service defects have been repaired and the vehicles have been restored to safe operating condition. <input type="checkbox"/> Pursuant to authority contained in VCS 6701d Sec. 139 I hereby notify and declare the driver named on this report Out of Service. No motor carrier shall permit or require this driver to drive or operate any motor vehicle until									
REPORT PREPARED BY		A. TROOPER ID#	B. TIME COMPLETED	COPIES RECEIVED BY					
<small>NOTE TO DRIVER: This report must be furnished to the motor carrier whose name appears on this report. NOTE TO MOTOR CARRIER: Please sign the below certification and return this report to Texas Department of Public Safety, Motor Carrier Safety Section, P. O. Box 4087, Austin, Texas 78773-0001 within fifteen days.</small>									
<small>The undersigned certifies that all violations noted on this report have been corrected and action has been taken to assure compliance with the VCS 6701d Sec. 139 Insular as they are applicable to motor carriers and drivers.</small>									
<small>SIGNATURE OF CARRIER OFFICIAL</small>									
WHITE COPY — MCL Section		CANARY COPY — Driver		BLUE COPY — Trooper's File		PINK COPY — Regional File			

## The Texas Railroad Commission

The Texas Railroad Commission (RRC) keeps two databases that concern hazardous materials transportation other than the database that the Liquified Petroleum Gas (LPG) Division maintains, discussed in the 1987 LBJ School report on hazardous materials transportation. The first database originates from the Interstate Commerce Commission (ICC) and records waybill samples from carriers and information concerning hazardous materials that are transported by carriers. The second database is a numeric record of inspections and is used at present by the RRC.

The first database has the most potential for the RRC since the waybill samples are accurate data, which may be statistically analyzed. The RRC has received two tapes from the ICC. The tapes are a one percent waybill sample of all rail carriers with origins and destinations in Texas. Also, rail carriers that pass through Texas are included in the waybill sample. The tapes are produced on a yearly basis and contain fields of the type, quantity, and dollar value of various commodities transported on each individual rail carrier. The possibilities for maintaining data on hazardous materials transported by rail are excellent. Both large and small volumes of hazardous materials can be detected through the waybill samples and possible problem areas can be identified. At present, the RRC has tapes from two years in its possession: 1984 and 1985. They have requested three more years: 1982, 1983, and 1986. All tapes are one percent samples except for 1986. In 1986, however, the ICC started issuing 2-1/2 percent waybill samples. Acquisition of the tapes from the additional three years is desired because it will give the RRC a five-year history in order that it may achieve a more representative sample.

Two important problems occur with the waybill samples. The first is simply the small size of the sample. The first four samples are one percent samples; the more recent is a 2-1/2 percent sample. Because the sample is so small, it may either overstate or underestimate the amount of hazardous materials passing though a particular point; at the same time, it is likely to be very poor at identifying the various kinds of hazardous materials transported by rail in Texas.

The second problem is potentially the more serious of the two. The RRC has an agreement with the ICC not to release the information on the tapes because they contain confidential commercial information such as the quantity and dollar value of the shipments. The commission believes that it can keep this information confidential, allowing it to maintain the tapes. The question of confidentiality has nevertheless been referred to the attorney general's office. Should the attorney general determine that the RRC would have to allow the public access to the tapes, then the agency would not be keeping the information confidential, the RRC will have destroy the tapes in its possession, and the ICC will send no more tapes. There is no set date when the attorney general's office will make its determination.

If the RRC must destroy waybill samples, it can make use of another resource, the Public Use Tapes, which do not include any confidential information. Until 1986 these tapes were produced by the ICC, but since 1986 the Bureau of Economic Analysis (BEA) in the Department of Commerce has produced them. The ICC tapes contain information such as state-to-state flows, car tonnage, revenue figures, and commodity figures. The tapes from the BEA contain the same information but are organized according to 183 Commerce Department economic regions rather than by state. It will be difficult for the RRC to extricate data for the state of Texas or to compare the old

and the new data since, for example, El Paso is in the same region as most counties in southern New Mexico.

The second RRC database records inspections results. The Federal Railroad Administration (FRA) inspects trains that carry hazardous materials, and the RRC complements the FRA with its own inspections. Recently the RRC adopted many of the FRA's criteria for inspections, and they keep a database on the numeric record of inspections. The RRC also keeps records of accidents involving all rail transportation, although field officers do not enter this information directly from the field. Railroad companies also submit accident information.

The RRC is attempting to upgrade its system by installing a Job Control Language system that will be able to create and retrieve reports efficiently, either by using a PC or a terminal tied to the mainframe.

## **OVERDIMENSION PERMITTING**

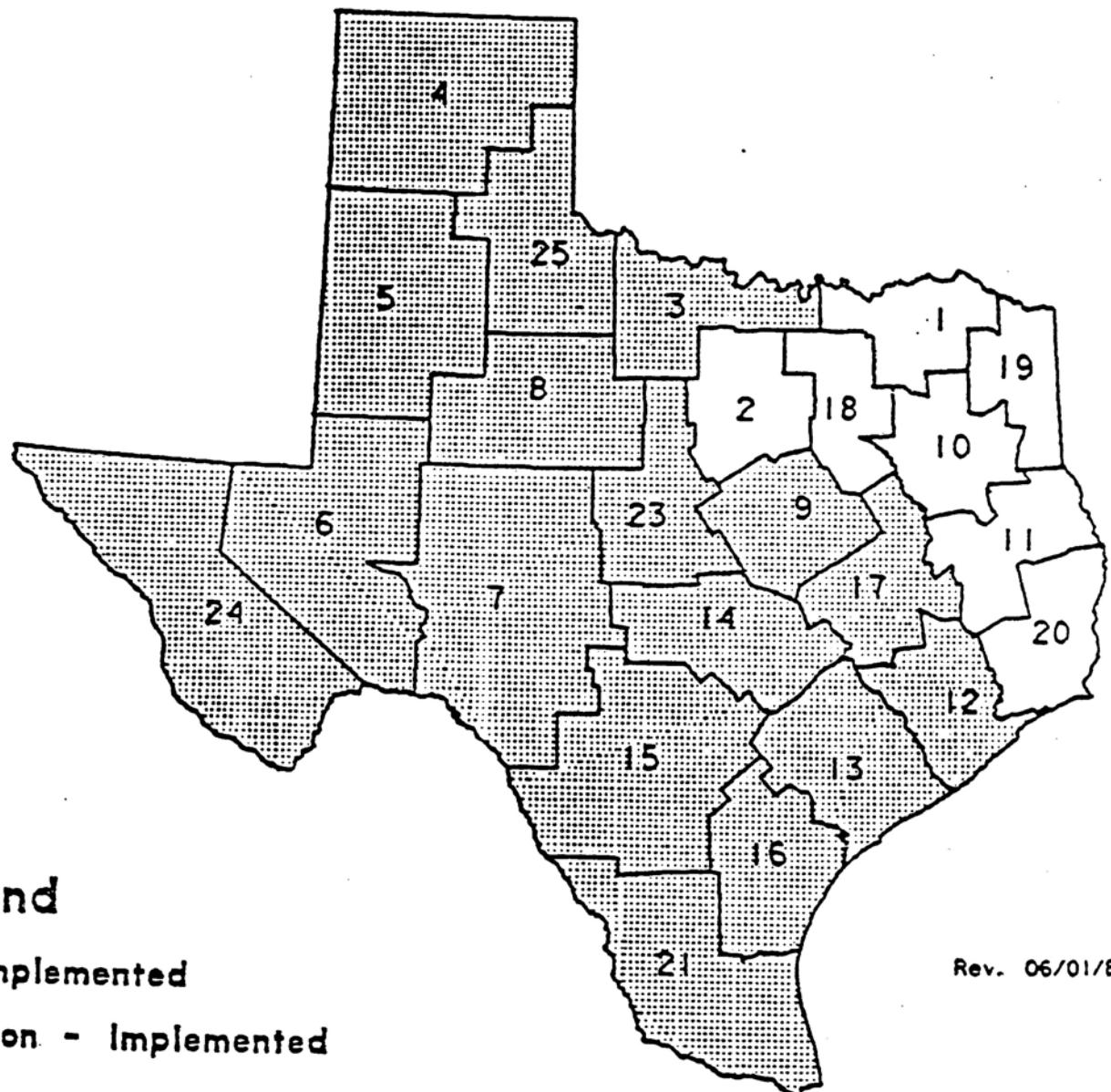
In 1986, the Texas State Department of Highways and Public Transportation (SDHPT) was authorized to create an oversize/overweight self-issue permit service. Currently, the office of Central Permit Operations (CPO) issues overdimension trucking permits by phone. This fully automated system is referred to as "self-issuing" because truckers anywhere in the nation can call a special 1-800 number (1-800-2-CPO-TEX) and write their own permits with the assistance of trained permit operators.<sup>14</sup>

The advantages of the CPO system include cost-effectiveness and ease. The permit system has been implemented in 17 of the 24 highway districts in the state (see map 1); the remaining 30 percent of the original 202 field offices are scheduled to be incorporated into the system by the end of 1988. The field office system used approximately \$4.6 million per year; the SDHPT estimates that they will save some \$2 million each year with the CPO system.

Truckers can obtain oversize/overweight permits as well as temporary motor vehicle registrations with one phone call. An automated call distributor (ACD) initially screens calls through computer voice reading of touch-tone answers, and calls are forwarded to the relevant office as well as by geographic area. Permit requirements, routes, and any special conditions are discussed and verbally recorded as well as entered into the CPO's computerized database and the trucker's copy of the permit. Figure 6 is a copy of the permit and application that a trucker would carry as his personnel copy for his vehicle. If the trucker is stopped by a DPS officer, the permit information is accessible by computer along with license records.

Payment for permits (\$20 per permit) is simplified by the CPO system. Truckers pay a one dollar service charge to use Mastercard, Visa, or a special "FirstPay" credit card developed by First City National Bank of Austin exclusively for the SDHPT. Approximately 70 percent of carriers pay by credit card; only 3 percent pay by cash at designated offices that have regular business hours. The remaining 27 percent arrange for prepaid permits, although this is limited currently to three segments of industry: manufactured houses, concrete beams, and portable buildings.

**Map 1. Self-Issue Permit Implementation Schedule**



Source: State Department of Highways and Public Transportation

**Figure 6. Texas Self-Issue Permit**

Other advantages of the CPO automated system are increased availability and consistency. In the past, truckers tended to encounter slow processing and differing interpretations of state laws in the 202 permit field offices. Permits are now available in 15 minutes over the phone, 359 days of the year, 14 hours each day, accept Sunday when they are available for 4 hours in the morning.

The CPO system records the issuance of approximately 30,000 permits annually.<sup>15</sup> The permit information is entered onto four electronic databases as well as one voice database that records all telephone conversations on tape. This latter measure can be consulted in case of a discrepancy between a carrier's permit and the files of the CPO. The electronic databases link the CPO with the DPS and are maintained for three days (the usual time period for a permit) to three years (length of the statute of limitation for permits), depending on the database.

The routing capabilities of permit officers will be enhanced by an automated routing system that the CPO plans to have installed by 1993. This computerized map will allow permit officers to search quickly for the shortest and safest route for a carrier with respect to construction restrictions and weight and size specifications of major Texas roads.

The National Governor's Association (NGA) has looked with interest at the CPO's overdimension permit system. The NGA is encouraging states to establish a "one-stop" approach for motor carriers to comply with all state highway use requirements at one contact point, whether it be a centralized motor carrier office or a single telephone number.<sup>16</sup> The 11 states that have one-stop operations have created uniform procedures for the administration of interstate motor carrier requirements, such as vehicle registration, fuel use tax reporting, oversize/overweight permitting, and operating authority registration and fees. The benefits from a one-stop operation are enhanced service, improved relations between the state and the motor carrier industry, and increased compliance with state requirements.

## CONCLUSIONS

Implementation of the laws passed in 1987 is proceeding but in many instances is impeded by lack of funds and by the need for agencies to cooperate to allocate clearly their overlapping authorities. Moreover, DPS's actions with respect to FMCSR have complicated matters for the other agencies concerned with hazardous materials transportation. When the state legislature convenes in 1989, we believe it should try to develop a more comprehensive approach to the problem of hazardous materials transportation, rather than simply making incremental changes in the authority of each agency. These changes, while helpful, do not encourage agencies to work together to alleviate the continuing problem of fragmentation of authority.

Information management is central to a coordinated effort in regulating hazardous materials transportation. Internal agency efforts were already strong or have been significantly improved under the impetus of the three new statutes discussed in this chapter. Exchange of data among the agencies, however, continues to be impeded not only by hardware and software incompatibilities but by the reluctance of the agencies to make the changes necessary to use each other's data. Moreover, some functions, such as immediate retrieval of detailed emergency response information, appear to operate more efficiently without computerization; a system for deciding when

and what kind of computerization is most appropriate does not appear to be in use. Thus data management reflects the fragmentation that continues to characterize the Texas program to regulate the transportation of hazardous materials.

The automated CPO system could help centralize information on the state's overall highway tax and regulatory program. Currently, the ACD allows motor carriers to call one number and electronically reach offices for permits and license registration. With an expansion of the ACD, carriers could also reach the DPS and other relevant agencies without human assistance. In addition, this could be enhanced by a single computerized database that links the various agencies involved such as is found between the CPO and the DPS.

The CPO permit system could also be expanded without much difficulty to include hazardous materials shipments. Routing of hazardous materials could be included on the proposed automated routing system by specifying allowable materials on the roads. The greatest challenge encountered by the CPO, establishing a suitable telephone system, has already been resolved. Another difficulty confronted by the CPO--receiving funding from the state--is not as easy to solve. Nevertheless, the evident advantages of a centralized permit system, embodied in efficiency and availability as well as actual savings to the state treasury, show that this is a program that should be supported and expanded, especially to improve the safety of Texas's roads.

## Notes

1. Vernon's Ann.Civ.St. art. 911b.
2. Ibid.
3. Texas Register, vol. 12, July 28, 1987, p. 2464.
4. Rebecca Landis, "Motor Carrier Safety Rules Postponed," House Research Organization, Interim News, June 1988, p. 14.
5. Ibid.
6. Texas Register, vol. 12, September 15, 1987, p. 3212.
7. Texas Register, vol. 13, February 8, 1988, p. 824.
8. Texas Register, vol. 12, December 22, 1987, p. 4809.
9. Landis, "Safety Rules Postponed," p. 15.
10. Ibid.
11. Vernon's Ann.Civ.St. art. 6889-5.
12. Vernon's Texas Codes Annotated, Water Code, section 26.264.
13. Class presentation by Tom Milwee, Texas Department of Public Safety, September 24, 1987, Austin, Tex.
14. Unless otherwise indicated, information about the CPO automated permitting system is from interviews by Jennifer Mason with Bert Lundell, Director, Central Permit Operations, State Department of Highways and Public Transportation, Austin, Tex., June 1988.
15. Another 10,000 permits per year should be added with the expansion of the system into all 24 districts.
16. National Governor's Association, "Establishing a One-stop Operation for Motor Carriers," Washington D.C. (Brochure.)

## **Chapter 2. Federal Motor Carrier Safety Regulations**

As noted in the Introduction, the Federal Motor Carrier Safety Regulations (FMCSR) have been the subject of considerable controversy in Texas in 1988. It should be noted as well that, despite the controversy, some portions of FMCSR, including those specifically concerned with hazardous materials, have been in effect since January 1, 1988. This chapter describes the fundamental purpose and contents of FMCSR and includes a brief review of changes in federal regulation of hazardous materials transportation since publication of the earlier report. It then describes the history of the events in Texas pertaining to the regulations. The concluding sections review implementation of FMCSR and the ensuing accident reductions in other states.

### **FEDERAL MOTOR CARRIER SAFETY REGULATIONS**

The 1975 Hazardous Materials Transportation Act (HMTA) is the basic federal legislation regulating the safe transit of hazardous materials by all modes of transportation in interstate commerce and in intrastate activities that affect interstate commerce. The intent of the act is to consolidate regulatory authority for hazardous materials transportation under the secretary of transportation, although carriers operating solely intrastate are exempt from most Department of Transportation (DOT) regulations.<sup>1</sup> The regulations implementing HMTA are called the Federal Hazardous Materials Regulations (FHMR) and are found in parts 101-191 of chapter 49 of the Code of Federal Regulations (49 CFR). Some of the major topics are described in table 2.

The Federal Highway Administration (FHWA) of DOT oversees safety rules for motor carriers.<sup>2</sup> In the late 1960s and early 1970s, the agency promulgated a series of rules called the Federal Motor Carrier Safety Regulations (FMCSR), which apply to motor carriers engaged in interstate and international commerce. FMCSR is found in parts 386 and 388-399 of 49 CFR. FMCSR prescribes uniform standards for drivers of commercial vehicles, including requirements for driving hours, truck safety, accident notification and reporting, and minimum levels of financial responsibility, among other provisions. Thus it is not intended only to regulate transport of hazardous materials. Part 397 applies specifically to hazardous materials; it includes rules concerning attendance of vehicles containing hazardous materials, parking, routes, smoking, fueling, and tires. (Placarding regulations, which inform others of the contents of a vehicle transporting hazardous materials, are found in part 177.) In Texas, the discussions concerning FMCSR are distinguished among its different sections. Some sections are acceptable to all parties while others are not. To help the reader distinguish among these different parts, table 3 indicates the contents of the various sections of FMCSR.

#### **Changes in Regulations, 1987-88**

Some changes in federal and state regulations will affect Texas no matter what the status of FMCSR. Four important changes have been proposed.

**Table 2. Provisions of FHMR and Illustrative Subparts**

<b>49 CFR Part</b>	<b>Subject</b>
101	Cargo security advisory standards (general, petition filing, procedures)
106	Rulemaking procedures for hazardous materials transportation and pipeline safety
107	Hazardous materials program procedures (exemptions, preemption, and enforcement)
171	Hazardous materials regulations
171.2	General requirements for hazardous materials
171.3	General requirements for hazardous wastes
171.8	Definitions and abbreviations
171.9	Rules of construction
171.12	Import and export shipments
171.13	Emergency regulations
171.14	Specifications markings
171.16	Incidence reports
171.17	Hazardous substances discharge notification
171.18	Bureau of Explosives registrations
172	Tables and communications regulations
172.101	Hazardous materials table
172.200	Shipping papers
172.300	Marking requirements
172.400	Labeling requirements
172.500	Placarding requirements
173	Shippers--general requirements for shipments and packagings (definitions and preparation)
174	Carriage by rail: operating requirements, handling and loading, detailed requirements by material type
175	Carriage by aircraft: general and specific regulations, handling
176	Carriage by vessel: operating requirements, handling and stowage, segregation, detailed requirements by material type
177	Carriage by public highway: regulations, loading and unloading, segregation, accidents, regulations for passenger-carrying vehicles
178	Shipping container specifications
179	Specifications for tank cars
190	Pipeline safety and enforcement
191	Pipelines: annual reports and incident reports
192	Minimum federal safety standards for pipelines
193	Federal safety standards for liquified natural gas facilities
195	Transportation of hazardous liquids by pipeline

**Table 3. Provisions of FMCSR with Illustrative Subparts**

<b><u>49 CFR Part</u></b>	<b><u>Subject</u></b>
386	Rules of practice for motor carrier safety and hazardous materials proceedings (pleadings, consent orders, rules for hearings)
388	Cooperative agreements with states
389	Rulemaking procedures--Federal Motor Carrier Safety Regulations
390	General regulations
390.1	Motor vehicle
390.3	Bus
390.9	Driveaway-towaway operation
390.30	Effect on state and local laws
390.40	Locations for filing accident reports and notifications
391	Qualifications of drivers
391.25	Annual review of driving record
391.31	Road test
391.43	Medical examination
392	Driving of motor vehicles
392.3	Ill or fatigued driver
392.4	Drugs and other substances
392.5	Intoxicating beverages
392.7	Equipment, inspection, and use
392.9	Correct loading
392.10	Stopping required--railroad grade crossings
392.16	Use of seat belts
392.20	Unattended vehicles-precautions
393	Parts and accessories necessary for safe operation
393.40	Required brake systems
393.51	Warning devices and gauges
393.75	Tires
393.100	Rules for protection against shifting or falling cargo
394	Notification and reporting of accidents
395	Hours of service of drivers
395.7	Travel time
395.8	Driver's record of duty status
396	Inspection, repair, and maintenance
397	Transportation of hazardous materials: driving and parking rules
398	Transportation of migrant workers
399	Employee safety and health standards

In June 1987, DOT proposed a new rule defining hazardous materials that are regulated in intrastate commerce.<sup>3</sup> The current rules regulate hazardous wastes and hazardous substances carried intrastate by highway and hazardous materials transported by rail, air, and ship. The differences between hazardous substances and hazardous materials are never defined in the rules; instead, a long list of each is provided.<sup>4</sup> The new rule will simplify and extend the regulations by covering all hazardous materials in intra- as well as interstate commerce.

A December 1987 proposal by FHWA advanced an amendment to part 383 of FMCSR to establish minimum standards for state testing and licensing of commercial motor vehicle (CMV) drivers.<sup>5</sup> Currently, there is little consistency among states as to what proves that a driver possesses the skills required to drive different types of CMVs such as passenger cars, 18-wheelers, or three-axle intercity buses. The amendment provides plans with varying degrees of flexibility and consistency that would allow states to comply with the Commercial Motor Vehicle Safety Act of 1986, established to ensure the fitness of CMV drivers, including those that haul hazardous materials.<sup>6</sup>

FHWA proposed a rule for highway routing standards for hazardous materials in April 1988.<sup>7</sup> DOT currently has the authority under HMTA<sup>8</sup> to regulate routing of hazardous materials; this capacity, however, has been exercised only for radioactive materials such as spent nuclear fuel. The proposed rule concerns the possible need to establish federal routing criteria, requirements, and methodologies for the highway transportation of nonradioactive hazardous materials. While the rule would assist state and local officials in making routing decisions that would be nationally consistent, cost-effective, and conducive to the public safety, concerns linger regarding inconsistent and ambiguous interpretations of current federal regulations addressing highway transportation of nonradioactive hazardous materials.

Also in April 1988, the Texas Court of Criminal Appeals ruled invalid traffic stops used to enforce vehicle standards promulgated by regulations rather than those enacted as statutes.<sup>9</sup> This ruling undercut plans of the Department of Public Safety (DPS) to increase enforcement of existing state laws by employees already trained in federal inspection.<sup>10</sup>

## FMCSR IN TEXAS

According to HMTA, states can adopt hazardous materials regulations only if they are consistent with the federal scheme. In 1971, the Texas motor vehicle laws were revised to allow the director of the DPS to adopt such regulations for the safe transportation of hazardous materials. The law specified that the regulations should be consistent with current DOT hazardous materials regulations. Despite the wording of the 1971 Texas law, DPS was not sure that it was authorized to adopt FMCSR. The agency preferred to have specific legislative authorization to adopt FMCSR.

## House Bill 908

Specific legislative authorization was obtained when the Texas legislature passed House Bill 908 in 1987. HB 908 requires the director of the DPS to adopt regulations for the safe operation of motor carriers and for the safe transportation of hazardous

materials. The bill directs that these regulations duplicate or be consistent with current federal regulations, including both FHMR and FMCSR. It has these provisions:

1. All vehicles above a gross vehicle weight of 10,000 pounds must comply with FMCSR.
2. Local peace officers may enforce FMCSR in communities with populations exceeding 300,000.
3. DPS officers and certified peace officers may detain and place drivers or vehicles out of service in the case of violations. It also allows officers to enter the premises of a motor carrier to inspect equipment and records for evidence of noncompliance.
4. The attorney general must bring suit against violators upon request of the director of DPS or of the Railroad Commission. Violations under these regulations are classified as a class C misdemeanor.

In addition, adoption of FMCSR is a condition of receiving federal funding for the state inspection and regulatory enforcement program for highways under the Motor Carrier Safety Assistance Program (MCSAP).<sup>11</sup> Passage of HB 908 was crucial to Texas's continued participation in the federal program. Due to the state's inability to fulfill the requirements of the program, DOT terminated MCSAP funding in Texas on May 24, 1988.<sup>12</sup>

#### Legislative History

HB 908 was filed by state Representative David Cain on February 23, 1987, and was referred to the Public Safety Committee in the house. A companion bill, introduced by Senator Ted Lyon, was referred to the State Affairs Committee. At its hearings, the house committee heard testimony largely supportive of the legislation from representatives of a variety of organizations, including the Texas Motor Transportation Association (TMTA) and DOT. A representative of the Dallas Transit System was the only person who opposed HB 908 during the hearing.

Proponents of HB 908 argued that the state's adoption of FMCSR would "improve safety on the state's roads by ... enacting comprehensive truck standards."<sup>13</sup> Supporters also noted that the bill would enable the state to meet the federal mandate of the Motor Carrier Safety Act of 1984, requiring states to enact adequate truck safety standards by 1989. An additional incentive would be access to \$2.5 million in federal funds for compliance with the federal requirements.

Three arguments were offered in opposition. First, Texas "could not afford an expensive program during a period of fiscal austerity."<sup>14</sup> Second, the penalties for violations should be increased to provide higher fines as well as incarceration. Finally, the opponent questioned whether DPS would be in violation of the Administrative Procedure and Texas Register Act (APTRA) if it adopted the regulations by reference to the federal regulations and did not grant an opportunity for public comment.

The bill was referred out of both the house and senate committees with unanimous consent and was passed unanimously by both full houses. Governor Bill Clements signed the act on June 16, 1987.

### Implementing the Law

The director of the DPS had adopted the relevant FHMR parts 171-173, 177, and 178 in 1973. On October 2, 1987, the DPS published its intention of adopting the relevant FMCSR parts 390-393 and 395-397.<sup>15</sup> DPS has not proposed to adopt part 394 related to notification, recording, and reporting because it believes that its current system is superior to that described in the federal regulations. Part 399, which applies to employee safety and health standards for commercial motor vehicles, was also not proposed because DPS thought it was not applicable to its mandate. Parts 390, 392, 393, 396, and 397 were to go into effect on January 1, 1988; part 395 on June 1, 1988; and part 391 on January 1, 1989 (table 3).

Further, the department did not adopt the subsections in each part that exempt intracity transportation. Although DPS does not have enough inspectors to enforce the regulations intracity, HB 908 directs the department to certify peace officers of any Texas city having a population of 300,000 or more for the purpose of enforcing FMCSR. Any officer seeking certification must have completed a course of training with curriculum and instructors that have been approved by the director of the DPS.

Inspection is an essential component of truck safety. Increased inspection/enforcement generally leads to a decrease in the number of truck accidents. In Texas, trucks are required to be inspected once per year under the Periodic Motor Vehicle Inspection (PMVI) laws and are further subject to random spot inspections by the License and Weight Division of the DPS. The division is composed of 250 commissioned officers who specialize in laws involving trucks. The 250 officers include 54 whose positions were funded during the 70th legislative session when HB 908 was passed.

The Motor Carrier Safety Assistance Program (MCSAP) provides federal funding to states for officers conducting inspections. When the state provides DOT with the number of inspections completed, 80 percent of the actual cost of inspections is dispersed. In 1988, for example, Texas could have qualified for up to \$2.5 million. However, as noted, state participation in MCSAP depends on adoption of FMCSR. MCSAP also sets standards for state vehicle inspections; since DPS's existing program met these requirements, adoption of FMCSR would occasion no major changes in procedure.

### Events Leading to Delayed Implementation

On December 31, 1987, the day before FMCSR was to take effect in Texas, state representatives Robert Saunders and Bruce Gibson filed pleadings in Travis County District Court to enjoin DPS from implementing and enforcing FMCSR. The class-action suit was filed on behalf of private motor carriers operating in Texas. Following extensive negotiations between key members of the legislature, the offices of the governor and the lieutenant governor, and the DPS, a compromise agreement was reached on January 6, 1988.

On January 7, the Public Safety Commission and DPS announced that the effective date of the previously adopted FMCSR would be postponed until September 1989. They stated that delaying the implementation of FMCSR would provide the legislature, which had not understood the full extent of their effects, with an opportunity to review the proposed regulations more closely.

According to Saunders, a beverage distributor, and Gibson, a dairyman, "these newly adopted rules were more far-reaching than we believe intended, and [they] impose severe and, in most instances, unnecessary levels of regulation on private not-for-hire vehicles and delivery trucks operated by small business." The representatives argued that people operating privately owned, not-for-hire trucks, transporting their own goods or property within the state, did not need to be regulated as stringently as common for-hire carriers. Their principal argument was that the legislature had "unknowingly" exceeded its authority when it authorized the DPS to adopt the "rules of another jurisdiction."<sup>16</sup>

Other arguments against FMCSR that contributed to the desire for delay focused on the economic effects of the regulations. A representative of the beer distributors asserted that the new regulations would create undue financial hardships and would result in increased transportation costs in the beverage industry.<sup>17</sup> The logging requirements prescribed under FMCSR, he noted, would duplicate similar regulations in existence under the Texas Alcohol and Beverage Commission requirements. Therefore, FMCSR was viewed as repetitive and unjustified for alcoholic beverage distributors.

A spokesman for a major public utility company also expressed concern about the effects of FMCSR on his industry. Most utilities, he argued, already comply with stringent vehicle safety and driver specifications set by the industry.<sup>18</sup> The application of additional regulations under FMCSR would create more paperwork and would raise costs that would be passed on to the ratepayer. In addition, the limitations on hours of continuous service would pose a problem on utility companies when faced with extensive repairs in the event of a natural disaster or equipment failure.

Despite the arguments against it, HB 908 had many proponents who argued that the benefits in safety far outweighed any additional costs. They also believed that opponents might be overstating the effects of the new rules. When the controversy failed to die down, DPS held a public hearing to decide whether to postpone implementation of FMCSR. The hearing took place on April 15, 1988, with John C. West, general counsel for DPS, presiding. Approximately 20 witnesses testified on the merits and shortcomings of the regulations.

Few new arguments were presented. A proponent of adoption, the president of a hazardous waste transportation company, argued that the regulations would not place a significant burden on the general public, for whose safety they were promulgated.<sup>19</sup>

An argument for delaying implementation focused on the length and complexity of the rules. Noting that the regulations consisted of 110 pages of extremely detailed and never-before seen requirements, a witness said, "The implementation date of September 1989, will therefore be beneficial to both the public and state agencies responsible for their implementation in that allows ample time for the thorough familiarization with the regulations."<sup>20</sup> Another argument for delay suggested that

when the legislature voted for the law, it was not properly informed on the full impact of HB 908. Many legislators, it was argued, believed that the regulations applied only to long-haul, for-hire vehicles and not delivery trucks that haul for reasons related to the business.<sup>21</sup>

On May 17, 1988, DPS announced that the implementation date of FMCSR required by HB 908 would be rescheduled to be effective September 1, 1989. The decision was based on the following factors: 1) concern for loss of federal funds, 2) vehicle and driver safety, and 3) legislative intent. Arguments concerning the effect on competition within the industry were considered to be speculative and did not affect the decision.

The loss of federal funds to support the 54 new officers, DPS ruled, did not outweigh the "perceived" negative impacts of the legislation. The agency stated, "The loss of potential replacement funds from the federal government for the period of delayed implementation (approximately 20 months), while significant (approximately \$3.5 million), does not negate the serious ramification of this legislation." The agency went on to say, "DPS disagrees with comments relating to issues of vehicle and driver safety."<sup>22</sup>

DPS made legislative intent the most critical factor in the decision to delay implementation. According to the DPS statement, "It appears that the scope of the impact of the regulations, including the substantial economic impact on small business, far exceeds what the legislature believed it would be when HB 908 was passed."<sup>23</sup> The statement went on to say that 20 percent of the elected members of the legislature had made comments urging delay of the implementation and only one legislator had spoken in favor of implementation.<sup>24</sup>

DPS's decision to delay implementation of FMCSR did not affect all the provisions of the rules. Three parts were adopted and were made effective retroactive to January 1, 1988. They are

1. 49 CFR 396.7, which prohibits operation of commercial vehicles "in such a condition as to likely cause an accident or breakdown";
2. 49 CFR 396.9, which allows inspectors to take out of service vehicles whose mechanical condition or loading renders them unsafe; and
3. 49 CFR 397, which describes rules for driving, parking, and the attendance of vehicles containing hazardous materials.<sup>25</sup>

FMCSR will be an important issue in the 71st Texas legislative session in 1989. One means of achieving the benefits associated with FMCSR without harming small carriers is to develop certain exemptions, a tactic used by many other states and described in the fourth section of this chapter. The following section suggests why FMCSR generally should be adopted.

## THE IMPORTANCE OF IMPLEMENTING FMCSR

U.S. Department of Transportation accident figures for 1985 reveal that, among the fifty states, Texas experienced the largest number of motor carrier vehicle

accidents (2,653), the largest number of fatalities (225), the largest number of injuries (2,007), and the highest estimate of property damage (\$28,397,000).<sup>26</sup> These accidents apply to for-hire, private, and exempt motor carriers engaged in interstate commerce and already subject to FMCSR. No comparable accident figures are available for motor carriers engaged in intrastate commerce.

Texas's adoption of FMCSR and its participation in the MCSAP program should result in increased safety performance for both interstate and intrastate motor carrier operations. Indeed, MCSAP is specifically designed to improve state capabilities to enforce motor carrier safety regulations applying to both interstate and intrastate commercial vehicles.<sup>27</sup> DPS can today only enforce Texas laws.<sup>28</sup> A DPS officer cannot issue an arrest citation to a driver of a truck subject to FMCSR and in violation of them. Moreover, the Office of Motor Carrier Safety Field Operations--formerly the Bureau of Motor Carrier Safety (BMCS)--is a small federal agency with limited staff and budget. Its field personnel tend to concentrate their efforts on management audits of interstate carriers; they participate in few roadside vehicle inspection activities. Hence, the present fragmentation of the safety regulation system in place in Texas serves only to magnify enforcement problems.

House Bill 908 requires all vehicles above a gross vehicle weight of 10,000 pounds to comply with FMCSR. Although the 10,000 pound minimum is considered low by some industry representatives who claim that FMCSR was primarily designed for large over-the-road rigs, the largest portion of the 39,273 accidents for 1985 reported to the U.S. Department of Transportation involve vehicles in the 10,000- to -49,999-pound weight class. Vehicles in this class constituted 42 percent of all accidents, 36 percent of all fatalities, 42 percent of related injuries, and 32 percent of related property damage.<sup>29</sup>

The safety of hazardous materials transportation presents a special problem, although there is undoubtedly a need for motor carrier safety in general. A hazardous materials carrier may be operating a safe truck, yet transportation of hazardous materials is contingent on the safety of other vehicles on the road as well. To diminish the risks posed by all transportation, particularly that of hazardous materials, the state needs a uniform set of safety regulations with the authority and personnel to enforce them.

Another provision of HB 908 was its authorization to empower local peace officers to enforce FMCSR in communities with populations exceeding 300,000. This provision could serve to enhance the enforcement capabilities within Texas since the current 250 DPS officers are inadequate for policing thousands of miles of road. As noted, the federal MCSAP program provides much-needed funds for officers and training; continued participation in MCSAP depends upon adoption of FMCSR.

Opponents of FMCSR emphasized the economic costs of the regulations. The costs, however, appear to be modest. First, Texas's adoption of FMCSR will have no perceivable effect on either for-hire or private motor carriers currently subject to these regulations, unless they are found to be in noncompliance. Few would argue that motor carriers found to be violating FMCSR ought not to be required to incur expenses to bring them into compliance. What remains to be considered are the costs of compliance to intrastate motor carriers should Texas adopt the regulations. A 1985 study by the Texas Transportation Institute (TTI) at Texas A&M University, entitled

Preliminary Implementation Review of the Motor Carrier Safety Assistance Program for Texas, identified the following costs:<sup>30</sup>

Annual Costs - additional insurance requirements for intrastate for-hire carriers

- driver physicals for all but certain farm vehicles

- record-keeping and driver license checks

Initial Costs - maintenance and repair costs to bring vehicles into compliance with FMCSR

The study estimates that, had FMCSR been in effect in 1984, between 56,500 and 81,500 intrastate motor trucks, weighing over 10,000 pounds gross vehicle weight (GVW), would have had to be brought into compliance in 1984. Table 4 contains relevant costs. It was estimated that the total cost would range between \$11.4 million and \$19.8 million, or between \$162 and \$282 per vehicle not currently subject to FMCSR. If initial repair and maintenance expenses are not included, the estimated cost of complying with these regulations is reduced by 40 to 50 percent. No attempt was made to estimate on-going maintenance needs.

A different kind of economic argument concerns the inequitable costs of FMCSR. If Texas does not adopt the regulations, some carriers, especially those who conduct interstate trade, are at a disadvantage intrastate because they must comply with FMCSR while intrastate vehicles need not do so. Yet there is no evidence that interstate carriers cause more accidents. Firms that operate vehicles not in compliance with FMCSR not only contribute to poor highway safety but are rewarded for doing so by reaping the profits associated with lower overhead costs.

Another argument for the adoption of FMCSR is that Texas is running out of time to draft its own version of federal safety regulations. The Motor Carrier Safety Act of 1984 directs the federal secretary of transportation to review all states' truck and bus regulations and preempt inconsistent regulations by 1989. If Texas adopts the majority of FMCSR, omitting portions or amending portions to suit its own needs, it can avoid federal preemption. If the legislature rejects FMCSR in 1989, the regulations may be much less well suited to our state's needs.

## **ACCIDENT REDUCTION EXPERIENCES IN OTHER STATES**

The Office of Motor Carrier Safety Field Operations within the Federal Highway Administration (FHWA) is in the process of conducting an internal study on the effectiveness of state MCSAP programs. Table 5 presents preliminary statistics for the 1982-87 period on the annual number of commercial motor vehicles accidents per million miles. The table also shows the year in which each of the seven states implemented their MCSAP programs. Accident information also was available for Mississippi, but the state implemented MCSAP in 1987. The Office of Motor Carrier Safety Field Operations ultimately hopes to gather similar accident data on as many as 16 states.<sup>31</sup>

**Table 4 . 1984 Estimated Industry Costs Associated with Adoption of FMCSR  
(\$000)**

Cost Item	Low	Medium	High
Driver Physicals	\$4,238	\$5,280	\$6,112
Record and Drivers License Check	1,224	1,781	2,224
Insurance	1,228	1,228	1,228
Sub-Total	\$6,690	\$8,289	\$9,564
Per Vehicle	95	118	136
<hr/>			
Maintenance and Repair	\$4,681	\$6,308	\$10,280
<b>TOTAL</b>	<b>11,371</b>	<b>14,567</b>	<b>19,844</b>
Per Vehicle	\$162	\$207	\$282

Source: Texas Transportation Institute, Preliminary Implementation Review of the Motor Carrier Safety Assistance Program, (College Station, Tex.: Texas A&M University, November 1985), p. 127.

**Table 5. Number of Commercial Vehicle Accident Rates  
Per Million Miles. 1982-87**

<u>STATE</u>	<u>YEAR MCSAP IMPLEMENTED</u>	<u>1982</u>	<u>1983</u>	<u>1984</u>	<u>1985</u>	<u>1986</u>	<u>1987</u>
California	1985	4.317	4.488	4.656	4.746	4.709	4.476
Idaho	1984	4.262	3.861	4.464	4.017	3.057	2.560
Illinois	1984	8.803	8.675	9.489	10.149	9.465	8.627
Indiana	1985	8.266	7.453	8.581	8.041	6.598	5.497
Maryland	1985	3.239	3.343	3.602	3.370	2.930	2.506
Oregon	1984	1.276	1.453	1.620	1.487	1.589	1.300
Wisconsin	1985	2.918	3.059	3.110	2.906	2.640	2.837

Source: Office of Motor Carrier Safety Field Operations, Federal Highway Administration

All seven states experienced reductions in the number of commercial motor vehicle accidents when the numbers for 1987 are compared either to those pertaining to the year in which MCSAP was implemented or to the year preceding implementation. The most consistent downward trends occurred in Idaho, Indiana, Maryland, and Wisconsin. Start-up problems can be encountered in the year of program implementation. California, Illinois, and Oregon experienced a higher number of accidents in the implementation year than they did in the year immediately preceding implementation, but subsequent years indicate a continuation in the downward trend of accidents.

The reader is cautioned in the interpretation of these data that accident reductions (or increases) can be attributed to many causes: changes in drunk driving laws, speed limits, physical condition of a state's highway system, and motor carrier economic deregulation. States also differ in the manner in which they define reportable accidents. Nevertheless, the statistics contained in table 5 appear to be conservative. Although MCSAP provided these states with supplementary funds to increase highway safety, unlike Texas, most of the states already had adopted FMCSR or already had in place compatible state regulations. For example, Illinois adopted FMCSR in 1981. Hence, Texas's adoption of FMCSR and its participation in MCSAP might well lead to greater reductions in the number of commercial motor vehicle accidents than those shown above.

The FHWA sponsored a Commercial Motor Carrier Safety Demonstration Project from 1979 to 1982. Its objective was to demonstrate the extent to which safety benefits could be realized when individual states participated in a program to ensure increased motor carrier compliance with federal and state weight limitations and vehicle/driver requirements specified in FMCSR. Both Utah and Idaho decided to participate and both received \$1.03 million in funding for the first year from the federal government. During the first year of program implementation, Utah increased its number of inspections by 330 percent and experienced a 43 percent reduction in commercial motor vehicle accidents over the base year 1978. Idaho conducted 268 percent more inspections and had 37 fewer accidents over the same base year.<sup>32</sup>

## STATE SURVEYS

The six states evaluated in the previous hazardous materials report (California, Illinois, Louisiana, Massachusetts, New York, and Tennessee) were contacted to determine their experiences with implementation of FMCSR. Each state had defined some exemptions or amendments, a strategy Texas might also adopt. Overall, the states felt that FMCSR was a positive addition to their safety programs.

### California

California has adopted only sections 173-177 of the hazardous materials transportation rules of 49 CFR because state hazardous material regulations similar to FMCSR have been in place since the 1960s. The California Highway Patrol would prefer that the federal safety standards be adopted, however, since uniform standards would make enforcement easier, an argument also applicable to Texas.<sup>33</sup>

## **Illinois**

Illinois adopted the federal Hazardous Materials Act in 1977 and FMCSR in 1981 by statute. In 1986, the U.S. DOT requested Illinois to adopt additional sections of FMCSR. The state complied and adopted parts 390-393, 395, and 396, all covering vehicles over 12,000 pounds. When it adopted the regulations, however, Illinois exempted farm vehicles and intrastate carriers operating within a 200-mile air radius of the normal work place from certain of the recording provisions. The sections not adopted at all are Notification and Reporting of Accidents (394), Transportation of Hazardous Materials: Driving and Parking Rules (397), Transportation of Migrant Workers (398), and Employee Safety and Health Standard (399), which covers handhold and step requirements on trucks.

The Illinois Department of Transportation (IDOT) was given the authority to promulgate rules regarding the highway transportation of hazardous materials. The State Department of Police (ISDP) has the authority to enforce these rules as well as FMCSR. An exemption to the hazardous materials regulations was specified for farmers transporting certain hazardous substances (primarily pesticides) for agricultural use. Nonetheless, the materials must be transported in approved containers and in specified amounts. Thus Illinois exempts small private carriers at the same time that it tries to retain the important features of hazardous materials transportation safety.

Major highway catastrophes that occurred in Illinois helped pave the way for the passage of the law; there was little opposition to the adoption of the implementing regulations, which received support from the Illinois Trucking Association as well as from legislators. Illinois adopted a phased approach to implementation. At first, the regulations were enforced only for placarded loads; others were educated and warned when violations were found during compliance checks. After a grace period, penalties were assessed. IDOT gives approximately ten seminars a year, covering carriers and shippers, to help them understand the regulations. The department attempts to get cosponsors for the seminars and to achieve a broad perspective on the issues.

The only source of contention over highway safety regulations concerns driver qualifications, such as medical exams. As far as contacts at IDOT know, there has been no substantial adverse impact on industry in the state. If there had been, respondents felt that they would have received many complaints, as they have on other issues, but they have not.<sup>34</sup>

## **Louisiana**

Louisiana adopted the hazardous materials section of FMCSR in 1979 and the rest of the rules in 1987. Prior to the adoption, the state had its own rules, which were almost completely indistinguishable from the federal rules. In addition, much of its hazardous materials transportation is regulated under the state's hazardous waste laws. Exemptions include all intrastate, nonhazardous materials carriers beneath 20,000 pounds; exemptions are not granted according to industry. Officials in Louisiana indicated that since the adoption of FMCSR there has been an increase in truck safety, although they could not provide specific data. Because Louisiana treats violations of FMCSR as civil offenses rather than traffic violations, the state has been able to impose a statewide civil fine schedule system. This presumably has contributed to the apparent effectiveness of the rules in promoting safety.<sup>35</sup>

## **Massachusetts and New York**

Massachusetts adopted FMCSR in 1978 although the state already had laws very similar to the federal rules. There are no exemptions for industries or for weight classes. Officials in Massachusetts indicated that there has been an improvement in truck safety since the rules went into effect; again, no specific data are available.<sup>36</sup>

In New York, the majority of FMCSR was adopted in 1985 with the exceptions of the sections covering Minimum Levels of Financial Responsibility for Motor Carriers (387), Notification and Reporting of Accidents (394), and Hours of Driver Service (395). Like Massachusetts and Louisiana, New York's existing transportation laws were similar to the federal regulations, making the transition easy. Officials in New York had no indication that the regulations had put truckers out of business. Information on accident levels or compliance changes is not available yet due to the recent implementation of the regulations.<sup>37</sup>

## **Tennessee**

Tennessee has had hazardous material regulations since approximately 1959; it adopted federal transportation standards in 1968. Since Tennessee's rules specify that federal transportation regulations and amendments are to be adopted as necessary, FMCSR was incorporated into state statutes with little disturbance. Objections raised by associations representing contractors, road builders, and manufacturers were resolved when they realized that inspections would not be constant. There was additional concern over the drug and alcohol enforcement of section 392; this was abated when it was understood that a truck could not be searched for these materials alone. Only the sections describing procedures for rulemaking<sup>38</sup> and a rule requiring drivers to be 21 years old<sup>39</sup> were not adopted. Although Tennessee has adopted all the regulations, it devotes most enforcement resources to sections 387 and 390-397, which include the primary vehicle safety and driver qualification standards.

Tennessee also adopted phased compliance. No penalties or citations were issued during the first year, which was devoted to educating drivers in appropriate compliance behavior. The Tennessee Public Service Commission coordinates seminars and will send a representative into the field if requested. A shortcoming perceived by officials in Tennessee was that the hours of service requirement may have caused some businesses to hire more drivers, which might have led to higher costs or lower wages within a company. A positive result, nevertheless, has been a decrease in accidents in 1985 and 1986. In 1987, accidents increased slightly, a reversal that may be attributable to the increase in the speed limit from 55 to 65 miles per hour.<sup>40</sup>

## **Summary**

Each of the six states adapted FMCSR to its own needs. States provide slightly different exemptions, avoid adopting particular rules, and implement phased enforcement programs to fine-tune FMCSR. Texas could adopt a similar strategy in 1989.

In general, the states we interviewed do not provide exemptions according to industry or status of carrier (private or commercial). Rather, exemptions are granted

based on safety features related to the purpose of the regulations. Hazardous materials carriers, for example, might be exempted if they are carrying less than 55 gallons or 500 pounds of hazardous materials. These quantities are thresholds for other kinds of regulation and are generally small enough to cause limited damage in case of an accident. Conversely, exempting industrial classes is contrary to the purpose of the regulations. Larger quantities of hazardous materials do not pose less of a threat because they are carried by a particular group such as farmers. Similarly, accidents are not less severe when caused by a private carrier than by a for-hire carrier. If the legislature chooses to exempt certain size or industrial categories, it should consider following the Illinois model in requiring that substances must still be properly contained. There should be few if any exemptions to part 393, which details the kinds of equipment needed for a safe vehicle.

The logging requirements were the subject of particular concern during the testimony at the Texas DPS hearing. Opponents argued that beer trucks, for example, would have to spend hours writing down their stops. Yet the regulations state clearly that "all stops made in any one village, town, or city may be computed as one."<sup>41</sup> In the states we interviewed, the phased enforcement approach allows regulators to overcome any such misapprehensions or misunderstandings. Nevertheless, the use in Illinois of an operating radius for exempting vehicles, while attractive at first, raises additional problems of verification and enforcement. Moreover, vehicles carrying hazardous materials are no less dangerous because they stay within a small area; indeed, if the area is urban, they may be more dangerous.

## CONCLUSIONS

Our interviews suggest that FMCSR has not put truckers out of work. The data collected by the Texas Transportation Institute appears to indicate that intrastate carriers that must newly adhere to FMCSR incur only modest costs, costs that may be negligible when compared to the societal benefits of increased safety on the highways. Preliminary data from the Office of Motor Carrier Safety Field Operations suggest that states generally see a decrease in the annual number of commercial motor vehicle accidents per million miles after the implementation of the Motor Carrier Safety Assistance Program. Federal funding for MCSAP is contingent, of course, on adoption of FMCSR. In addition, adoption of FMCSR may ease the jobs of safety officers as they enforce a more consistent set of rules, requiring the same safety measures for inter- and intrastate truck drivers.

Education seems to play a key role in the effectiveness of the regulations. Other states appear to have had some success with first-year moratoria on fines or penalties, emphasizing education instead. The utility of such an approach is supported by the fact that opponents to FMCSR often object to nonexistent requirements.

The very detail of FMCSR provides Texas with a means of tailoring its own requirements through exemptions and limited adoptions, as other states have chosen to do. If Texas does not adopt the federal rules at all, this eventually will lead to complete federal preemption and loss of the autonomy to choose which provisions to adopt. Opponents should prepare to define specific provisions that are troublesome, and proponents should be willing to determine whether those specific provisions might be foregone. FMCSR is not an all-or-nothing policy, but it is a policy with substantial benefits for the safety of Texas's highways.

### Notes

1. Lyndon B. Johnson School of Public Affairs, Hazardous Materials Transportation in Texas, Policy Research Project Report Series, no. 82, (Austin, Tex., 1988), pp. 2, 7.
2. Motor carriers are operators of trucks, buses, and certain other types of motor vehicles that transport goods or passengers.
3. Federal Register, vol. 52, no. 124, pp. 24195-24197, June 29, 1987. The comment period for this proposed rule ended November 11, 1987. Further action has yet to be determined.
4. See the Hazardous Materials Table, Code of Federal Regulations, chapter 49, section 172.101.
5. Federal Register, vol. 52, no. 238, pp. 47326-47350, December 11, 1987. Under the Commercial Motor Vehicle Safety Act of 1986, testing and licensing standards were to be established by July 15, 1988.
6. Title XII of Public Law 99-570.
7. Federal Register, vol. 53, no. 67, pp. 11616-11622, April 7, 1988. The comment period for this proposed rule extends to October 11, 1988.
8. Hazardous Materials Transportation Act, Public Law 93-633.
9. State v. James Wallace Vicknair, no. 036-84.
10. Rebecca Landis, "Motor Carrier Safety Rules Postponed," House Research Organization, Interim News, June 1988, p. 12.
11. MCSAP was authorized under the Surface Transportation Assistance Act of 1982, Public Law 97-424. MCSAP grant requirements are described in 49 CFR 350.
12. Landis, "Safety Rules Postponed," p. 12.
13. House Bill 908 Analysis, "Daily Floor Report, May 4, 1987," House Research Organization, p. 3.
14. Ibid., p. 4.
15. Texas Register, vol. 12, October 2, 1987, p. 3536.
16. Memorandum to members of the Texas Legislature from Robert Saunders and Bruce Gibson, January 13, 1988.
17. Interview by Mark Smith with Mike McKinney, Texas Wholesale Beer Distributors, Austin, Texas, March 30, 1988.
18. Interview by Mark Smith with Tom Clarke, Public Affairs Manager, GTE-Southwest, Austin, Texas, April 13, 1988.

19. Testimony of Jack Beal, president of Bealine Service Company at public hearing, April 15, 1988. Hereafter, all testimony at the public hearing is cited as "testimony."
20. Testimony of Jack Compton, safety manager for Houston Lighting and Power.
21. Testimony of state Representative Mark Stiles.
22. Texas Register, vol. 13, May 17, 1988, p. 2319.
23. Ibid.
24. Ibid.
25. Landis, "Safety Rules Postponed," p. 7.
26. U.S. Department of Transportation, Federal Highway Administration (FHWA), Office of Motor Carriers, "Accidents of Motor Carriers of Property 1985," Washington, D.C.: Government Printing Office, Publication No. FHWA-MC-88-046, September 1987, pp. 3-4.
27. U.S. Congress, Office of Technology Assessment, Transportation of Hazardous Materials, OTA-SET-301 (Washington, D.C.: U.S. Government Printing Office, 1986), p. 19.
28. Texas Transportation Institute (TTI), Preliminary Implementation Review of the Motor Carrier Safety Assistance Program for Texas, (College Station, Tex.: Texas A&M University, November 1985), p. 34.
29. FHWA, "Accidents of Motor Carriers of Property 1985," p. 20.
30. TTI, Preliminary Implementation Review, p. 126.
31. Telephone interview by Leigh Boske with David Osiecki, Office of Motor Carrier Safety Field Operations, Federal Highway Administration (FHWA), August 15, 1988.
32. FHWA, Commercial Motor Carrier Safety Inspection and Weighing Demonstration Program, Washington D.C.: U.S. Government Printing Office, November 1981, pp. 3-5.
33. Telephone interview by Kevin Matthews and Amy Siebert with Roy Short, Enforcement Services Division, California Highway Patrol, Sacramento, Cal., April, 1988.
34. Telephone interview by Amy Siebert with Carla Berroyer and Donna Lennan, Illinois Department of Transportation, Springfield, Ill., March 1988.
35. Telephone interview by David Socolof with Sgt. Ken Brown, Hazardous Substances Section, Louisiana State Police, Baton Rouge, Lou., March 1988.
36. Telephone interview by David Socolof with Frank Trabucco, Massachusetts Department of Public Safety, Boston, Mass., March 1988.
37. Telephone interview by Amy Siebert with James Brunet III, New York Department of Transportation, Albany, N.Y., March 1988.

**38. 49 CFR 389.25-389.41**

**39. 49 CFR 391.11**

**40. Telephone interview by Kevin Matthews and Amy Siebert with Paul Melander,  
Transportation Division, Tennessee Public Service Commission, Nashville, Tenn., April 1988.**

**41. 49 CFR 395.2 (j).**



### **Chapter 3. The Emergency Planning and Community Right-to-Know Act: SARA Title III**

On October 17, 1986, President Reagan signed the Superfund Amendments and Reauthorization Act (SARA). The Emergency Planning and Community Right-to-Know Act was included as Title III of SARA. Title III, as it is usually called, establishes the foundation for effective emergency response. As illustrated by figure 7, it requires facilities to report the hazardous chemicals stored and used on-site. Title III can also assist policymakers concerned about the transportation of hazardous materials, since facilities that store, process, or manufacture hazardous materials must transport them into and out of the community. Moreover, the planning requirement of Title III specifically requires identification of transportation routes.

Title III has created numerous challenges for public policy managers at the local, state, and federal levels. These challenges range from emergency planning to risk communication about the presence and/or releases of hazardous materials in the community.<sup>1</sup> How public policy managers react to and implement the law will have a significant impact on the effectiveness of Title III.

This chapter considers Title III as an aid to making and implementing policies for transportation of hazardous materials. Section one reviews the complex provisions of the law. Section two reports the results of visits to 11 Texas counties to observe their emergency planning and response activities along with some supplementary comments from a telephone survey in 36 counties. Section three discusses the importance of Title III for transportation planning.

#### **PROVISIONS OF THE LAW**

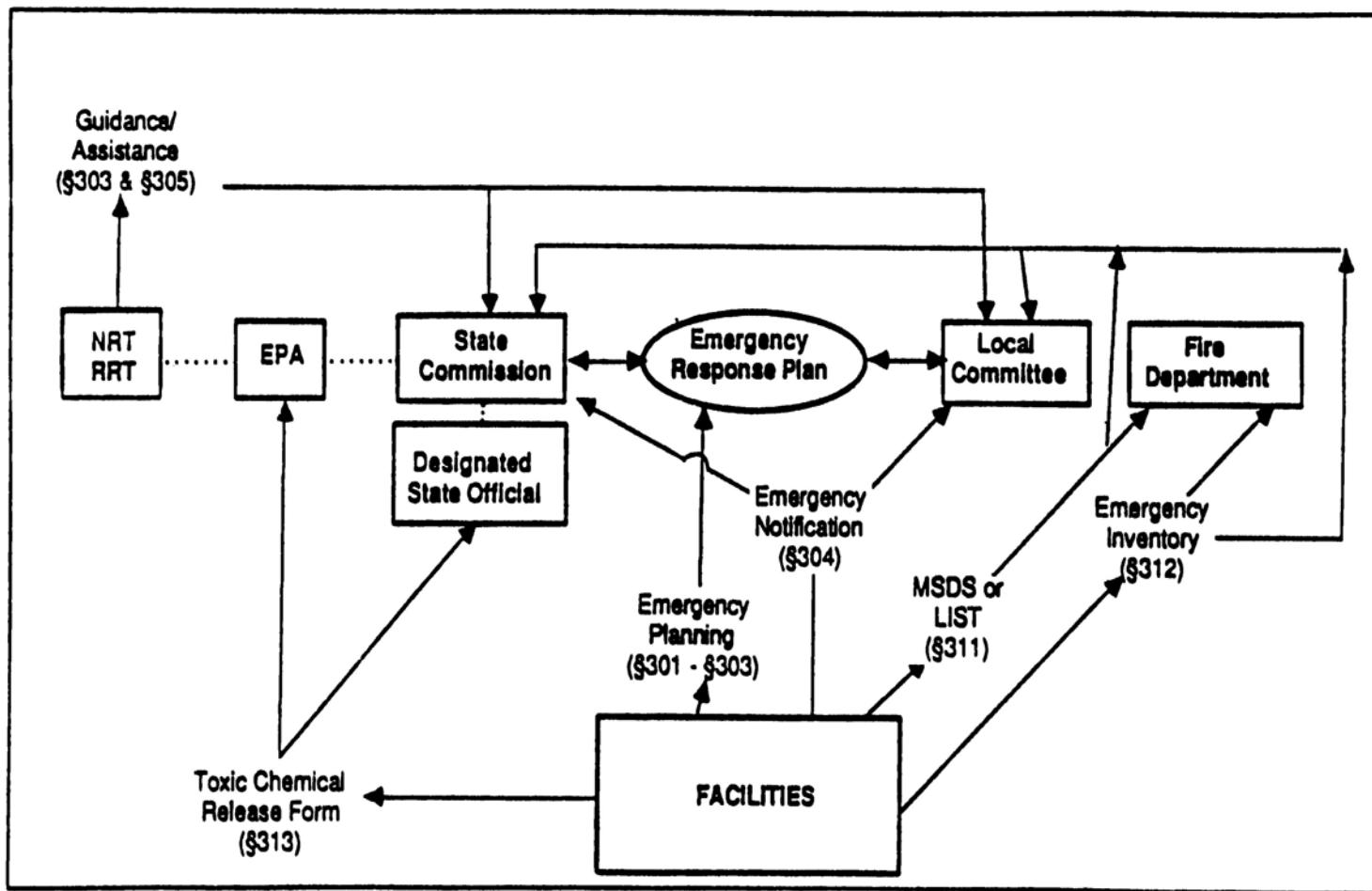
Title III is divided into four main sections: emergency planning, emergency notification, community right-to-know reporting requirements, and chemical emissions inventory. Entities at the state and local levels share the responsibility for implementing each section's requirements.

Each governor was required to designate a State Emergency Response Committee (SERC). Since Texas already had a similar body, Governor Clements designated it to serve as the committee. The Texas SERC is comprised of 25 state agencies and the Red Cross. The SERC in turn designated the county as the level of local implementation and made each county judge responsible for naming a local emergency planning committee (LEPC). A county may have more than one LEPC depending on its political subdivisions, but each county must have or be part of an LEPC. The LEPCs are responsible for the actual implementation of Title III. Table 6 shows the composition of the SERC and the LEPC as established by Title III.

#### **Emergency Planning**

The emergency planning section of SARA Title III is designed to develop state and local governments' emergency response and preparedness capabilities through better coordination and planning, particularly in local communities.<sup>2</sup> The SERC is responsible

**Figure 7. Major Information Flow Requirements of Title III**



**Table 6. SERC and LEPC Profiles**

**STATE EMERGENCY RESPONSE COMMISSION ACTORS**

- State and local elected officials;
- Law enforcement, civil defense, fire fighting, first aid, health, local environmental, hospital, and transportation personnel;
- Broadcast and print media;
- Community groups; and
- Owners and operators of facilities subject to the requirements of Title III.

**LOCAL EMERGENCY PLANNING COMMITTEE ACTORS**

- State and local elected officials
- Police and fire officials
- Civil defense
- Public health professionals
- Environmental, hospital, and transportation officials
- Representatives of facilities subject to the emergency planning requirements
- News media
- Citizen groups

Source: U.S. Environmental Protection Agency, "Title III Fact Sheet," p. 1.

for supervising and coordinating LEPC activities, establishing procedures for receiving and processing public requests for information collected under other sections of Title III, and reviewing local emergency response plans.<sup>3</sup> The LEPC establishes rules, gives public notices of its activities, and establishes procedures for handling public requests for information.<sup>4</sup> The local committee's primary task, however, is to develop an emergency response plan, which both the LEPC and the SERC must review annually.

In Texas, the SERC emphasizes coordination. It is responsible for ensuring that county plans incorporate the nine required components of a response plan, listed in table 7. The SERC does not require the counties to develop new plans; it has decided instead to maintain the multihazard planning that is in place throughout most of the state and to adapt or improve the plans as necessary to meet Title III requirements.

A multihazard plan consists of a basic section that outlines authority, purpose, assumptions, organization, and responsibilities common to all emergency situations.<sup>5</sup> Functional annexes lettered A through U describe response procedures for specific emergencies, such as floods or tornadoes. Annex Q addresses hazardous materials incidents.

Counties whose various incorporated and unincorporated jurisdictions already have individual plans may submit them jointly to the SERC as the county plan. Many county officials have worried unnecessarily that they were responsible for developing entirely new plans; not all the LEPCs realize that modifications of existing plans may be all that is necessary to meet the emergency planning requirements. The LEPCs can find planning help in two publications from the EPA: Hazardous Materials Emergency Planning Guide (NRT-1) and Technical Guidance for Hazards Analysis: Emergency Planning for Extremely Hazardous Substances. They are designed to be used together and are available free from LEPC chairpersons. October 17, 1988, is the deadline for submission of emergency response plans to the SERC.

### **Emergency Notification and Reporting**

Section 304 of Title III concerns emergency notification. Facilities must notify the LEPC and the SERC immediately if there is a release of a hazardous material.<sup>6</sup> The initial notification can be by telephone, radio, or in person. Emergency notification requirements involving transportation incidents can be satisfied by dialing 911 or, in the absence of a 911 emergency number, by calling the operator.<sup>7</sup>

In Texas, the first fire official or peace officer arriving at an incident involving the release of hazardous materials immediately notifies the county communications center and provides the information identified in the hazardous materials incident report (table 8). Facilities must also submit a written emergency notice, which adds more information to the initial notice. This written notice must state what response actions were taken, any known or anticipated data concerning chronic health risks associated with the release, and advice regarding any medical attention necessary for exposed individuals.<sup>8</sup>

**Table 7. Components of LEPC Emergency Response Plan**

- Identification of facilities and extremely hazardous substances transportation routes
- Emergency response procedures, on-site and off-site
- Designation of a community coordinator and facility coordinator(s) to implement plan
- Emergency notification procedures
- Methods for determining the occurrence of a release and the probable affected area and population
- Description of community and industry emergency equipment and facilities and the identity of persons responsible for them
- Evacuation plans
- Description and schedules of a training program for emergency response personnel
- Methods and schedules for exercising emergency response plans

Source: U.S. Environmental Protection Agency, "Title III Fact Sheet," pp. 1-2.

**Table 8. Required Emergency Notification Information**

- The chemical name
- An indication of whether the substance is extremely hazardous
- An estimate of the quantity released into the environment
- The time and duration of the release
- The medium into which the release occurred
- Any known or anticipated acute or chronic health risks associated with the emergency, and where appropriate, advice regarding medical attention necessary for exposed individuals
- Proper precautions, such as evacuation, and
- Name and telephone number of contact person

**Follow-up notice(s):**

- Update information included in the initial notice, and
- Provide information on:
  - Actual response actions taken
  - Any known or anticipated acute or chronic health risks associated with the release
  - Advice regarding medical attention necessary for exposed individuals

Source: U.S. Environmental Protection Agency, "Title III Fact Sheet," p. 3.

Three state entities have reporting requirements when a transportation accident results in the spill of chemicals or hazardous materials. Since a local peace officer usually will be the first notified or the first on the scene, he or she would then notify the Texas Water Commission, Texas Railroad Commission, and the Texas Air Control Board. All three have 24-hour operators on duty to respond to spill calls. One or all three, depending on the nature of the accident, must be contacted under state law. In addition, Title III now requires that the LEPC be contacted. In Texas, the 911 system is primarily a supplement to the established procedures.

The U.S. Department of Transportation (DOT) has proposed new rules concerning emergency response communication standards.<sup>9</sup> The proposed rules cover transportation facilities (such as warehouses, railyards, terminals, and piers) as well as vehicles. These rules cover three areas. First, DOT proposes that emergency response information be available to all persons involved during the transportation of hazardous materials. At a minimum, a copy of the Emergency Response Guidebook (ERG) or other guidance, which outlines the appropriate response in the event of an incident, must be maintained. Second, DOT proposes a requirement that the shipping papers for hazardous materials display a 24-hour emergency response telephone number. The number to the Chemical Transportation Emergency Center (CHEMTREC)<sup>10</sup> may fulfill this requirement under certain conditions. Third, those materials that ordinarily are identified as generic or n.o.s. (not otherwise specified) must be identified by their technical name as well. DOT believes that these new rules would assist carriers greatly in complying with Title III's notification requirements.

In response, the Chemical Manufacturers Association (CMA) has commented that it believes the ERG "used in conjunction with appropriate technical assistance will enable properly trained personnel to handle a chemical transportation emergency."<sup>11</sup> CMA also supports the provision to allow shippers to list CHEMTREC as the contact for emergency response information and the requirement for additional identification of n.o.s. shipments.<sup>12</sup> Final action on these proposed rules should be taken during the summer of 1988.<sup>13</sup>

### Community Right-To-Know Reporting Requirements

An important characteristic of Title III is its inclusion of the citizen's right-to-know concept in the legislation. Two sections, 311 and 312, establish nonemergency reporting requirements for manufacturing and processing facilities. The information provided goes to the LEPC, among others, which acts as a link between the public and the facilities. Access to information is intended to enable citizens to be more aware of the materials in their community and to aid them to make informed judgements about possible health and accident risks.

Section 311 of Title III requires facilities that must prepare or have available material safety datasheets (MSDSs) under Occupational Safety and Health Administration(OSHA) regulations to submit either copies of their MSDSs or a list of MSDS chemicals to the LEPC, the SERC, and the local fire department.<sup>14</sup> Submission of the MSDSs or lists was required no later than October 17, 1987, or three months after the facility was required to prepare or have available an MSDS under OSHA regulations.<sup>15</sup> Because each MSDS is usually five or more pages, and one large plant alone could be required to submit thousands of MSDSs, including some that may have different contents for the same chemical, the Texas Department of Health has required

facilities to submit only chemical lists. LEPCs may still be receiving MSDSs, however. Although MSDSs contain some information of importance to emergency responders, the same information is usually available in reference books. LEPCs that receive MSDSs would be overwhelmed by paper and unlikely to be able to make use of them for planning or emergencies. LEPCs should follow the example of the health department, therefore, and ask facilities to submit only chemical lists.

The reporting requirement of section 312 involves submission of an emergency and hazardous chemical inventory form to the LEPC, the SERC, and the local fire department.<sup>16</sup> Congress provided two alternative reporting forms. Tier 1 allows facilities to aggregate the amounts of all chemicals that create a particular hazard, such as flammability. Tier 2 reports include a separate line for each chemical. Both require reporters to identify where hazardous chemicals are stored and the amounts that are stored as an aid to emergency planners. While tier 1 reports allow facilities to maintain a higher degree of confidentiality about particular chemicals by lumping them together according to hazard, they also distort information. Some chemicals create two or more hazards; they will be reported more than once. Moreover, the hazard categories are so broad that emergency responders are not helped by the information; they need to know specific chemical identities. LEPCs intending to undertake hazards analysis or serious emergency planning will need tier 2 forms, which they may ask each facility to supply.

### Toxic Chemical Release Reporting

Section 313 of Title III requires the U.S. Environmental Protection Agency (EPA) to establish an inventory of toxic chemical emissions from manufacturing facilities employing ten or more full-time workers and manufacturing, processing, or using certain toxic chemicals in excess of specified threshold quantities. The purpose of this reporting requirement is to inform government officials and the public about releases of toxic chemicals in the environment. It will also assist in the research and the development of regulations, guidelines, and standards.<sup>17</sup>

Five basic challenges face public policy managers during the next few years of implementing section 313. First, effective reporting requirements are needed that will not place undue burdens on the regulated community. Second, a database must be developed that will be accessible to the public either through private or public means. The criteria to judge an adequate database includes wide accessibility, reasonable fees, and analytical capabilities. The third challenge is to promote the quality and validation of data reported by industries that have varying degrees of expertise available to calculate the releases of toxic chemicals. Since estimating emissions is technically complex, early release inventories may be quite inaccurate. Currently, the EPA is developing extensive guidelines and industry-specific instructions for estimating releases.

A fourth challenge lies in communicating to the public the real risk of reported chemicals to themselves. Since the public will not have all of the data and the expertise to interpret the release data, the EPA plans to develop tools that will allow the public to eventually interpret the significance of the data that will be accessible in the early part of 1989. A final challenge exists in the effective use of the chemical specific release data by environmental media, especially with the aforementioned data quality problems. Regardless, the information will be useful for a variety of screening

purposes, including the identification of large users of key chemicals and various environmental 'hot spots.'<sup>18</sup>

### Title III Recordkeeping Requirements

The information and recordkeeping requirements as established by Title III are extensive and complicated. The requirements are often redundant, involving a number of different governmental entities and facilities covered by SARA. These requirements are perhaps most easily understood by examining both the submission and maintenance responsibilities of the involved entities: EPA, SERC, LEPCs, local fire departments, and other facilities covered by the act.

In general, state and local officials involved in the implementation of Title III have indicated that lists of MSDS chemicals are preferable to the submission of actual MSDSs for all chemicals at a facility. Their reasoning involves the practical aspects of data access and maintenance, as a list stored by facility name is less bulky and more accessible than a collection of MSDS by facility. In addition, because various facilities will use and store some of the same substances, duplicate copies of MSDSs would be inefficient. If individual copies are necessary for other purposes, such as right to know requests, they could be maintained more efficiently in a separate file.<sup>19</sup>

Local fire departments are responsible for maintenance of data only. The departments will maintain MSDSs and/or chemical lists submitted to them by facilities as well as emergency and hazardous chemical inventory forms, both of which will be maintained by the LEPCs as well.

The SERC is required to notify EPA of all facilities subject to the emergency planning requirements of Title III. The most extensive responsibilities of the state, however, involve data maintenance. The state is required to maintain local emergency response plans, a list of facilities covered by Title III, emergency notification and written follow-up notices of releases, MSDSs and/or chemical lists, emergency and hazardous chemical inventory forms, and toxic chemical release forms. EPA will develop and maintain a toxic chemical inventory based on the data submitted. The inventory will be automated and accessible on a national database.

In short, Title III imposes a large data management burden on receiving agencies and a heavy reporting burden on regulated facilities. Although section 311 and 312 reports are tied to the OSHA Hazard Communication Standard, and although threshold reporting quantities are being increased gradually over three years, localities and states nevertheless have some time in which to develop data management procedures. In the absence of federal funding, however, it will be difficult for these bodies to assume this burden at all.

In addition, Title III places the responsibility for community awareness and planning on the LEPCs. Most officials and citizens agree that responsibility belongs where the people involved know their own circumstances and needs best. The ambiguous status of the LEPCs, however, makes it difficult for them to fulfill their obligations. LEPCs are neither local nor state bodies, nor are they federal agencies, even though they were created by federal law. This ambiguity affects the question of potential liability. If a suit were brought against an LEPC and its members, would theories of sovereign (governmental) immunity apply? Or would members be

individually liable? Although a representative of the attorney general's office believes the possibility is remote, the office has contacted EPA for clarification.<sup>20</sup> Unfortunately, EPA has not been able to provide any guidance or information. This question probably will not be resolved until and unless a series of cases are taken to court and decided.

Another question concerns the involvement of the chemical industry in the LEPCs. As noted earlier, Title III requires industry representation on the committees. In many localities, industry took an active and important role in emergency response planning and training long before Title III. Industry is often the best or only source of technical information and resources. This collaboration, however, could raise questions in the public's mind about the efficacy of right to know and the quality of information available.

### IMPLEMENTING TITLE III: A SURVEY OF 11 COUNTIES

Because they are most readily accessible to most citizens, and because emergency planning must be conducted within a relatively small unit, the LEPCs are central to the successful implementation of Title III. In Texas, counties were the unit of government asked to form LEPCs, although county judges, the highest elected officials at the county level, were given the option of creating more than one LEPC within their jurisdictions. Harris County, for example, which includes Houston and many large industrial facilities, encompasses more than thirty LEPCs. Most Texas counties contain only one LEPC, however.

LEPC formation and Title III implementation have not occurred at a uniform pace. Some counties moved quickly to appoint already existing emergency management councils or committees as their LEPCs. Others did not respond to a series of explanatory letters from the Division of Emergency Management (DEM) of the Texas DPS (designated by the SERC as the LEPC coordinating office). On January 28, 1988, the DEM appointed a committee for each of the 78 counties that had never responded and notified the judges. Subsequently, several of these counties sent in proposed LEPCs, which the DEM approved. By March 1988, 50 counties had not responded to the DEM and still had DEM-appointed LEPCs. In April 1988, a survey of 36 randomly selected counties revealed that only 50 percent of the LEPCs had even met. This greatly varying level of interest and understanding only increases the difficulties of implementing Title III.

We conducted two complementary studies of counties in Texas. The first consisted of field research in eleven counties. Teams of two researchers visited the counties between November 3 and November 23, 1987, speaking to elected officials and agency staff from both county and city. The summary results are presented here; a complete description is found in appendix A.

The second study was conducted by Leticia Flores, one of the project members, to explore the apparent lack of interest in the public information aspects of Title III that had emerged during the field survey. In April 1988, she conducted a telephone survey of 36 LEPC chairpersons in counties not included in the earlier field survey. Although this study involved administration of a formal questionnaire, during the interviews it became clear that the questions concerned issues with which most LEPC chairpersons had not yet had to grapple. They were still trying to meet deadlines,

collect and manage reports, and formulate emergency plans, and had not yet given much serious thought to the public outreach aspects of Title III.

The method and results of the formal survey on public outreach are reported elsewhere.<sup>21</sup> Many of the respondents, however, made additional informal comments on Title III after answering the questionnaire; of these, nine were so emphatic that the researcher recorded their remarks. In some ways, these comments constitute the more meaningful part of the study, reflecting as they do more heartfelt and immediate concerns. These informal comments clearly complement and reinforce the findings from the field survey and are therefore reported in this chapter along with the hazardous materials activities in the eleven counties.

### **Method**

The 11 counties in the field survey were chosen on the basis of geographic location, population size, and apparent risk from hazardous materials. Some communities were chosen because of their participation in an industry-sponsored Community Awareness and Emergency Response (CAER) program. El Paso, Ector, Harris, Brazoria, Dallas, and Cameron all have populations exceeding 100 thousand, while the remaining counties--Harrison, Calhoun, Coleman, and Gray--have smaller populations. Map 2 shows the geographic location of counties throughout the state, and table 9 contains comparative county statistics.

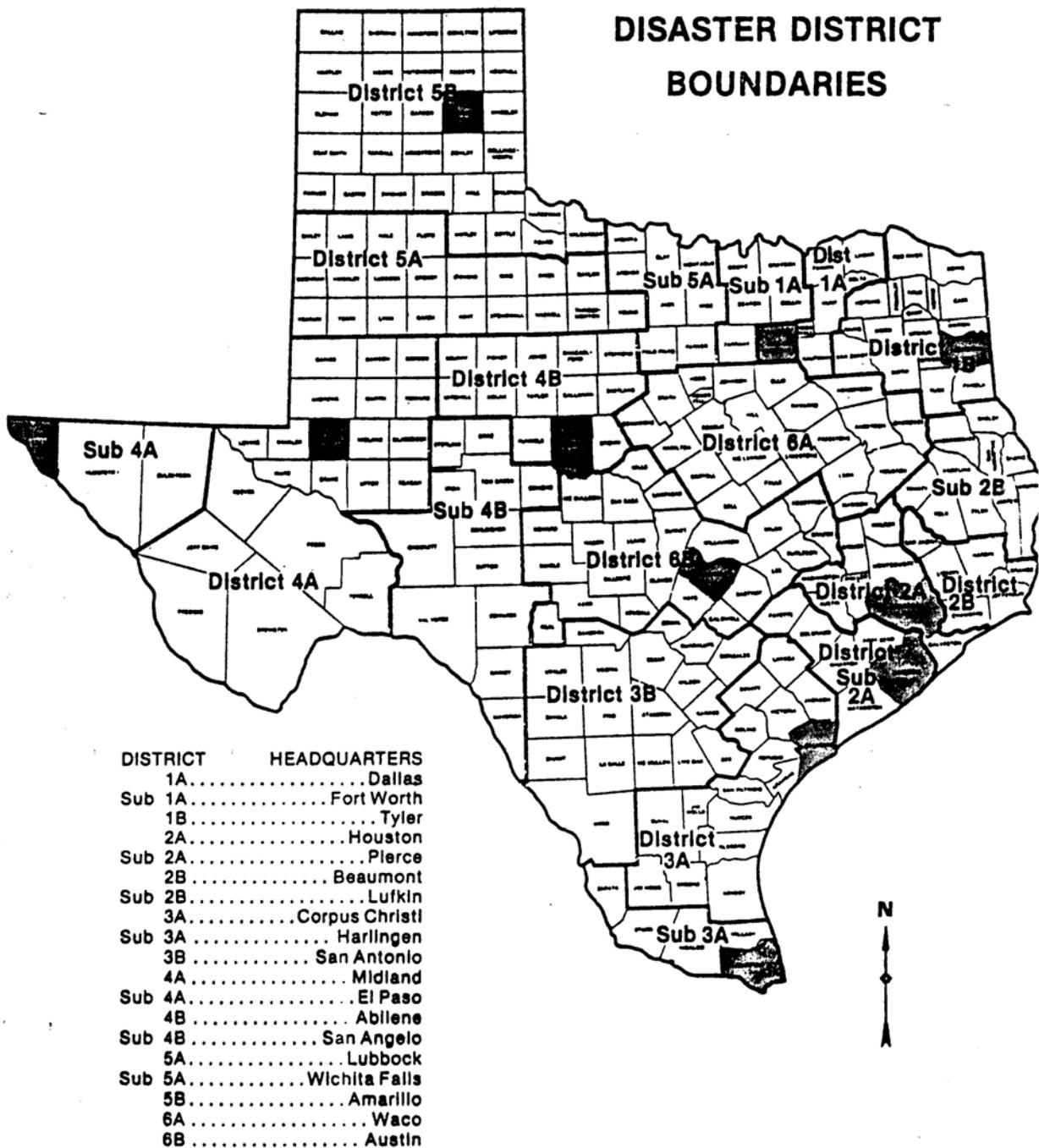
Interviews were arranged with representatives of as many of the following departments as could be reached: the county judge's office, the fire department, the police department, the emergency medical services, the local media, the sheriff's office, the Department of Public Safety, local industry officials, the emergency management offices, and members of the LEPC. A survey instrument guided the interviews, but researchers were free to ask other questions as applicable.

### **Description of Counties**

Of the 11 surveyed counties, 9 had appointed their LEPCs by November 1987, and 7 had met at least once by the time the research teams visited. Travis County, which had not formed its LEPC in November, did so in January and has taken a much more active role since. The sample mirrored the statewide data. As late as March 1988, nearly 20 percent of the counties had not yet formed their LEPCs; in our sample, 22 percent did not have LEPCs.

Five of the LEPCs in the counties surveyed were formed out of already existing CAER programs, which were more likely to have been established in counties with large chemical manufacturing facilities. The CAER program was created and sponsored by the Chemical Manufacturers Association. Its primary purpose was to involve local officials and industry in a joint effort to coordinate plans for emergency response to incidents involving hazardous chemicals and to ensure that adequate resources for response were available.

**Map 2. Eleven Counties Selected for Study of Title III Implementation**



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Table 9. Background Information on Visited Texas Counties

	<u>Location</u>	<u>County Seat</u>	<u>Size in Square Miles</u>	<u>1985 Estimated Population</u>	<u>Total Public Road Mileage</u>
Brazoria County	Gulf Coast south of Houston; Coastal Prairie Region	Angleton	1,407	188,200	2,097
Calhoun County	Gulf Coast northeast of Corpus Christi; Coastal Prairie Region	Port Lavaca	540	21,700	427
Cameron County	Far South Texas; borders Mexican city of Matamoros	Brownsville	905	249,800	2,083
Coleman County	West Texas, Rolling Plains Region	Coleman	1,277	10,600	1,284
Dallas County	North Central Texas at inter- section of IH 35 East, 30 & 40. Blackland Prairie Region.	Dallas	880	1,781,700	8,594
Ector County	West Texas; High Plains Region on IH 20	Odessa	903	134,700	1,225
El Paso County	Far West Texas; borders Mexican city of Juarez	El Paso	1,014	545,000	1,958
Gray County	Rolling Plains Region; in Texas Panhandle on IH 40	Pampa	921	27,100	1,120
Harris County	Coastal Prairie Region; Southeast gulf coast on IH 45 & 10	Houston	1,734	2,794,700	11,875
Harrison County	East Texas Timberland Region on IH 20	Marshall	908	55,500	1,457
Travis County	Central Texas; Blackland Prairie Region on IH 35	Austin	989	533,200	2,945

Sources: John Clements, Flying the Colors: Texas (Dallas: Clements Research), 1984. Dallas Morning News, 1988-89 Texas Almanac and State Industrial Guide.

## Awareness of Risk

Most county officials we interviewed believe that Title III will increase the county's awareness of and responsiveness to the presence of hazardous chemicals. Many felt that the LEPC brought a needed chance for government, industry, and citizens to work together. Brazoria County interviewees think that Title III may even speed rural area planning.

The first task of LEPCs is to prepare an emergency response plan for hazardous materials. With few exceptions, officials from all 11 counties consider the planning involved in dealing with hazardous materials within their counties to be a high priority.

Interviewees in the field survey were asked to name the primary hazardous materials risks in their counties. Transportation elicited the highest concern, with county officials especially worried about highways and railroads. This is due in large part to the unpredictable nature of highway hazardous materials transportation. Not only are the county officials unable to control what substances pass through their counties, they often feel frustrated with having to plan for an unforeseen accident involving an unknown chemical. Concern was exacerbated by the fact that major transportation routes often go through the middle of town.

This result differs from the comments in the telephone survey, in which most LEPC chairpersons seemed to believe that they were at a relatively low risk if there were no processing or manufacturing facilities in their jurisdictions and virtually disregarded risks posed by transportation. One chairman from a rural county did mention that his county's major risk arose from transportation, but he complained that Title III does not cover those risks very well.

Although hazardous materials located in fixed facilities were also of concern to interviewees in the field survey, most county officials thought that the major industries in their areas could act as partners in the hazardous materials planning process. Relations with smaller fixed facilities are more problematic. County officials expressed hope that the requirements in Title III for MSDSs and chemical lists from fixed facilities will ease their jobs by identifying chemicals present even in smaller privately owned shops. In the telephone survey of LEPC chairpersons that was conducted after the facilities' chemical inventory reports were due, several of the respondents noted their surprise at learning from the initial reports how many varied businesses use hazardous materials. This information led to a concern similar to that expressed in the earlier study that they had no means of identifying noncompliers, many of whom simply might not have heard of Title III.

In the field survey, the two counties on the U.S.-Mexico border expressed special concern about the materials transported to and from as well as stored in Mexico. Cameron County officials felt unable to influence the flow of hazardous materials from Mexico, while El Paso's officials felt frustration at the unknown chemicals located in the fixed facilities just across the border. Annex III of an agreement signed in November 1986 between the United States and Mexico concerns notification of transboundary shipment of hazardous wastes and substances. The agreement calls for prior consent of the national government for the transportation into the country of materials that have been banned or restricted.<sup>22</sup> At this time, the interchange of information between the U.S. and Mexican governments is not great. Moreover, the regional EPA office in Dallas does not have any agreements with local governments to

notify them of the hazardous materials of whose movement it may be aware. This is due in part to the newness of the program; it is not always possible to collect the cargo information that should be taken from carrier manifests by U.S. customs officials and sent to EPA enforcement officers. It may also be due to the differing customs regulations that continue to evolve for different carriers--for example, 30-day advanced reporting requirements for some and 60-day for others.<sup>23</sup>

### **Planning**

In the telephone survey, several chairpersons noted that Title III would be of immediate benefit to emergency responders who would have the benefit of planning, training, and information to handle a hazardous materials incident correctly. We found a somewhat less optimistic attitude in the field survey, however.

Counties that had CAER programs are at a considerable advantage in meeting the planning requirement. Many of them already had hazardous materials response plans, and the plans are more likely to include industry response to emergencies. In Brazoria County, for example, the plan was developed by industry and is tested weekly through computer simulation. Areas with CAER programs also tend to have received financial support from the industry. In some cases this includes funds for the purchase of computers to aid in planning. In an example of the cooperation that can exist between government planning and industry, Gray County has developed an unique method of obtaining planning information. During routine annual business inspections, a member of the county hazardous materials team accompanies the inspector, drawing a floor plan and making note of where hazardous materials are stored and used in the facility. The team members also inform businesses of Title III requirements and offer assistance in drawing up contingency plans and filling out MSDSs. Although areas with CAER programs are more advanced in meeting the requirements of Title III, all the counties we surveyed are confident of completing hazardous materials response plans before the October 1988 deadline.

Many of the county officials expressed concern or dissatisfaction over what they perceived to be the patchwork of state statutes regarding hazardous materials. Some counties felt frustrated by what they believed to be a lack of interest on the part of the state in helping them to understand what is expected of them and to aid in the preparation of a hazardous materials accident/incident plan. Others felt resentful of Title III, since many already had what they considered to be good hazardous materials plans. This feeling was echoed by one of the LEPC chairpersons in the telephone interview, who said that since the community where an incident occurred would have to respond, requiring the entire county to develop a joint plan was a waste of time. Another said that ultimately the fire chief was in charge and that it would be his plan that would be implemented, not the LEPC's.

### **Training**

In all counties surveyed there is at least one annual training exercise for the community and/or county. In addition, all fire departments except Brownsville's require some type of hazardous materials training. The training includes between 8 to 40 hours in the classroom. Again, counties with CAER programs tend to have more training time, either because industry pays for the firemen to be sent to national

and/or state programs or because industry loans the fire departments equipment for training. Those cities with specific hazardous material units, as found in Harris, Travis, and Dallas counties, provide additional training for staff associated with the units.

Only in very few instances do police and emergency medical services personnel receive training. Training usually is provided when these agencies are interconnected, as in Gray and Ector Counties. Coleman County mentioned being unable to provide any additional training requirements that might be imposed because the fire department is composed entirely of volunteers who would have to sacrifice their paychecks to go to training sessions always held outside of the county.

This concern was also mentioned by respondents in the telephone survey. Several complained about the burden created by the fact that LEPCs are voluntary and unfunded. In the rural counties, volunteers already serve as firemen, ambulance drivers, and policemen. "They don't know how we live," one chairman noted. These LEPCs are unsure that they will be able to fulfill their responsibilities without people, resources, or funds.

### **Response**

One important element of the plan is response. The large industrial counties, Harris and Brazoria, believe that with the help of industry they can handle any type of hazardous material emergency. Plans in smaller counties, however, including Coleman and Harrison, call for containment of the emergency area while awaiting arrival of either industry, state, or federal response teams to effect actual control of the incident.

In all instances the fire department will respond to an incident anywhere in the county. If a CAER program exists, industry teams also will respond upon request. If an incident occurs within a facility, the fire department comes as far as the gates, but will not enter the facility unless requested to do so. All the counties' plans also provide for mutual aid either from other communities, counties, or industry. However, only one county in the survey, Harrison, has a formal aid agreement.

The on-scene coordinator (OSC) ensures that effort is not duplicated and that appropriate outside assistance is obtained. Counties have designated different OSCs for accidents involving hazardous materials. Usually it is the ranking fire official. There are cases, however, in which the city manager (Coleman County) or sheriff (Harrison County) is the on-scene coordinator. Many county officials we interviewed expressed concern about technical matters such as conflict over on-scene authority and effective evacuation techniques in the event of an emergency.

### **TITLE III AND TRANSPORTATION**

Many emergency response personnel interviewed for this study expressed appreciation for the focus on training and planning under Title III. They point out, however, that for many counties, the reporting requirements of Title III do not add greatly to their knowledge. Many Texas counties face their greatest risk from transportation, which Title III does not address.

For the counties that have no chemical processors, manufacturers, or suppliers, increased safety requirements for motor carriers and railroads are their only protection. For those localities which do have these facilities, Title III can be a tool to help address transportation safety issues.

Once an LEPC knows which facilities have hazardous materials on hand, it also knows that these materials or their end products will be transported into and out of the community. Even materials transported largely by air, rail, or barge must eventually be moved onto trucks for final delivery. With this knowledge, an LEPC can work with the facilities or businesses and with the local fire department to establish appropriate guidelines and procedures, if necessary. These procedures could take the form of advance notice of particularly large or hazardous shipments or restrictions of deliveries to certain routes and times. Moreover, some localities have established routes around their boundaries which all through-traffic carrying hazardous materials must follow (see Dallas and Gray county summaries in appendix A).

At least two organizations have developed transportation risk assessment guidelines. The Union Carbide Corporation has developed a transportation risk management program.<sup>24</sup> This program identifies the movements of hazardous materials, rates them numerically, and ranks them. While the formulations can be complicated, the premise is not. The risk rating is based on three factors: 1) the hazard related to the product characteristics for the quantity involved; 2) the probability of an accident and subsequent release for a given movement and type of transportation; and 3) the population exposure for a given route. The Chemical Manufacturers Association has also developed a transportation risk assessment and risk management methodology, which uses the same types of data.<sup>25</sup> Using these or similar guides, LEPCs and emergency responders work with local facilities to improve handling and transportation or to designate the safest routes or times of transportation to and from the facilities or business premises.

## CONCLUSIONS

The 11 counties differ in their motivations and abilities to implement Title III. Those with CAER programs were more advanced in developing emergency plans and mobilizing response capabilities. Nevertheless, all counties identified several common concerns.

First, every county mentioned the lack of funding for implementing Title III. County officials mentioned both the lack of resources for emergency response training and the need for resources to collect, compile, and store the MSDSs or chemical lists from the local industries. Counties do not have enough money for either the computer facilities or the experienced personnel to run the computers. Yet without computerization, the MSDSs or chemical lists will be unusable for any of their intended purposes: community right-to-know, emergency planning, or emergency response.

Ohio has addressed a similar problem, while it also has met its goal of making information received under Title III as manageable and accessible as possible. The Ohio SERC requested that companies submit chemical lists instead of MSDSs on the basis of experience with past local right-to-know laws. Ohio has designed its own form for industries to submit that includes both section 311 and 312 data. The form

allows easy computer data entry and is easy for industries to use. The state is in the process of setting up a computer system for the 311 and 312 data that would allow users to retrieve data according to fields such as facility name or location, type of chemical, SIC code, or longitude and latitude. Pending state legislation would put a terminal linked to the computer system in each of the state's 87 LEPCs.<sup>26</sup>

Long-term funding proposed by the Ohio SERC for Title III implementation would come from a fee system for the annual filing of 311 forms with the state. Designed to raise some \$3.5 million per year, approximately \$1.8 million would go to the LEPCs, \$950 thousand to the various state agencies involved, and \$600 thousand to fire department training. Every industry would pay a basic filing fee of \$75, with an additional \$3 per chemical. No industry would pay more than \$1,500. Industries would pay a reduced fee of \$150 if they submitted their data on computer disk or tape. Major industry lobbying groups in Ohio support the proposed fee system.<sup>27</sup>

Another concern of county officials in Texas is the LEPCs' lack of power to enforce collection of MSDS or chemical lists. They were especially concerned that smaller facilities would either deliberately or unknowingly fail to comply with the Title III regulations. The Dallas respondents mentioned that the LEPC was hampered because it was not a policymaking body.

In the telephone survey, the chairpersons showed a wide range of knowledge or interest in Title III. Some were familiar with it in detail and were working to implement it and use it in their counties. Others knew of it in terms of the emergency response plan required by the state, but not of any of the other provisions. Several barely knew more of it than its name. The varying level of knowledge and commitment coupled with the lack of funding is probably going to keep Title III from being very effective for most of the state's counties. One chairman talked about the LEPC as "the government," expressing a confusion over the exact role of the newly created organization that is quite common.

Another concern expressed by respondents in the field survey was lack of community or public awareness of the dangers posed by hazardous materials. Title III presumably can help rectify this problem. Other counties expressed the opposite concern--that citizens would overrate the risks from hazardous materials. Coleman County respondents, for example, voiced the fear that the public would be unnecessarily confused by the additional information that Title III would make available. In the telephone survey, concern about the public's ability to understand and use the data was the second most frequently mentioned problem. Several chairpersons noted that although the right-to-know provisions will work only with citizen involvement, their experiences suggest that people do not want to take the time to read or learn about these issues. A few chairpersons said that people would take an interest only when something happened to affect them immediately. One chairperson argued that LEPCs do not have to publicize the right to know provisions; instead, "people should take responsibility for themselves."

The field survey was conducted in November 1987, before counties had had much chance to begin implementing Title III. Respondents were most aware of and interested in the emergency planning and response portions of the law, in part because the CAER program already focused on those issues. They were worried about acquiring the resources necessary to implement all portions of the law, especially those that depend on acquisition and management of the extensive records required by the law--

emergency planning and community right-to-know.

The telephone survey in April found little change in the kinds of concerns expressed. Since it did not ask about implementation or about emergency response or planning, we have no comparison with the earlier survey on these issues. Nevertheless, officials, especially in smaller counties, still seemed to be overwhelmed by the complexity of the law and the new institutions it is creating.

One important finding from both surveys is that a two-class system of counties is emerging. One class has the infrastructure for emergency response and planning, either because it includes a large city, which has an emergency response unit or because it includes one or more major facilities that support emergency planning and response either informally or through the CAER program. These counties have trouble mobilizing additional resources but will manage to meet all their obligations under the law.

The second tier of counties, in contrast, has neither the resources nor, in many instances, the incentive to comply. When all the emergency response personnel are volunteers, when there are few or no facilities that manufacture or use significant amounts of hazardous chemicals, when the economy is precarious or worse--under these conditions, counties have trouble fulfilling the intent of the law. Although they are without resources, this does not mean that they have no need for emergency plans or that citizens and officials would not be surprised to see how many hazardous substances are present when the reports are filed. To meet the needs of these counties, the federal and state governments are going to have to devise new approaches, including weekend or evening emergency training on-site (perhaps through videotapes and other more portable methods) and provision of computer software and hardware.

Our surveys showed that most counties are facing difficulties in meeting the most basic requirements of Title III: managing reports and formulating an emergency plan. It is unlikely that they will be in a position to make use of the data to gain a better understanding of transportation problems for two to three years. During this time, localities would be well served if the state and federal governments would develop a methodology for extending community risk assessments to include transportation. Perhaps the risk assessment components of the CAMEO (TM) computer program could serve this function.

CAMEO, the Computer-Aided Management of Emergency Operations, is a free and readily available software, developed by the National Oceanographic and Atmospheric Administration especially to meet the needs of Title III. It contains response information and recommendations for more than 2600 commonly transported chemicals, an air dispersion model, to assist in evaluating spills and releases, and several databases and computational programs that allow emergency responders and planners to fulfill the requirements of Title III. It allows easy entry of facility floor plans with chemical storage locations, lists of facility contacts, and digitized maps of the planning area overlaid by plumes calculated from the air model; it also prints out reports and helps create qualitative risk assessments comparing the relative hazards of various chemicals found in a community.<sup>28</sup> The probable utility of CAMEO is enhanced by its heavy use of maps and graphical material; however, it is designed for a Macintosh computer while many governments and much of the regulated community rely on IBM-PCs or compatibles.

However, counties will not be able to undertake community risk assessments, the second phase of emergency planning, if they are unable to complete the first phase. Federal and state governments need to provide additional support to localities to meet the requirements of Title III. Among the kinds of support they might offer are 1) emergency training sessions on weekends or nights in the counties, 2) funds for obtaining computer hardware, 3) development of specifications for computer software so each county is not developing its own separate data management program, 4) development and distribution of community outreach and education materials, and 5) development of a manual for LEPC chairpersons on procedures and activities. EPA is attempting to support some of these activities, although its own efforts are necessarily focused on its statutory duty to receive and analyze the Toxic Chemical Release Inventory (section 313) reports. LEPCs that have already been able to accomplish some tasks need to assist those that are less far along; the SERC could help perform a clearinghouse service.

The potential benefits of Title III are enormous, but it will take several years to realize them. Although not intended as a part of a hazardous materials transportation program, Title III data can serve as the basis for local planning for response to incidents involving hazardous materials.

**Notes**

1. Marge Oge, Deputy Director, Economics and Technology Division, Office of Toxic Substances, U.S. Environmental Protection Agency (EPA), Title III, Section 313 Release Reporting Requirements: A New Environmental Challenge, p. 1. (Transcript of speech.)
2. EPA, "Title III Fact Sheet: Emergency Planning and Community Right-To-Know," Washington D.C., p. 1.
3. Emergency Response Committee meeting, October 22, 1987, Department of Public Safety, Austin, Texas.
4. Lyndon B. Johnson School of Public Affairs, Handout on Title III from Professor Susan Hadden, Policy Research Project. Austin, Tex., October 1987, p. 28.
5. The Local Management Plan Development Handbook, DEM-10, is available free from the Division of Emergency Management in the Department of Public Safety.
6. EPA, "Title III Fact Sheet," p. 3.
7. Ibid.
8. Ibid.
9. Federal Register, vol. 52, no. 161, August 20, 1987, pp. 31489-31491.
10. The Chemical Transportation Emergency Center (CHEMTREC), part of the National Chemical Response and Information Center, provides immediate advice by toll-free telephone number to responders at the scene of an emergency. The center has information about chemicals and their safe handling and also notifies the shipper and manufacturer so they can provide more detailed assistance.
11. Chemical Manufacturers Association, "Comments on the Notice of Proposed Rulemaking: Emergency Response Communication Standards, Docket HM-126C," December 22, 1987, p. 2.
12. Ibid.
13. Telephone interview by Leticia E. Flores with Richard Doyle, Associate Director, Distribution Programs, Chemical Manufacturers Association, May 6, 1988.
14. EPA, "Title III Fact Sheet," p. 3.
15. Ibid., p. 4. OSHA recently issued new rules extending the coverage of the MSDS requirements to all commercial facilities. Federal Register, vol. 52, no. 163, August 24, 1987. These rules were stayed in May 1988.
16. EPA, "Title III Fact Sheet," p. 3.
17. Ibid., p. 4.

18. Oge, Release Reporting Requirements, pp. 2-4.
19. Class presentation by Charles Harrison and Ociel Nava, City of Austin Emergency Management Office, September 17, 1987, Austin, Tex.
20. Interview by Leticia Flores and Jay Schmidt with Brian Berwick, Texas Attorney General's Office, Austin, April 1988.
21. Lyndon B. Johnson School of Public Affairs, "Community Right to Know: Results of Three Surveys," Working Paper Series, no. 49, (Austin, Tex., 1988), pp. 32-40.
22. Telephone interview by Jennifer Mason with Wendy Grieder, Office of International Activity, U.S. Environmental Protection Agency, Washington D.C., May 30, 1988.
23. Telephone interview by Jennifer Mason with Henry Onsgard, Hazardous Waste Management, U.S. Environmental Protection Agency, Region Six, Dallas, Tex., May 30, 1988.
24. Union Carbide Corporation, "Union Carbide Transportation Risk Assessment," Danbury, Conn., October 1987. (Presentation materials).
25. Chemical Manufacturers Association, "A Manual for Performing Transportation Risk Assessment," Washington D.C., November 1987. (Manual.)
26. U.S. Congress, Senate Committee on Environment and Public Works, Subcommittee on Superfund and Environmental Planning and Community Right-to-Know Act of 1986, testimony by Sandy Buchanan, May 26, 1988, pp. 2-3.
27. Ibid., testimony by Sandy Buchanan, p. 4.
28. National Oceanographic and Atmospheric Administration, Hazardous Materials Response Branch, "About CAMEO-II," 7600 Sand Point Way N.E., Seattle, Washington 98115. (Pamphlet.)

## **Chapter 4. Recommendations**

The following recommendations should be used as guidelines for improving the success of legislation relating to hazardous materials transportation. The recommendations are drawn both from this year's work and from the 1987 study because many of its suggestions are still relevant. We provide brief justifications for the recommendations and, in parentheses, refer to the sections within this study and the 1987 report that address them more thoroughly. While we are aware of the continuing budgetary problems in the state, we nevertheless believe that financial outlay today to increase the safety of hazardous materials transportation can save even greater future costs to our communities and the economy of Texas.

This final chapter recommends action for effective implementation of House Bills 908 and 1353 and Senate Bill 595. It also suggests more effective data management and permit operations. The concluding portion addresses the design of SARA Title III in Texas.

### **FEDERAL MOTOR CARRIER SAFETY REGULATIONS (FMCSR)**

#### **1. Enact the federal motor carrier safety regulations. (chapter 2--The Importance of Implementing FMCSR)**

The continued delay in the legislature in carrying out FMCSR jeopardizes both highway safety and funding. Adoption of FMCSR would ensure that Texas can tailor a comprehensive highway program to its needs rather than allow the secretary of transportation to impose one under the jurisdiction of the Motor Carrier Safety Act. It would also reestablish the right of Texas to receive MCSAP funding, which is necessary for effective enforcement of transportation regulations and hazardous materials movement in particular.

According to 1985 accident figures for interstate commerce reported to the U.S. Department of Transportation, Texas ranked first among the 50 states with the largest number of commercial motor vehicle accidents (2,653), the largest number of motor vehicle fatalities (225), the largest number of motor vehicle injuries (2,007), and the highest estimate of property damage (\$28,397,000). No comparable figures are available for motor carriers engaged strictly in intrastate commerce. Texas's adoption of FMCSR and its participation in the MCSAP program should result in increased safety performance for both interstate and intrastate motor carrier operations. Indeed, MCSAP is specifically designed to improve state capabilities to enforce motor carrier safety regulations applying to both inter- and intrastate commercial motor vehicles.

The costs to intrastate motor carriers of having to comply with FMCSR appear to be modest. A 1985 study by the Texas Transportation Institute at Texas A&M University, entitled Preliminary Implementation Review of the Motor Carrier Safety Assistance Program for Texas, estimates that, had FMCSR been adopted in 1984, between 56,500 and 81,500 intrastate motor trucks would have had to be brought into compliance. The total cost to the owners of these trucks to bring their vehicles into compliance would have ranged between \$11.8 and \$19.9 million, or between \$162 and \$282 per vehicle. If the initial repair and maintenance

expenses are not included, the estimated compliance cost would have been reduced by 40 to 50 percent. No attempt was made to estimate on-going maintenance needs.

Some opponents of adopting FMCSR have argued that the weight requirements for the regulations are too low and therefore are an unjust burden to distributors. However, the largest portion of the 39,273 accidents for 1985 reported to the U.S. Department of Transportation involve vehicles in the 10,000- to 49,999-pound carrier weight class. Vehicles in this class constituted 42 percent of all accidents, 36 percent of all fatalities, 42 percent of related injuries, and 32 percent of related property damage.

The present fragmentation of the safety regulation system in place in Texas magnifies enforcement problems. Department of Public Safety officers can only enforce Texas laws; they cannot issue an arrest citation to a driver of a truck subject to FMCSR and in violation of them. Moreover, the Office of Motor Carrier Safety Field Operations--formerly the Bureau of Motor Carrier Safety or BMCS--within the Federal Highway Administration has limited staff and budget. In enforcing FMCSR, its field personnel tend to concentrate their efforts on management audits of larger interstate motor carriers; they participate in few roadside vehicle inspection activities. This situation leaves smaller carriers virtually unregulated. Even in California, which has had state hazardous material regulations similar to FMCSR in place since the 1960s, there is a sentiment among the Highway Patrol that the federal safety standards, which are more uniform than the state standards, would make enforcement easier. (chapter 2--California)

To diminish the risks posed by all transportation, particularly that of hazardous materials, the state needs a uniform set of safety regulations with the authority and personnel to enforce them. In particular, the provision of HB 908 that authorizes local peace officers to enforce FMCSR in communities with populations exceeding 300,000 could serve to enhance the enforcement capabilities within Texas.

2. **Adapt FMCSR to the specific needs of Texas, as other states have done. (chapter 2--Other States)**

A. **Adopt a strategy that defines some exemptions or amendments to the design of FMCSR.**

The state should grant exemptions based on safety features associated with the purpose of the regulations rather than according to industry or status of carrier (private or commercial). For example, the state might exempt hazardous materials carriers if they carry fewer than 55 gallons or 500 pounds of hazardous materials. These quantities are thresholds for other kinds of regulation and are generally small enough to cause limited damage in an accident. Exempting industrial classes as a whole is contrary to the purpose of the federal regulations. Larger quantities of hazardous materials do not pose less of a threat because a particular group, such as farmers, carries them. Similarly, accidents are not less severe when caused by a private carrier than by a for-hire carrier. If the Texas legislature nevertheless chooses to exempt certain size or industrial categories, it

should consider following the Illinois model in requiring that substances must still be properly contained. There should be few if any exemptions to 49 CFR part 393, which details the kinds of equipment needed to ensure a safe vehicle.

The use in Illinois of an operating radius for exempting vehicles, while attractive at first, raises additional problems of verification and enforcement. Moreover, vehicles carrying hazardous materials are no less dangerous because they stay within a small area; if the area is urban, they may be more dangerous.

**B. Phase the enforcement approach.**

A phased approach to the adoption of FMCSR will allow regulators to overcome misapprehensions or misunderstandings, such as the concern over logging requirements that testifiers voiced during the Texas DPS hearing. Opponents of FMCSR have argued that drivers of beer trucks, for example, would have to spend hours recording their stops, although the regulations state definitively that "all stops made in any one village, town, or city may be computed as one."<sup>1</sup>

Illinois adopted a phased approach to its adoption of FMCSR. At first, the state educated carriers and enforced regulations only for placarded loads; violators received warnings when violations were found during compliance checks. After a grace period, the state began assessing penalties. In Louisiana, exemptions include all intrastate, nonhazardous materials carriers beneath 20,000 pounds; the state does not grant exemptions by industry. Officials in Louisiana mentioned that, since the adoption of FMCSR, there has been a decrease in truck safety violations. Because Louisiana treats violations of FMCSR as civil offenses rather than traffic violations, the state has been able to establish a statewide civil fine schedule system.

Tennessee has devoted most of its enforcement resources to sections 387 and 390-397 of 49 CFR, which include the primary vehicle safety and driver qualification standards, although it has adopted all of FMCSR. Tennessee has also adopted phased compliance. During the first year of FMCSR implementation, the state issued no penalties or citations but devoted efforts to educating drivers in appropriate compliance behavior.

**C. Provide continuing education as an element of enforcing regulations.**

The Illinois Department of Transportation (IDOT) provides ten seminars a year to carriers and shippers to help them understand the regulations. IDOT attempts to have cosponsors for the seminars and to achieve a broad perspective on the issues. In Tennessee, the Public Service Commission coordinates seminars regarding compliance and will send a representative into the field if requested. The success of the state's efforts was apparent in 1985 and 1986 when the state experienced a decrease in the number of accidents.

## **OTHER LEGISLATION**

Implementation of the state laws passed in 1987 is proceeding, but in many instances a lack of funds and overlapping authority impedes progress. When the state legislature convenes in 1989, our belief is that it should try to develop a more comprehensive approach to the problem of hazardous materials transportation rather than make incremental changes in the authority of each agency. Comprehensive changes will encourage agencies to work together to alleviate the continuing problem of fragmented authority.

3. **Adopt and enforce recently issued federal driver license standards. (chapter 2--Changes in Regulations, 1987-88; and report 1, chapter 5--Highways)**

Full adoption of the federal driver license standards by DPS is recommended to help decrease the number of accidents due to driver error. The new driver license standards include an increase in training requirements for carriers transporting hazardous materials. The standards also lead to the creation of a national database of driving records. Adoption would ensure the continuation of related state highway funding and provide more thorough enforcement.

4. **Strengthen the design of Senate Bill 595. (chapter 1--Senate Bill 595)**

- A. **Clarify the jurisdiction of the Texas Railroad Commission (RRC) to avoid confusion now and when FMCSR is implemented.**

Before passage of SB 595, the RRC regulated common, contract, and specialized motor carriers that operated solely within the state; the regulations did not cover private carriers that transported their own goods. Federal safety regulations already in place were generally not enforced.

It is unclear how much additional authority SB 595 gives to the RRC to regulate commercial carriers. The postponement of the implementation of HB 908 as it applies to private carriers that haul their own goods has compounded the uncertainties about the RRC's authority to develop similar safety regulations and to apply them to private carriers. We recommend that a ruling be sought from the attorney general's office to determine if the RRC has the authority to promulgate its own safety rules. This authority is necessary so that the commission can help fulfill the purpose of SB 595--to improve the safety of the transportation system--by regulating the safety of the operations of the newly registered vehicles.

- B. **Restructure the penalty systems of the RRC.**

The commission should have the ability to assess administrative penalties against repeat offender companies. In addition, RRC fines should be applied consistently and enforced so that they are compatible with FMCSR fines and other hazardous materials regulations.

**C. Examine pipeline safety issues more extensively.  
(report 1, chapter 5--Pipelines)**

Regulation and enforcement often overlook this area of transportation. At present, the RRC does not require an environmental impact statement, nor is it empowered to reject a pipeline application that fails to meet environmental standards. As it did in the 70th session, the state legislature should again examine legislation requiring the RRC to adjust the entire pipeline ruling system.

**D. Strengthen rail safety standards by funding additional inspectors and training to expand the RRC hazardous materials inspection force (report 1, chapter 5--Rail).**

Only four federal hazardous materials rail inspectors currently enforce federal laws governing the transportation of hazardous materials by rail in Texas, New Mexico, Oklahoma, and Louisiana. Consequently, their services are spread thinly. To address the deficiency in the rail inspection capability in Texas, the RRC needs funding for additional inspectors and training. Also useful to the RRC would be an expansion of its jurisdiction to inspect private shipping and receiving facilities, since most problems and spills occur during loading and unloading and at rail yard switching stations.

**E. Provide additional funding for the implementation of the RRC transportation safety program.**

The commission's budget was cut by 27 percent in the 70th legislative session. While the one-dollar registration fee and the twenty-five-dollar proof of insurance fee were designed to cover continuing costs, it has proven difficult for the agency to fund the program. By May 1988, the RRC had received only 100 applications for registration; it appears that it will be some time before the commission receives enough registrations to cover even administration of the fee.

**F. Encourage innovative insurance solutions.**

In July 1987, the RRC proposed a \$500,000 insurance minimum for commercial vehicles that may prove to be a burden on certain businesses. An example of an alternative for the affected carriers would be to form private insurance pools. A similar solution exists in California.

**G. Centralize inspections to eliminate possible duplication of carrier terminal inspections by the U.S. DOT and by DPS.**

If one agency undertakes these inspections, reporting the results to the other, it would conserve scarce trained staff and resources.

5. **Create interagency agreements to coordinate both the receipt and the computerization of hazardous materials spill information. (chapter 1--House Bill 1353)**

The reporting provisions of HB 1353 have created potential conflicts with existing practices in many agencies. Before passage of the law, no agency received all reports about release of hazardous materials. Rail carriers of hazardous materials reported incidents to the RRC, while the Texas Water Commission (TWC) received notice of all hazardous materials spills that affect water resources. Under HB 1353, however, the DPS is to store all statistical information relating to hazardous materials releases. DPS databases now are convertible to standard text files, as are those of the TWC; the DPS should not hesitate to use the data available from TWC.

6. **Designate the safest routes or times of transportation to and from facilities.**

Local emergency planning commissions (LEPCs), emergency responders, and local facilities should designate transportation routes and times to improve handling and transportation. They could use the CAMEO (TM) computer program or transportation risk assessment guidelines such as those developed by the Chemical Manufacturers Association or by Union Carbide Corporation (chapter 3--Data Management; and Title III and Transportation). In later years, this could be done with the automated routing system proposed by the CPO (see 11 below). The State Department of Highways and Public Transportation could maintain the routing plans (report 1, chapter 5--Highways).

7. **Urge cooperation in addressing international hazardous material shipments among the U.S. EPA, the TWC, and state, regional, and municipal governments. (chapter 3--County Awareness of Risk)**

For the safety of all border citizens, the United States and Mexican governments should expand the interchange of information between them. Moreover, local and state governments and the regional EPA office in Dallas should establish reciprocal agreements of notification for the hazardous materials of which each is aware. Further study on the effect that the national agreement will have at the local level of planning is necessary.

#### **DATA MANAGEMENT**

8. **Develop a system for deciding when and what type of computerization of data is most appropriate. (chapter 1--Conclusions)**

While the state has made progress in the area of data management, more emphasis should be placed on its use for prevention and planning. Some functions, such as immediate retrieval of detailed emergency response information, appear to operate more efficiently without computerization. For example, regional DPS offices should have access to manual databases for information on hazardous materials if an accident occurs within the jurisdiction of that office.

9. **Allow the RRC to continue using the waybill sample tapes from the Interstate Commerce Commission (ICC). (chapter 1--Texas Railroad Commission)**

If the RRC continues to use the ICC waybill sample tapes, it would have to limit public access to ensure that certain information remained confidential. Should the attorney general determine that the RRC cannot limit public access, the RRC could use Public Use Tapes from the Bureau of Economic Analysis, which do not include any confidential commercial information. However, the RRC will encounter difficulties in extracting and comparing data for the state of Texas from these tapes since their organization follows U.S. Commerce Department economic regions which often cross state boundaries.

## **CENTRAL PERMIT OPERATIONS**

10. **Centralize information on the state's general highway tax and regulatory program. (chapter 2--Overdimension Permitting)**

As part of a national effort to centralize information on states' highway regulations and taxes, the current automatic call distributor (ACD) used by the Central Permit Operations (CPO) could be expanded to allow motor carriers to call one number for information. Through this number, callers could electronically reach offices within the State Department of Highways and Public Transportation, the DPS, and other relevant transportation agencies in Texas. Time and funds could be saved since no human aid would be required.

11. **Include hazardous materials shipments in the proposed CPO automated routing system. (chapter 2--Overdimension Permitting)**

The automated routing system could include routing of hazardous materials by specifying allowable materials on the roads. The DPS has already resolved the greatest challenge encountered by the CPO, establishing a suitable telephone system. This system would prove useful as well to LEPCs, emergency responders, and facilities as they cooperate to designate safe routes for hazardous materials (see 6 above).

## **SARA TITLE III**

Title III of the Superfund Amendments and Reauthorization Act has placed a heavy burden on state and local government implementation. The implications of Title III for controlling the transportation of hazardous materials have yet to be completely understood. Before it can help with this specific problem, the immediate requirements of the law, especially emergency planning and hazardous materials reporting, must be fully carried out.

12. **Pass state legislation adopting Title III. (chapter 3)**

Other states have overcome several of the problems inherent in Title III by passing state laws. They usually include provisions allowing state and local officials to enforce the law, removing liability from members of LEPCs, and

providing for funding of the program, often through facility fees. A Texas law could do the following:

- A. Designate the SERC as an autonomous body for certain limited purposes such as entering information into the Texas Register.
  - B. Allow state agencies to impose or increase filing fees for Title III reports, using the resulting funds to computerize data, operate a state Title III hotline, and support specialized emergency training.
  - C. Develop a single reporting form to cover reports required under sections 302, 311, and 312 of Title III. State that state and local agencies will not accept tier 1 reports under section 312.
  - D. Clarify the status of LEPCs as state or local bodies.
13. Help LEPCs, especially those in smaller counties. (chapter 3--Conclusions)

Our survey suggested that a two-class system of counties is emerging. One class has the infrastructure for emergency response and planning. These counties have trouble mobilizing additional resources but will manage to meet their obligations under the law. The second tier of counties often has neither the resources nor the incentive to comply. These counties have trouble fulfilling the intent of the law. Although they are without resources, they nevertheless must develop emergency plans and fulfill the right-to-know requirements of Title III.

Among the kinds of aid the state could provide to LEPCs are the following:

- A. on-site emergency response training;
  - B. development of specifications for computer software;
  - C. development and distribution of community outreach and education materials;
  - D. development of a manual for LEPC chairpersons on procedures and activities; and
  - E. development of a program by which the SERC or LEPCs with strong programs can assist other LEPCs.
14. Consider developing a computer network similar to the one Ohio is developing, in which LEPCs would have access to a statewide database and supporting materials. (chapter 3--Conclusions)
15. Work with other SERCs, the National Council of State Legislatures, and other bodies to fund Title III at the federal level and to amend the statute where necessary.

Some of the problems of Title III are inherent in the law itself and can only be rectified by Congress. The most important of these problems is the lack of

**federal funding for Title III. Congress should appropriate funds and devise a formula based on population and number of reporting facilities for distributing these funds to the states.**

**In addition, Congress should amend Title III to eliminate the tier 1 report and should require development of data sheets other than MSDSs, which are responsive to citizens' interest in routes of community exposure rather than the present emphasis on workplace exposures. Congress should require EPA to expand the software that will be available at low cost to states and localities or to develop new programs that simplify citizen access, emergency planning and data management.**

- 16. Include local, state, and federal facilities among those organizations that must comply with the reporting standards of Title III.**

**Local emergency planning is not complete without knowledge of the hazardous materials and chemicals that are used within all facilities in the community, including government operations.**

**Notes**

1. **49 CFR 395.2 (j).**

## **Appendix A. Reports on Selected Texas Counties**

This appendix contains the findings of visits to Brazoria, Calhoun, Cameron, Coleman, Dallas, Ector, El Paso, Gray, Harris, Harrison, and Travis counties to survey the nature of local emergency response preparation and preparedness and to solicit opinions regarding SARA Title III and hazardous materials transportation issues in general. Project team members visited representatives of the county sheriff's department, local fire officials, industry officials, emergency management offices, and other local agencies involved in hazardous materials response. Interviews were conducted during the first three weeks of November 1987, and are cited at the end of this appendix.

### **BRAZORIA COUNTY**

Brazoria County is the 14th largest and 10th wealthiest in Texas.<sup>1</sup> It covers 1,407 square miles in the Coastal Prairie Region south of Houston and is home to a population of 188,200, as estimated in 1985. There are 22 incorporated and 23 unincorporated communities within the county. Angleton is the county seat and is centrally located within the county along state highways 35 and 288.

#### **Risk Description**

Brazoria County is subject to hazardous materials transportation risks by highway, pipeline, rail, marine, and air. The county is spanned by 2,097 miles of public roadways, including four major and numerous minor routes. The major routes are state highways 35, 36, 288 and 332. In addition to the highway system, there are six main and one branch rail line that carry freight through the county. The major rail carrier in the county is the Union Pacific Railroad. The county is also serviced by eight minor airports and airparks as well as by marine traffic along the San Bernard River and through Freeport Harbor.

Brazoria County is host to a vast chemical and petrochemical industry. Phillips Petroleum's largest facility is located in the county. In addition, Dow Chemical, AMOCO, BASF, and several other large industrial complexes, as well as numerous smaller operations, are found in Brazoria County.

#### **Planning**

Emergency response planning is coordinated by the county-wide Local Emergency Planning Committee (LEPC), an extension of the previously existing Community Awareness and Emergency Response program (CAER). Instead of an emergency operations command center, the county has an Emergency Manager. The LEPC is responsible for educating county citizens about emergency response to hazardous materials incidents. The LEPC uses mailings, newspapers, and handouts in its educational program. Most of the funding for this education is provided by industry.

Brazoria County is divided into three emergency districts: Brazosport, the area west of the Brazos River, and the area north of the Brazos. Through the CAER program, industries in each of these districts had developed emergency response plans in cooperation with the county. The industry-developed disaster plans are tested weekly through computer simulation. In addition, the county holds an annual emergency response drill, with plans for the drill to become semiannual in the future.

Industry provides substantial financial and other resource support for the county to supplement its small emergency budget: \$15,794 is planned for 1988. Industry is currently purchasing a computer system for the county to store and retrieve chemical information in compliance with SARA Title III. In addition, industry supplies special fire equipment and training for local first responders. Industry also has provided access to computer simulation programs such as CAMEO (TM) for local planning officials. Thus, industry support has alleviated much of the fiscal burden of emergency planning for the county.

### **Response and Training**

The local volunteer fire departments and the county sheriff's department are the primary first responders in the event of an incident. Today there are 32 volunteer fire departments and one part-time department in the county. There are 145 commissioned officers in the sheriff's department and 22 other local police departments with a combined force of 308 persons. They are aided by industry Emergency Response Teams that respond to accidents anywhere within the county. These teams can provide the expertise to handle almost any chemical-related incident. Medical support is provided by local clinics as well as the Life Flight to the Galveston Burn Unit and all major hospitals in Houston.

Training for first responders is provided both by industry and public resources. Industry holds training seminars for local officials and provides informational materials to local first responders on hazardous material emergencies. At the county level, there is a police academy that provides courses on hazardous materials. In addition, the county sends officials to state-sponsored training exercises.

The officials interviewed in Brazoria County felt secure with their ability to handle potential hazardous materials emergencies. This is a result of the plans and resources developed through the CAER and TransCAER<sup>2</sup> programs and coordinated under the direction of the LEPC.

### **Title III and LEPC**

The LEPC in Brazoria County is required to collect certain information under Title III of SARA. It is planned that this will be done by the county Sheriff's Department with a computer system furnished by industry. The Sheriff's Department will then be responsible for making this information available to the public and sending the required data to the state Department of Highways and Public Transportation.

County and industry officials have encountered some difficulties in providing the information required by Title III. A number of industries have taken it upon themselves to develop a format for the information that will make it useful for the

public. They have found it possible to comply with Title III by submitting the required information in raw form but anticipate that this would 1) overwhelm the local officials in terms of paper and 2) be too complex for local officials to use in a meaningful way. In addition, there is a serious concern expressed both by local government and industry officials that providing information on the location of hazardous material storage raises security problems.

Local and industry officials noted nevertheless that SARA Title III is speeding up some of the planning efforts in the rural areas faster than under industrial prompting and CAER.

## CALHOUN COUNTY

Calhoun County is on the Gulf Coast, approximately 80 miles northeast of Corpus Christi. The county covers 540 square miles, and almost one-fourth of its area is water. The estimated population in 1985 was 21,700. Port Lavaca is the county seat and can be reached by state highways 87 and 35. The county is accessible by the Gulf of Mexico, the Southern Pacific Railroad, three motor freight lines, Continental Bus Lines, and a county airport.

The major components of commerce for the county are agriculture, marine industries, and chemical manufacturing. Industry represents a sizeable portion of the area's economy, providing roughly 85 percent of the county's tax base. Chemical industries such as Airco Carbon, ALCOA, Formosa Plastics, GAF, Union Carbide, and Standard Oil assume a significant role in the management of hazardous materials.

### Risk Description

Calhoun County is exposed to many hazards due to its geographic location, air and highway traffic patterns, and weather patterns. A recent traffic survey by the county emergency management director, the county fire department, and the Division of Weights and Measures at DPS determined that a vehicle transporting hazardous materials passes through the county every 4.5 minutes. This study did not take into account barge transportation by canal or intercoastal waterway, rail traffic, or hazardous materials contained in the six major industrial plants in the county, however. Material safety data sheets (MSDSs) reveal a wide inventory of toxic, flammable, and highly unstable chemicals including vinyl chloride, anhydrous ammonia, bromine, phosgene, as well as a wide array of petroleum-based chemicals. Understandably, officials are concerned about the potential for exposure to hazardous materials.

The consensus among city and county officials is that transportation of hazardous materials is the primary risk that limits the prevention capabilities of the Emergency Management Office, the Emergency Medical Service, and the Fire and Police Departments. Due to the unpredictable nature of an incident involving hazardous materials, officials in Calhoun County have planned the emergency responses required in the event of a spill.

## **Planning**

Emergency response planning and coordination is the responsibility of the Emergency Management Office (EMO), located in the Port Lavaca county courthouse. In this office, a director and one assistant administer emergency operations in Calhoun County full time. The EMO has negotiated for the installation of a Community Alert Network (CAN) for all hazard notification and recently established a board of managers for emergency communications. In addition, Calhoun County is the smallest county in Texas to install the Enhanced 911 emergency phones.

The EMO director determines if the Emergency Operations Center (EOC) should respond to a spill and whether the county's emergency plan should be implemented. After notifying various city and county officials, the EMO works with the community's media to convey information to the public.

When an area is exposed to hazardous materials and an evacuation is ordered by the fire chief, the evacuation procedures are channeled through the EMO. With the aid of phone line and radio capabilities, the EMO director can run spill response coordination directly from the office. The entire coordination procedure for spill response, rescue, evacuation, and cleanup is outlined in existing agreements with all departments in the county. Should an incident occur, the EMO calls upon the expertise of the fire, police, and all other supporting departments.

Coordination of the hazardous materials response plan is only one facet of the responsibilities of the EMO. The office has also compiled planning information for all potential hazards into the "1987 Emergency Management Plan for Calhoun County including the Cities of Point Comfort, Port Lavaca, and Seadrift." This plan, recently approved by the state, outlines response procedures in the event of hurricanes, floods, fire, nuclear attack, as well as hazardous materials incidents.

Included in the plan are assignments of responsibility and task, statements of action under various conditions, means of support, emergency powers of government, and lastly, mutual aid agreements. The plan is evaluated annually and changes or additions are made accordingly. In addition to preparing the emergency plan, the EMO designs public awareness messages and brochures that detail community emergency procedures. The awareness campaign includes placing emergency phone numbers in the front cover of the telephone book and distributing brochures with precautionary measures to protect family and property in an emergency.

An important factor in the planning structure designed by the EMO has been a heavy reliance on industry's cooperation. The six main industrial plants of Calhoun County have extended a generous amount of cooperation by lending their facilities for hazardous materials response training, sharing in all planning phases and being part of the mutual aid agreements. Since the inception of the county's CAER program in 1985, the excellent relationship between industry and the county has made preparedness for hazardous materials incident response a joint effort.

With the CAER program playing an integral role in the county's emergency plan, the EMO has developed a model hazardous materials response program that capitalizes on a wide array of resources, expertise, and community involvement. The Texas Governor's Office is preparing a report that cites the Emergency Management Plan for Calhoun County as a model program to be adopted for state-wide comparisons. By

demonstrating one county's success with emergency management, it is hoped that counties that are below minimum standards will realize their potential for improvement. Calhoun County also is presently working with its surrounding counties for mutual aid agreements for a completely comprehensive plan.

### **Response and Training**

The Port Lavaca fire department personnel are trained in first responder techniques. The chief of the Port Lavaca fire department is the ranking fire official for Calhoun County and serves as the on-scene coordinator for all hazardous materials incidents. All departments, city and county officials, and members of the CAER program give support in the coordination of an incident in the county, not located on-site at a chemical plant. In this case, the fire chief lends fire fighting equipment but does not assume command. The coordinator has at his disposal the entire fleet of county-owned fire equipment, which is dispersed throughout Calhoun County. The Port Lavaca fire department is the only paid fire-fighting department in the county; consequently, they supply equipment and personnel to the rural volunteer fire departments.

Two of the ongoing activities under the supervision of the EMO are plan review and personnel training. Both of these practices are carried out by yearly mock exercises that test coordination and communication aspects of the response plan. The on-scene coordinator follows the pre-determined guidelines under annex Q.<sup>3</sup> Evaluation of the outcome of the exercise helps to determine areas that require more training. Two to three mock exercises are conducted in the county each year.

Calhoun County is unique in the state in that all first responders have 8 hours of special training in hazardous materials and first responder tactics. Courses at Texas A&M and at various hazardous materials training conferences around the state update training periodically. In addition, the CAER program has provided the county access to training films, demonstration projects, and other vital resources to build the county's awareness and response capabilities. The EMO is qualified to receive the maximum of available funds from the Federal Emergency Management Agency (FEMA) due in part to the high level of accreditation earned by their emphasis on training and conducting mock exercises. Industry has also received national recognition for its contribution to the county emergency management program. The CAER program in Calhoun County plans to purchase a community warning system that will be given to the county and used in the event of a hazardous materials spill or natural disaster.

### **Title III and LEPC**

Calhoun County is complying with Title III requirements, albeit with some reluctance and agitation. The county EMO sees the data collection requirements as excessive and burdensome, however, for a simple listing technique could be accessed by computer more easily. Industries in Calhoun County have nearly completed releasing the MSDSs to the LEPC and its divisions.

The LEPC in Calhoun County emerged out of a well-established CAER program. Despite the committee's stability, the present laws that assign responsibility for the LEPC's organization to the county judge are perceived as too weak and the penalties

for noncompliance too lenient. Under the present law, the judge does not face serious reprisal for failure to name LEPC members and charge the committee to establish the county plan. According to some officials in Calhoun County, there tends to be a high degree of complacency at the county level.

### **Additional Concerns**

A problem that was only recently resolved concerned on-scene authority. According to the Port Lavaca chief of police, the various departments involved in emergency response had disputes over who was to assume command at an accident. As a result, the order of command and authority is now set in writing under mutual-aid agreements and the county emergency management.

The EMO faces an apparent lack of understanding in the community about the serious threat posed by hazardous materials in the populated areas of the county and near fixed facilities. Many people believe that once hazardous materials leave a chemical plant, the threat of a spill is gone. Some also think that the responsibility for their personal safety is out of their hands altogether. Community awareness is an important aspect of the mitigation and prevention process for the threats posed on-site or in transport.

Another problem involves the lack of ordinance-making authority at the county level, since the EMO cannot create standards for enforcing compliance for the county. Instead, one finds a patchwork blend of statutes regulating transportation, storage, and manufacturing of hazardous materials in the county. The EMO is further hampered by the lack of funding to enforce hazardous materials regulations.

A final area of improvement in Calhoun County is training of primary responders. While the county has a progressive training program by state standards, more advanced training is not accessible. In addition, the county does not have the funds to purchase a hazardous materials unit for the county and so must rely on outside sources.

### **CAMERON COUNTY**

Bordering Mexico and Texas along U.S. highways 281 and 83/77 in the Rio Grande Plain Region, Cameron County covers 905 square miles with an elevation range from sea level to 60 feet. Cameron County is one of the most densely populated counties in the state, with an estimated population in 1985 of 249,800. The county ranks 16th among U.S. counties with the greatest number of persons of Spanish origin.

The county's proximity to the Mexican border has created a tightly woven economic interdependence between Mexico and the inhabitants of Cameron County. Maquiladoras, Spanish for "twin-plant" programs, serve as a vital ingredient in the economic base of the area. Maquiladoras are designed so that raw materials from the United States are shipped into Mexico by way of Matamoros or other border cities. The unfinished materials are refined or made into finished goods and returned to the United States for sale. One estimate offered by a member of the Cameron County LEPC suggests that there are over 40 maquiladoras in Cameron County and the adjacent city of Matamoros.

## **Risk Description**

The potential for an incident involving hazardous materials in Cameron County is high. The county receives a large volume of shipping activity from the Gulf of Mexico in the Ports of Brownsville and Harlingen. Both ports ship and receive hazardous materials, including diesel fuels, unrefined petroleum, toxic chemicals, fertilizers, and wastes. Another potential risk is the limited number of transportation routes that are available to trucking and rail transporters that carry hazardous materials between Mexico and Cameron County. Brownsville has two bridge-crossings with Matamoros; all traffic, both pedestrian and vehicle, must cross at these points. There are no exceptions or attempts made to reroute hazardous materials transportation away from the densely populated business districts of Matamoros and Brownsville.

The general consensus among city and county officials is that an accident could happen at any time. The Mexican drivers that bring hazardous materials into Brownsville generally do not know what they are carrying and are not trained in how to respond to a spill. The Mexican trucks do not display the required placards and do not abide by the federal weight limitations. Enforcement of trucking regulations has not been successful in the past because the community does not want to jeopardize its economic relationship with Mexico. The fear is that tougher enforcement will discourage Mexican trade and cause them to take their business elsewhere.

One solution, though slow in gaining support, has been offered to reduce the risk potential. It entails building a third bridge located away from the populated areas. This would allow rail transport and trucking to cross the border and access shipping ports at a safer distance from Matamoros and Brownsville. The director of the Brownsville Emergency Medical Services noted that the delay is due to the Mexican government, which does not move as fast as the American government on such issues.

## **Planning**

An emergency management coordinator is responsible for emergency response planning and coordination for Cameron County. This position was created only recently as a result of the new requirements for county judges to comply with Title III and appoint members to the LEPC. Prior to the LEPC's organization, a single, cohesive plan for hazardous materials response did not exist in Cameron County. Instead, several written plans were dispersed throughout the county, such as that for "airport incidents" and for Red Cross contingency planning. Until the formation of the LEPC, the county had been without a comprehensive strategy detailing hazardous materials response directives for fire, police, EMS, and the EMO.

## **Response and Training**

The chief of the Brownsville fire department historically holds on-scene authority over hazardous materials spills. His recent retirement, however, has created a vacancy in the line of command and has allowed a review of the current procedure. There is some consensus that the fire department should direct coordination measures, but problems with authority arise in the presence of the two Gulf ports and Matamoros. Further, rural portions of the county pose jurisdictional disputes. According to one LEPC member, hard feelings have existed in the past, and there is a distinct lack of

cooperative spirit in the county.

A lack of funding in the county has posed a major obstacle in the training of emergency personnel in first responder tactics. The Brownsville fire department requires no hazardous materials training courses for its firemen, nor does the EMS have first responder training.

Not only does the county lack resources for needed training, there is little specialized equipment available for hazardous materials incident response. Unlike counties with heavy industrial activity, Cameron County does not benefit from an industry-sponsored CAER program. In addition, industry provides no assistance to the county for hazardous materials training, in part because of a depressed economy that has sharply reduced economic activity. However, the City of Harlingen recently purchased a new hazardous materials unit that increases the prospects of the entire county for better response and training in the future.

The overall scenario of training deficiencies in Cameron County can be summed up in the recent evaluations of an October mock exercise involving a radioactive source. The unannounced incident involved a radioactive material located in a vehicle in downtown Brownsville. According to one source close to the exercise, the fire department failed to send a responder's unit to the scene for 20 minutes after the call.

### **Title III and LEPC**

The Local Emergency Planning Committee (LEPC) for Cameron County was recently approved by the DPS Division of Emergency Management. Since the committee's approval in October, 1987, members of the LEPC have met monthly and have developed a mailing list of over 100 industry representatives from Cameron County and Matamoros, Mexico, as well as first responders and governing agencies. Members have also attended training sessions. The various members of the LEPC work on the sections of the emergency plan that pertain to their fields of expertise.

The county EMO regards Title III as desirable to a certain degree because everyone wants to know what chemicals are coming through the county. In terms of the required storage of material safety data sheets, the general feeling is that the idea is good, although it is unrealistic in terms of the county's ability to store the data. An obstacle that offers frustration is a perceived lack of cooperation from the U.S. Customs Service in addressing the Mexico problem.

### **Additional Concerns**

A serious challenge for Cameron County is a lack of planning for hazardous materials incidents, largely due to the uncontrollable involvement of Mexican forces. The potential threat posed by hazardous materials brought into the county by way of Matamoros is difficult to evaluate for the majority of what is brought over from Mexico by truck and rail is unknown. It is only a matter of time before a Mexican truck carrying hazardous materials overturns and seriously contaminates a populated area. In addition, the extremely poor economic status of the county prohibits development of plans and investment in personnel, data processing, response equipment and training for first responders.

Cameron County also experiences a lack of community education that would serve to protect citizens in the event of a hazardous materials spill. Brownsville officials have no knowledge of any type of awareness campaign in the city's past to inform the community of what procedures to take in the event of a spill.

Another problem area involves the organizational format under which emergency management is to operate. The county is legally required to operate an emergency management plan, although all of the actors such as Red Cross shelters, police, EMS, hospitals, fire, and school districts exist on the city level. The separation between county-level administration of the plan and local or city involvement creates a void in emergency coordination and cooperation. As a result of a lack of understanding, the city officials involved believe that the implementation of the plan is a county problem and so are not inclined to give full support. In addition, a lack of funding and support from higher levels of government limits the success of the implementation of any plan.

## **COLEMAN COUNTY**

Coleman County is in the west central part of Texas, approximately 160 miles northwest of Austin. The largely rural county covers 1,277 square miles and includes an economy based primarily on farming and ranching. The 1985 estimated population was 10,600. The town of Coleman, population approximately 6,000, is the largest town, as well as the county seat.

### **Risk Description**

U.S. highways 283 and 67/84 carry traffic between San Angelo and Abilene. A bypass of highway 84 keeps truck traffic from the center of Coleman; however, this road still passes only three-tenths of a mile from the town center.

The Atchison, Topeka, and Santa Fe Railroad runs through Coleman, passing within close proximity to most major municipal buildings. Thirty trains pass through Coleman daily, including a weekly shipment of approximately 80 cars of liquid sulphur. Four years ago, this train derailed near Santa Anna, resulting in a spill and fire.

Industries in the Coleman area also create potential hazardous materials risks. Two companies manufacture office and school supplies and air conditioners. They use and store acetates, acetones, and lacquers. These two plants are located within three blocks of each other on the outer edges of town. In addition, there are two propane/butane distributors.

### **Planning**

The Coleman County emergency response plan is written specifically for the town of Coleman but is adaptable to the entire county. The Coleman fire department, which is largely volunteer, has mutual aid agreements with the rest of the county. The Santa Anna volunteer fire department is the first responder for the eastern third of the county, with Coleman providing any extra personnel or equipment needed. Recognizing the danger from proximity to the rail line, Coleman officials have set up an auxiliary

emergency operations center at a filtration plant located a mile from town.

Coleman County faces several constraints that have shaped its planning and training philosophy. The small population and size of government limit the size and capabilities of the fire and police departments. The guiding principle is protection of the public. The second consideration is containment of the incident to the safest extent possible until professional industry or state help can arrive.

The city manager acts as the county's emergency management coordinator. In an emergency, the county judge has designated this position as on-scene authority as well. The local utilities office manager is the assistant emergency management coordinator, with primary responsibility for developing and writing the plan, as well as the LEPC chairman. Both of these people and the fire marshall are reserve police officers. Two-thirds of the police officers and sheriff's deputies are volunteer firemen. City officials believe that the resulting close coordination and shared knowledge among firefighters and police is one of Coleman's strengths. This coordination extends to hospitals, nursing homes, the National Guard, and the school system, which provides buses if an evacuation is necessary. Twenty firemen can report for duty within 3 minutes of a call, and an additional 60 of the 75 city employees can be mobilized within 20 minutes.

The two manufacturers located near Coleman have long cooperated in providing information to the municipal administration. Both companies submit detailed chemical lists, even though both facilities store and use less than the minimum reporting levels. They also cooperate with the fire department in identifying where chemicals are stored on plant grounds.

Warnings can be conveyed to the public via sirens, local radio and television, and public address systems on fire and police vehicles. In addition, approximately half of the townspeople own police scanners and could receive warnings or information from this source.

### **Response and Training**

As noted before, during an emergency in Coleman, the city manager has on-scene authority. The main concern of the emergency responders in the county is the safety of any workers or residents involved in an accident. They attempt to contain an incident without endangering anyone until professional help can arrive.

Coleman holds fire drills and training sessions three Monday nights each month in which other volunteer fire departments can participate. They have held spill simulation drills, and fire fighters receive a 10-hour hazardous materials training course. The overlap in personnel between the Coleman fire department and the police department guarantees that many police officers receive training in handling hazardous materials.

### **Title III and the LEPC**

The Coleman County LEPC has been appointed but at the writing of this report has not met. Authorities in Coleman County do not believe that they have received

enough information concerning Title III and the duties and role of the LEPC from state officials to be able to hold a productive meeting. They voice frustration in their belief that the state and federal level agencies and organizations that promulgate new policies and regulations have not considered the constraints faced by localities such as Coleman. All planning, training, and meetings are carried out on personal time and, often, at personal expense. LEPC members are ready to carry out their duties, but only when they have received clear and concise directions and guidelines from the state.

Officials in Coleman County do not foresee that Title III will have a great impact on their community or on their planning structure and design. They currently enjoy extensive voluntary cooperation with local facilities and use county resources to their maximum capabilities. Further, some officials are concerned that information gained from right-to-know provisions may cause confusion among residents not knowledgeable about hazardous materials.

#### **Additional Concerns**

Strong agreement exists among the county's planners that the responsibility for planning belongs with the localities because they know their own strengths and needs best. Two problems, however, inhibit smooth planning: 1) directions from the state that county officials perceive as unclear or nonexistent, and 2) requirements that they cannot meet. Volunteer firemen must have 3 years in which to receive their training and meet certification requirements. Coleman's present training schedule barely meets these regulations. City officials are skeptical that they will be able to meet the Title III requirement of 24 hours of additional hazardous materials training per year. There are no funds available for a trainer nor to send firemen to a training course. Even if it were financially feasible, fire department volunteers would not be able to leave their paid positions to attend. County planners would like to see state trainers travel to localities such as Coleman and hold sessions at night. While they realize the state is dealing with requirements from the federal government, they feel that the bodies that impose the requirements should provide the funding and other resources necessary for a locality to fulfill them.

#### **DALLAS COUNTY**

Dallas County is located in the Blackland Prairies Region in north Texas and covers 880 square miles. Dallas County shares a bit of its county seat, the city of Dallas, with Collin, Denton, and Kaufman counties. Among all U.S. counties, Dallas County ranks 69th in people per square mile and 11th in population. Of the estimated county population of 1,781,700 in 1985, almost 50 percent call the city of Dallas home. Dallas is a major transportation hub for both highway and rail.

There are 8,594 miles of public roads in Dallas County as well as ten main and four branch rail lines. Although the economy of Dallas County is based primarily in services, there are several industries in the county that use and manufacture hazardous materials. In addition, because of the volume of traffic that passes through the territory and the dense population in some areas, hazardous materials transportation is of major concern to the public officials in both Dallas County and the city of Dallas.

## **Risk Description**

In assessing the risk of hazardous materials in Dallas County, one must consider an estimated 2,800 facilities that are subject to reporting requirements. Many of these are not chemical-intensive industries such as those involved in the chemical refining and petroleum industries. An advantage in Dallas County is that the larger plants are well organized, which helps to reduce the risk of an incident. Nevertheless, transportation remains the primary risk for hazardous materials.

There are several authorized hazardous transportation routes through Dallas County. Interstate highways 20, 30, 35E and 45 are designated to State Loop 635, which encircles downtown Dallas. U.S. highways 67, 75, 175 and 183 are also authorized for hazardous materials up to Loop 635, as are state highways 114 and 356.

Safe transportation routes have been identified in and around Dallas; nevertheless, the actual volumes, toxicities, destinations, and purposes of transported hazardous materials are not known. An additional risk in Dallas County is associated with the Dallas-Fort Worth International Airport, primarily a result of the transportation of jet fuel through the county to the airport.

## **Planning**

Currently, the Dallas County LEPC is most concerned with the development of an emergency response plan, although no city has yet had its plan approved by the State Emergency Response Commission. The goal of the county plan is to be able to incorporate city plans into one comprehensive emergency response plan and to provide coordination. LEPC members plan to target city emergency management coordinators and to work with them as their primary contacts. City managers, fire and police departments, and city councils will be included in the plan to establish a broad base of support from the communities throughout the county.

The City of Dallas has an existing emergency operations plan concerning hazardous materials spills. This plan is flexible yet comprehensive and provides a plan of action for city forces in conjunction with state and federal agencies and private industry. It outlines how the participants should respond to, control and recover from an incident so that the risk to lives and property is minimized through efficient and effective action. The plan is broken into three phases: prespill, spill and postspill.

Each phase of this city plan has specific responsibilities for the relevant actors. For example, the two agencies involved in the prespill phase are the fire and emergency preparedness departments. Their responsibilities primarily cover enforcement of regulations and information maintenance.

The spill phase is separated into several sections, the first being initial action. The major points in this section are the identification of the fire officer as the on-scene authority and guidelines for the classification of an incident as either level I or level II. A level I spill is a relatively simple spill which can be resolved by the fire department and other agencies if needed. Level II is a spill in which other agencies must provide valuable assistance in dealing with such things as evacuation and securing the area.

The second section of the spill phase is notification, which includes the material involved, location of the command post (CP), safe routes into the CP, and any other available pertinent information. In addition, this section identifies all other relevant actors in a spill response. In the city of Dallas, these actors are the fire and police departments, the Street and Sanitation Services, the Office of Emergency Preparedness (a division of Street and Sanitation Services), the Dallas Transit System, the Institute of Forensic Sciences, and the departments of County Health, Water Utilities, and Parks and Recreation.

The third section of the plan is the postspill phase. This section is divided into recovery and reclamation. These last two components of the Dallas plan involve Administration-Supply- Transportation, and Control-Communications. These two sections reaffirm the fire department's primary role in hazardous materials incidents within Dallas.

In addition to its emergency operations plan, another major component of Dallas's hazardous materials planning is the establishment of hazardous materials transportation routes. An explosion and major fire caused by a derailment in 1977 highlighted problems of hazardous materials transportation within the county. As a result, the City of Dallas adopted stronger statutes and procedures governing such transport. Enforcement of these procedures reduces the risk to citizens in high-density areas from through shipments of hazardous materials. The Dallas fire department and other city emergency-response agencies have developed and exercised plans to minimize the severity of any hazardous materials incident.

### **Response and Training**

Within Dallas County, there are 11 paid, 4 part-time, and 10 volunteer fire departments. The county sheriff has 576 commissioned officers, and the 24 police departments in the county have a combined force of 3,282 persons. In an actual spill response situation in Dallas County or in the city of Dallas, the on-scene coordinator is the fire official at the scene and is responsible for involving other appropriate actors. Dallas County has not experienced a major hazardous materials spill response situation in recent years, and thus the actual implementation and effectiveness of the current City of Dallas plan in an emergency has yet to be evaluated. Perhaps the lack of incidents since 1977 suggests that the county has been effective in preventing emergency situations involving hazardous materials.

Training is concentrated primarily on the two hazardous materials units currently being developed in Dallas. Consequently, these units will be the only ones that receive training beyond the 40-hour requirement for emergency response personnel. Beyond their own exercises and training sessions, the City of Dallas is dependent upon industry to provide workshops and training sessions on new equipment and techniques.

### **Title III and LEPC**

The Dallas County LEPC is responsible for meeting Title III and its requirements. Committee members are chosen to fulfill the primary need of the LEPC for emergency management coordination throughout the county's 28 jurisdictions. Members include fire officials as well as individuals from agencies that are active in emergency

response, as have been previously mentioned. The committee plans to provide a hazardous materials specific response plan rather than an all-hazard plan.

County officials see the role of the public expanding under Title III in the hazardous materials area. Whether this is positive depends upon how the public perceives its role once it accesses the information under Title III. In Dallas County, Title III is seen as an important piece of legislation that will be useful in controlling hazardous materials. Among its strengths are the reporting requirements and the cooperation and coordination between government, industry, and the public, while its weaknesses lie in a lack of funds and time to implement the requirements of the LEPC. Title III is not perceived as burdensome but could become so if funds do not become available.

### **Additional Concerns**

The most pressing problem facing emergency response personnel and public officials concerned with hazardous materials is a lack of funds to implement programs and to purchase necessary response equipment. Communication between the different participants in emergency response does not present a challenge since coordination between state, county, and local governments in Dallas County is well organized. As a result of the efficient and professional atmosphere, many problems and needs are eliminated in the hazardous materials transportation area.

## **ECTOR COUNTY**

Ector county is in the Permian Basin, located in the High Plains Region of northwest Texas, at the base of the panhandle. It covers 903 square miles and has a county-wide population of 130,000.<sup>4</sup> The county's primary industries include oil and gas extraction, heavy construction, petroleum refining, petrochemical and polyolefins manufacturing, oil field machinery, structural metal products, pumps and pumping equipment, and electrical industrial equipment. Major transportation is provided to and through the county seat of Odessa by the Union Pacific rail line, an international airport, and two highways, Interstate 20 and U.S. Highway 385.

### **Risk Description**

Odessa faces transportation threats from three sources. The first is from high-pressure oil and gas lines running throughout Ector County. An explosion last year destroyed 11 mobile homes and resulted in the temporary relocation of 500 to 800 people. The second threat is from highway 385, which runs through the middle of town in highly populated areas. Interstate 20 is close enough to town to cause concern, but far enough away to be considered a less significant threat. The third risk, the rail line, is located in the southern part of the city close to city hotels, commercial property, the downtown area, and some neighborhoods. Depending upon wind direction, a transportation accident involving the rail line could affect a major hospital and two elementary schools.

Odessa's greatest concern is the significant petrochemical complex southeast of town. A variety of chemicals are manufactured and stored at the facilities in the

complex. A major incident here could affect a large portion of the city and county.

### **Planning**

Odessa and Ector County have a joint city/county emergency plan. The city's emergency management coordinator is overseeing the process of bringing the plan into compliance with Title III. About half of the annexes are complete, and a final version was to have been ready by August 1988. The annexes are prepared by the departments that take primary responsibility in each functional area. Revision is every two years.

Although Ector County has no formal written aid agreement with the city or with industries, it has informal agreements. In any incident, Odessa may request and receive assistance from area industry or from the nearby city of Midland, 20 miles to the east. City of Odessa personnel in turn will respond to any incident when requested.

The Odessa city fire department collects MSDSs from local industries. With over 10,000 MSDSs currently in its office, however, it has no method or resources to categorize or utilize the information. The LEPC is devising a process for recording and storing this information.

In an emergency situation, citizens are notified primarily through the media. The city and county are in the process of obtaining a government access channel to interrupt cable broadcast with information in the event of an emergency.

### **Response and Training**

On-scene authority in any incident in Ector County belongs to the fire department; secondary support comes from all other departments. This system has worked well in the past. The county has five volunteer fire departments and one paid fire department in Odessa. The Odessa fire department has 187 members and is well equipped to handle oil and gas incidents. In addition, the county sheriff's office has 146 deputies, and the Odessa police department has a force of 240 officers.

Training focuses primarily on the joint fire and EMS department. It is provided both within the department and in conjunction with a Texas A&M program. One-third of the fire department is trained in EMS procedures, and all officers must be certified within 3 years of joining the force. In addition, the department has utilized the hazardous materials training facilities in the petrochemical complex belonging to El Paso Products and Shell Oil Refinery. Both companies have been very cooperative.

Formal training for hazardous materials incidents is not provided for the police and sheriffs departments. Instead they are instructed in hands-off and evacuation procedures. Training for the officers in identification and preliminary control of hazardous materials incidents would be helpful.

Resources for emergency response are plentiful, in large part due to industries' efforts. Through the CAER program, industry is willing to provide extra help in any hazardous materials incident. Resources include multiple foam capabilities, air packs, and other high-tech equipment. Industry is not only willing to provide the equipment,

but will also provide the personnel to operate it, as was necessary in controlling the pipeline explosion and ensuing fire of 1987.

In addition to formal training, Odessa departments conduct a dry-run exercise once a year for all responding groups. The industry-sponsored CAER program, which has formed the basis for the county LEPC, will be beneficial in this exercise.

### Title III and LEPC

The Ector County LEPC was formed by altering the structure of the existing CAER program. This structure proved easy to alter to fit Title III requirements.

Currently, the LEPC has 18 businesses reporting on chemical inventories. Identification of which businesses need to comply is being studied. A concern for the LEPC is the storage and maintenance of the data it receives. An additional concern is the liability of the LEPC, on which a response from the state attorney general is forthcoming.

The basic emergency operations plan of the LEPC is currently under review. Annexes were to be finished by August 1988. A system to double check on reporting accidents by the responsible party is planned as well.

The Ector County LEPC sees a major strength in the high level of community interest and the willingness of its board members to serve. Weaknesses are identified as a lack of money and a lack of enforcement power.

### Additional Concerns

The main complaint from the emergency planners and responders in Ector County is the multitude of laws with which they must comply. The localities have been presented with a menagerie of overlapping statutes from federal and state government with which they must comply. A centralized information system with a consistent format would be useful.

With a well-established CAER program in its history, officials in Ector County are confident in their ability to handle hazardous materials incidents. The level of cooperation and knowledge within the LEPC and government groups is high. Nevertheless, there remains a need to train police officers in hazardous materials identification and preliminary control and also a need for a system to manage MSDS data throughout the community.

### EL PASO COUNTY

El Paso County, covering 1,014 square miles, is Texas's western-most county. Located along Interstate Highway 10 and the Rio Grande River, it borders Mexico and New Mexico. It is home to many diverse industries and is a major national and international transportation hub. With a population of 545,000 in 1985, it is one of Texas's most densely populated counties. Major industry includes lumber mills, lead and copper smelting, steel mills, fruit and vegetable canning, soft drink bottling and

canning, petroleum refining, boot manufacturing, book printing, textile mills, structural metal products, and telephone and electronic equipment. In addition to IH-10, five rail lines and three airports provide transportation to and through the city of El Paso. El Paso County is also home to one major military base, Fort Bliss Air Defense Center and School, with over 20,000 personnel.

### Risk Description

El Paso County and the city of El Paso face three primary hazardous transportation threats: IH-10, railroads, and high pressure gas lines. The railways and highways carry a wide variety of hazardous materials, with no single material or group of materials identified as a primary threat. Interstate Highway 10 runs from east to west through the middle of the city, bordering both neighborhoods and downtown. Five rail lines serve the city. The two largest, Southern Pacific and Missouri Pacific, run through the center of downtown from east to west. Creating a further hazard, the railway tracks in the downtown area are in open cement ditches below street level. One line runs directly beneath a high-rise bank building. An incident downtown would be difficult for responders to reach. The third transportation threat is from high-pressure oil and gas lines that run from south to north in the city. Underground, these lines run directly through several neighborhoods. Finally, a lesser threat comes from air traffic. The main airport is in northeast El Paso and has flight patterns directly over the city.

Other hazards that affect El Paso include the number of industries in the area and the city's location. Industrial facilities that use a wide variety of hazardous materials spread throughout the city and across the U.S. border, adjoining neighborhoods, and transportation routes. Juarez, Mexico, south of El Paso across the Rio Grande, is home to over 400,000 people as well as many industrial facilities. Because of the two cities' close proximity, a major accident in either one could have major implications for the other. Moreover, El Paso is several hundred miles from any major city. Any incident would have to be handled solely by resources within the city.

### Planning

The city of El Paso has had a Civil Defense Office, currently known as the Emergency Management Office (EMO), for many years and so in some respects has enjoyed a plan for city emergencies. Since Title III, the city has put increased emphasis on planning for hazardous materials incidents. Currently, the EMO is working on changing the old Emergency Operations Plan to meet the requirements of Title III. Work on this was to have been finished by February 1988. The city's plan is updated every two years and is geared to evacuation of citizens, containment of the hazard, and clean up. Notification for evacuation is provided by the police and the public media.

El Paso has no written mutual-aid agreements. City departments will, however, respond to incidents outside city limits if they are requested. If help is needed beyond its capabilities, the city's resources can be supplemented by private industry emergency response teams or by equipment and personnel established at Fort Bliss. While these resources have not been put to the test by an actual emergency, city officials believe that as much help as is necessary will be available.

## **Response and Training**

The county has three paid and four volunteer fire departments. Law enforcement is provided by a 276-member sheriff's department and by four police departments with a total of 661 members.

The El Paso emergency operations plan clearly outlines and defines the primary responder for each type of incident. In the case of a hazardous materials accident, the fire department is the primary responder while the EMO helps with coordination. Other responders include the EMS, the Health District, the Red Cross, the Salvation Army, and the police, sheriff, water, and public works departments. The Department of Public Transit and the city or county district attorney's office will also respond.

The El Paso fire department and EMS receive formal hazardous materials training. Other groups with training include officers from the police department and the sheriff's department. In addition, several members of the LEPC attended a FEMA emergency training course.

Besides formal training, the city operates a hands-on, dry-run training program once a year. These can involve operations from hazardous materials to plane crashes. After review of the practice runs, recommendations are made to update the Emergency Operations Plan. Additional reviews and recommendations are made after responses to real incidents.

## **Title III and LEPC**

The El Paso LEPC was put together in August of 1987 and has had two meetings to date. The El Paso community is excited about the LEPC, for it is the first body to bring the government, industry, and citizens of El Paso together to solve a common problem. Prior to the LEPC's establishment, there had been little or no concern about hazardous materials in the area.

Committee members of the LEPC were chosen on the basis of interest in serving. Some of the members knew each other from a previous FEMA Emergency Training Course and so formed the initial core group. Additional members were identified through letters of inquiry sent to various groups by the committee's chairperson.

The main purpose of the LEPC is to bring together different players and to discuss problems associated with hazardous materials, including evacuation and emergency notification systems. Industry is working well with the committee, and government branches are organizing and delineating areas of responsibility. Most importantly, a CAER program has been discussed, and the committee is considering its possibilities.

While the LEPC emergency operations plan is not yet complete, four subcommittees have been established to address different areas. The first is responsible for establishing who in the El Paso area is required to report to the LEPC. They currently have received approximately 50 lists of MSDSs from industry. It is estimated that an additional 2,000 businesses in the area may be required to respond. The second subcommittee is looking into training and education. They are responsible

for determining exactly what first responders need to know and how to obtain resources for further training. The third subcommittee is working on site plans for emergency response, with special emphasis on the border situation. The fourth group is identifying the equipment and materials available in the area as well as what additional equipment might be needed.

For reporting requirements, the LEPC has established a 24-hour telephone line to receive information on incidents. Currently, they are working on a plan to ensure that all reporting requirements are met. Maintenance and usage of data received is still in the planning stages.

### **Additional Concerns**

A primary weakness in El Paso is that planning is still in its initial stages. There is evidence that evacuation plans need improvement, and public awareness of the problem is still at a low level. Secondary responders to hazardous materials incidents should be clearly delineated so that coordination is smooth. In addition, there is a need for a centralized communications system for all departments to use in emergency events as well as increased funding for supplementary training.

Countering these problems are two significant strengths. First is the amount of cooperation being provided by El Paso's major industries. These companies attend LEPC meetings and thus are aware of their vested interest in the committee. They supply the LEPC with a large amount of technical information and have indicated a willingness to provide some financial backing. A second advantage in El Paso County is the high level of enthusiasm in the LEPC and the level of cooperation among the governmental groups. They are aware of the need for better coordination and are working toward improvement.

## **GRAY COUNTY**

Gray County is located east of Amarillo in the Texas Panhandle. The county covers 921 square miles and is primarily rural. The county seat and largest city is Pampa, home to approximately 80 percent of the county's population of 27,100 in 1985. Pampa is the location of most of the manufacturing in the county, including Celanese, a chemical producer, and Cabot, a producer of carbon black.

### **Risk Description**

Four major transportation routes run through downtown Pampa: U.S. Highway 60, state highways 152 and 70, and a segment of the main line of the Atchison, Topeka, and Santa Fe railroad from Chicago to Los Angeles. Thirty-five to forty trains travel daily past the main fire station, city hall, and the county courthouse. The city does not have any ordinance regulating train speed through town.

The major fixed-facility companies in Pampa are Celanese, Cabot, and IRI, a drilling rig manufacturer and occasional gun barrel producer for the U.S. Department of Defense. Various oil-related and petroleum-service industries are also located in Pampa as are several propane and butane manufacturers. A Phillips Petroleum processing plant

is located in Borger, about 30 miles away. In addition, Pantex, the final assembly site for nuclear warheads, is located 45 miles west on the road to Amarillo. The warheads are transported from Pantex by rail.

### Planning

Emergency management and response planning for Pampa and Gray County as a whole is done on a community-wide basis through Pampa's CAER committee. The chairperson for this committee is also the director of environmental and emergency management in Pampa.

The CAER committee, an idea that emerged originally from a meeting in the spring of 1985 between a representative of Celanese and the director of emergency management, oversees planning for all types of emergencies. The city manager authorized the director to explore the CAER program further, resulting in the development of a city, county, and industry team designed to coordinate emergency planning. From this team, additional governmental units, utilities, and industries were approached concerning the city's desire to begin mutual aid and information sharing throughout the county. A steering committee was formed in January 1986, and planning began in the following areas: agency review, community review, risk assessment, internal communications, public affairs, training, and documentation and publications. Pampa's city council has since recognized the CAER committee as the city's Emergency Management Council. Because government, industry, education, health, the media, and private citizens participate in the CAER program, the members believe that true community planning is realized.

The CAER committee uses the planning guide and annex outlines prepared by the Division of Emergency Management of the Department of Public Safety and modifies them as necessary to reflect Pampa's circumstances. When developing an annex, the agency that will lead the implementation is given the responsibility of preparation. For example, the police department representative headed the subcommittee that wrote the warning annex. It submitted the annex to the Agency Review Subcommittee. The subcommittee reviewed the annex for clarity and feasibility. Once approved, the annex became part of the emergency management plan. The steering committee also reviewed it at its subsequent quarterly meeting.

An important aspect of the emergency management plan is its information-gathering requirements. Industries turn in MSDSs to the fire department, which in turn directs them to the Hazardous Materials (Hazmat) Team. This team files the sheets and cross-references them by address and business name. In the event of a fire, the sheets are pulled and taken by the team to the site. The city hoped to have computerized this information by January 1988 and also considered purchasing chemical identification software.

A member of the Hazmat Team accompanies the fire marshall (not connected with the fire department) on all annual inspections of local businesses. His purpose is to draw a floor plan of the premises and identify the location and type of chemicals stored, used, or manufactured on the premises for the fire department's files. The members of the team also inform businesses of Title III requirements and offer assistance in drawing up contingency plans and filling out MSDSs.

The help that the Hazmat Team offers is an example of the cooperative philosophy that is the basis of the CAER committee's work. In developing the committee and plans with local businesses, mutual cooperation, information-sharing and aid rather than heavy-handed enforcement have been stressed.

Community-wide participation and cooperation in Gray County seem to be successfully established for no business has ever refused to let a Hazmat Team member carry out an inspection, nor has any business failed to turn in MSDSs when requested to do so. The example of the coordination carried out by the CAER committee happened during 1986 when the railroad company, which had steadfastly refused to cooperate with the city or committee, had four derailments in the county. Following standard policy, the railroad did not notify city officials. A reporter who happened by the scene notified the city. Later, railroad representatives were invited to a CAER meeting where they faced both city officials, who have the power to regulate train speed through town and shut down train operations, and business people representing some of their main customers. The CAER committee is the only organization in the panhandle with whom they can participate in the area of emergency planning. An even more concrete example of the community's close cooperation is the contribution of over \$20,000 by Celanese and Cabot to the city to purchase a new foam truck it could not have afforded otherwise.

### **Response and Training**

Two goals underlie Pampa's primary response plan: 1) collection of the data and information necessary for the responders to act quickly, and 2) containment of an incident without (further) injury or death.

In incidents at a major plant site, such as Celanese or Cabot, the plant officials are in charge while the fire department helps them as requested. In a rail incident, the rail company is in charge. Given the distance between Amarillo and Pampa, however, the fire department would be in charge during the time it would take for railroad representatives to arrive.

Inside the city limits, the senior fire official present has on-scene authority with the police acting in a supplementary capacity to evacuate residents, secure the area, control the crowd, and communicate with other agencies. Outside the city, the DPS is recognized as the on-scene authority, although it has never carried the authority to the extent of directing the fire department's activities.

All Pampa firefighters receive 40 hours of hazardous materials training, focused predominately on identification. In addition, the city has a system of cross-training to maximize every dollar spent on training. Different members of the Hazmat Team attend training sessions such as those sponsored by the National Fire Association and Texas A&M University and subsequently train the other members of the team or fire department. More senior officials who attend training courses, such as those sponsored by the Division of Emergency Management, also transfer new skills or knowledge to their colleagues or departments. Celanese regularly invites firefighters to attend training sessions offered to the plant's own emergency response team.

Such cross-training is not limited to the fire department since Pampa's Hazmat Team is a joint fire-police effort. The police members of the team participate in all

drills and exercises with fire department members. The involvement of police officers on the Hazmat Team has developed an increased awareness of hazardous materials in the entire police force. Most officers have taken the identification course offered by the fire department, and every patrol car carries the U.S. DOT placard identification book. Because they are more aware of the potential dangers, patrol officers responding to an incident call the Hazmat Team in cases where they suspect hazardous materials involvement. As additional backup, one police member who is part of the team is on duty each shift.

The city holds one major annual exercise and drill every quarter year, which tests one aspect of the plan such as communications. The results of the exercise are reviewed, and the plan is revised if necessary. Emergency teams from surrounding major industries participate in all city drills and exercises.

### **Title III and the LEPC**

The LEPC in Gray County is a recently appointed subcommittee of the CAER committee; the committee has begun work on a hazardous materials route around the city of Pampa. It hopes to limit hazardous materials shipments through the city to pick-up and delivery. The CAER Committee will submit its present plan as the LEPC plan. It believes that its present cooperative efforts and community awareness program as well as the plan itself meet or exceed all Title III requirements.

### **Additional Concerns**

The CAER committee works well for the most part. There are minor difficulties with the size of the steering committee (over 20 members) and some of the subcommittee functions. For example, the public relations subcommittee has not met in over a year. These difficulties, however, are seen as the price of successfully including a large base of interested groups. Members of the CAER committee believe that problems can be worked out within the present system. Pampa officials have worked hard to avail themselves of whatever state and federal aid is available; persistence has allowed the city to obtain training and funding it was not qualified originally to receive. More resources for ongoing fire department and Hazmat Team training are always needed, of course, but the city feels that its relationship with state and federal agencies is good. Moreover, city officials spoke highly of the help offered by the Division of Emergency Management at the DPS.

## **HARRIS COUNTY**

Harris County is located in southeast Texas in the Coastal Prairie Region. Harris County covers 1,734 square miles and is one of the most densely populated in the state, ranking third among all U.S. counties in population. In 1985, the estimated population was 2,794,700. While little of the land area of the county is incorporated, over two million people reside in these areas. The largest city and the county seat is Houston, which accounts for approximately 50 percent of the county's population.

## **Risk Description**

Harris County is subject to all forms of hazardous materials transportation risks: highway, pipeline, rail, marine, and air. Numerous arteries cross the county, in particular, highways 45 and 10. Smaller ground transportation routes and the public road system totals 11,785 miles. In addition to the highway system, 14 main and 2 branch rail lines carry freight through the county. The county is serviced by two major airports, Houston Intercontinental and William P. Hobby Field, and 18 lesser airfields and airparks. Harris County is also serviced by the Houston Ship Channel with 1981 traffic totaling over 100 million short tons.

The county is inundated with chemical and petrochemical industries, particularly along the Gulf Coast and the ship channel. The county hosts some of the world's largest oil storage and refining installations, along with vast manufacturing complexes producing plastics and synthetics, paints, oil-field machinery, iron and steel forging, and other heavy industry.

In 1987, there were a total of 594 reported hazardous materials incidents, 512 of which actually involved hazardous materials. Hazardous material emergencies during transportation accounted for half of the total emergencies in 1987. Highway incidents topped the list with 251 emergencies, down from 331 the previous year. Emergencies on major freeways experienced a decrease of about 15 percent from 140 in 1986. Pipeline, rail and marine incidents were 75, 15, and 8 respectively. One incident involving air transportation was reported in 1987.

The Hazardous Materials Response Team in Harris County handled some 167 different chemicals in 1987, down slightly from the 179 in 1986. The most frequently handled chemicals were natural gas (194) and gasoline (148).

## **Planning**

Emergency response planning is coordinated within the 26 jurisdictions in the county. In the unincorporated areas, 62 volunteer fire departments are the nucleus of all emergency response plans. In the incorporated areas, the fire departments are the central agency responsible for emergency response planning. Recently, the Harris County Sheriff's Department began to establish an Emergency Operations Center (EOC) to coordinate emergency response in the unincorporated areas. The sheriff's department is in the process of compiling its annex Q for the county.

The Hazardous Materials Response Team of the Houston Fire Department is the depository for data submitted in compliance with the new Texas Hazardous Communication Act and the registration of PCB transformers required by EPA.

The City of Houston has an ordinance that restricts the transportation of hazardous materials within Loop 610. The ordinance limits the quantity and types of hazardous materials that can travel through the downtown area and the times that materials can be transported within the loop.

In August of 1986, the Houston's Disaster Plan and the procedures of many of the city departments were evaluated by the federal EPA. The EPA created the scenario, a hazardous materials transportation accident, that involved the Texas Water

Commission, U.S. Coast Guard, CHEMTREC, National Response Center, EPA's Technical Assistance Team, an on-scene coordinator from the regional office of EPA in Dallas, the Harris County Flood Control, Life Flight, and two hospitals, in addition to the usual city departments. The major deficiency cited during the exercise was the overdependence on the Hazardous Materials Response Team for too many functions.

### **Response and Training**

Within the county there is one specifically designed Hazardous Materials Response Team, located near the eastern limits of Houston near the docks, several large rail yards, and the major industrial area. The location of the unit requires extended response times to incidents in the western portion of the county. Although a lack of funds kept the team from participating, it was recently picked as one of the units in the nation to test CHEMTREC's new Hazard Information Transmission Plan. The free service furnishes chemical data on hard copy at the scene of an emergency and ends the problem of how to accurately record the volume of critical information given by CHEMTREC verbally over the telephone.

The sole Hazardous Materials Response Team in the county may be called upon by any of the jurisdictions in the county for assistance. On-site industrial accidents are usually handled by the facility concerned. All of the larger industrial facilities have their own Hazmat Emergency Units and in most cases have been able to control on-site incidents without outside aid. For further assistance, there is a Channel Mutual Aid Agreement with the industries along the ship channel to assist each other in the event of an incident.

All 911 emergency dispatch calls are monitored at the EOC, which contacts the appropriate agencies in the event of a hazardous materials incident. No county-wide emergency warning system exists now, however.

The county has one functional emergency exercise each year. Response personnel are trained both by the county in classes held at the police and fire academies and by the state at sponsored training events. Furthermore, industry in the county provides training for local first responders and financial support for planning activities. In the past, industry has purchased computerware and response equipment for various communities.

### **Title III and LEPC**

Within Harris County there are 33 LEPCs, each responsible for coordination and planning in its jurisdiction. Prior to the LEPCs, a CAER system operated in the county; it subsequently has been incorporated into SARA and the LEPCs.

While officials in Harris County believe the intentions of Title III to be good, it was noted by several of the agencies responsible for hazardous materials planning that the law does not take into account the level of activity already going on in local communities. Harris County felt secure prior to SARA Title III and finds compliance with the new requirements difficult from both a personnel and organizational point of view. The county does not have resources available that would allow it to utilize fully the information it is required to collect. Nor does the county feel that the

information required by Title III will benefit emergency response and planning over and above the pre-Title III level.

### **Additional Concerns**

Officials in Harris County responsible for hazardous materials response note that the biggest challenge is involving smaller privately owned businesses in response planning and persuading them to comply with the requirements of the laws.

The second biggest problem cited is budgetary. Title III requires the accumulation and storage of vast amounts of information and data from industry, which must be computerized to be useful. At present, new computer equipment is not in the budget for the Hazardous Materials Response Team. In addition, a public warning system is not currently in use for the county.

## **HARRISON COUNTY**

Harrison County is located in northeast Texas and is bordered by Louisiana on the east. The county covers 908 square miles and is located in the Piney Woods area of Texas. The county had an estimated 1982 population of 55,500 and is experiencing a continuation in growth. The city of Marshall, the county seat and the only major population center of Harrison County, had a 1982 population of 24,921. Harrison County's economy is primarily based upon the natural resources found within its boundaries, consisting primarily of ceramic clay, copper, oil, gas, and lignite coal. Harrison County also produces timber and agricultural commodities. Roads and transportation within the county include 1,457 miles of public roads and four main and one branch rail lines that carry freight through the county.

### **Risk Description**

In assessing the hazardous materials risk in Harrison County and the city of Marshall, the focus is concentrated on the different transportation modes and routes. Several fixed facilities are located in Harrison. The county has received good cooperation from industry, however, in reducing its potential for problems. The major highways that travel through Marshall are State Highway 43 and U.S. highways 80 and 59. Interstate Highway 20 passes just south of the city. Highway 59 is of most concern, for it originates on the Gulf Coast and carries traffic transporting hazardous materials to and from the industries located there. A recent informal survey done by the Marshall fire chief at the intersection of highways 59 and 80 found that an average of 244 trucks per hour carry hazardous materials.

Another area that is of concern to the county and the city is rail transportation. Several major lines carry hazardous materials; the regularity, volume, and toxicity of the chemicals both on the roadways and rail lines are not known for certain.

As noted, several fixed facilities are located in the county and city. The major facility is Texas Eastman, located in western Harrison County on the Gregg County line. This facility uses and produces hazardous materials and presents a challenge to both counties in planning for potential incidents.

## **Planning**

Harrison County has a county-wide emergency response plan in operation, established by the East Texas Council of Governments. The county judge heads the plan, but the routine implementation of the plan is the responsibility of the county fire marshal. The major actors within this plan are the city and county fire and law enforcement departments, the county judge, industry, and the public. The plan relies upon law enforcement officers to contain and evaluate a hazardous materials incident and upon the fire departments to control the actual physical responsibilities.

Several mutual-aid agreements exist within the plan, although most are on an informal basis. The principal formal mutual aid agreement is between Harrison and Gregg counties while informal agreements also exist between the county and the City of Marshall. The plan does not include informational databases, although county officials do have access to industry databases. The general public plays a small role in the planning process; an increased role has been observed as a result of Title III.

The primary goal of the Harrison County plan is to protect lives and property. It does not have the capacity at the present time, however, to control a serious hazardous materials incident, for it relies essentially on field personnel to contain and control short-term emergencies. Recognizing this, officials in the county are more concerned with immediate protection; they would prefer that the relevant professional experts eliminate any major problem.

Coordination between Harrison County and the state is very good; pertinent information is getting to the most appropriate level. The state agencies that the county deals with on a regular basis are the Department of Emergency Management (DEM) in the DPS and the Railroad Commission.

Another major component of the county's hazardous materials planning is the future routing of these materials. Within the next decade, Harrison County will have completed a highway loop around the city of Marshall. Once completed, enforcement of city ordinances will be strengthened to keep hazardous materials out of the city limits of Marshall. This action will reduce the risk of exposure to dangerous chemicals and materials for a large segment of county citizens.

## **Response and Training**

The county has one paid and six volunteer fire departments. It also has 53 commissioned officers under the county sheriff and a combined force of 52 officers from four police departments. In the case of an actual spill in the county, which has happened on two occasions, the on-scene coordinator is the county sheriff. Within Marshall, the on-scene coordinator is the fire chief.

The OSCs are responsible for evaluating the situation and making sure that the appropriate resources are brought to the scene. The leading consideration of the Harrison County plan is to protect lives, thus public warning is the first action taken by the OSC. Only then is the plan consulted to assess what types of resources are available and how best to coordinate individuals to control and contain a potentially dangerous situation.

Emergency response personnel in Harrison County are trained predominately through cooperation with industry. The county has received tremendous cooperation from Texas Eastman and other industry and receives much of its training and information from these facilities. The six volunteer departments in the county attend industry- and railroad-sponsored training sessions. They are trained to the extent that they can recognize and evaluate situations; the actual containment is executed primarily by the experts for that particular condition.

The City of Marshall trains its emergency response personnel in the fire department through the use of visual aids and in-house training sessions. It does not take advantage of the industry- and railroad-sponsored sessions. The foremost reason for the limited training at both the county and city levels is a lack of hazardous materials equipment.

### Title III and LEPC

The LEPC for Harrison County has not been formed at the present time, although the committee that developed the emergency response plan has been proposed to the state to operate as the LEPC. Officials in Harrison County have not had any problems getting people to serve on this committee. The LEPC, as perceived by the county, serves a coordination function and, once established in Harrison County, is anticipated to be beneficial in getting industry and government to cooperate with each other. LEPC liability is not anticipated to be a problem.

Harrison County has not found Title III burdensome up to this point; the paper work, nevertheless, is extensive. Officials in Harrison County feel that Title III will be beneficial in the long run and that it will aid in dealing with the enormous issue of hazardous materials.

### Additional Concerns

The needs and perceived problems as stated by both county and city officials are several. The principal necessity is for equipment to better handle hazardous materials situations. To improve the public warning system, a siren system is needed. Money to remedy both of these deficiencies is now being budgeted. A potential problem is the reporting requirements under Title III that do not include hazardous chemicals that may be newly produced by a facility.

### TRAVIS COUNTY

Travis County is home to a 1985 estimated population of 533,200 and covers 989 square miles northeast of San Antonio on Interstate Highway 35 in the Blackland Prairies Region of central Texas. The county, one of the most densely populated in the state, has grown continuously since 1960. It is spanned by 2,945 miles of public roadways and contains nine incorporated communities and 42 unincorporated communities.

Austin, the Travis County seat and the capital city of Texas, is located on the Colorado River. It is the fourth largest Standard Metropolitan Statistical Area in the

state, with a population exceeding 500,000 individuals. The city is the site of the main University of Texas campus, a number of smaller institutions of higher education and two military installations. Area industries include manufacturers of furniture, plastics, computers, radio and television communication equipment, semiconductors, as well as book publishing and commercial printing.

### Risk Description

Austin's risk of transportation accidents is associated mainly with railroads and highways. The Southern Pacific Railroad travels the length of the city close to its center. This rail line crosses IH-35 near a major shopping center and borders another major shopping center and a chemical plant at another point. The Missouri Pacific Railroad enters Austin near the main power plant, angles west and runs north along Loop 1. In addition, the line passes through a chemical plant and runs along Shoal Creek, a major waterway in the western part of Austin. Both of these rail lines carry various liquefied or gaseous toxic, corrosive, and explosive materials.

Three major highways provide transportation routes for similar cargoes. IH-35 bisects east-to-west through central Austin. U.S. Highway 183 runs through east Austin, then turns west and north, traversing industrial and residential areas. Loop 1 runs parallel to the Missouri Pacific Railroad line and then joins Highway 183 in northwest Austin. Other highways enter the city at various points and join these or other thoroughfares to create a complicated system of intersecting and conjoining routes through and around Austin. Two airfields located in Austin, Robert Mueller Municipal Airport and Bergstrom Air Force Base, provide additional risk.

Finally, two facilities complicate Austin's response to hazardous materials incidents. Brackenridge Hospital, with the city's most fully staffed emergency room and trauma center, is located along IH 35. Winds carrying fumes or gases towards the hospital from a nearby accident could necessitate the evacuation of the facility. A portion of the University of Texas campus, including a sports complex, is also located along IH 35. The university has no internal campus warning system to communicate warning or evacuation information from the city.

### Planning

Emergency response planning and coordination are the responsibility of the Emergency Management Office (EMO) of Austin. The EMO runs the Emergency Operations Center (EOC) which supports on-scene activities, keeps city officials informed of the situation and actions being taken, serves as the information source for the media, and provides information and advice to citizens. The EOC is composed of officials representing all agencies involved in the response procedure corresponding to the nature and severity of the situation. The EMO produces the emergency response plan that covers basic planning concepts, the use of the EOC, agency responsibilities and powers, and the implementation of emergency response procedures. The EMO also publishes and distributes a citizen information packet describing procedures to follow in various emergencies.

The concept underlying Austin's emergency response plan is that the effects of an emergency are more important than the cause of the emergency. Accordingly,

injuries to people or damage to facilities and equipment are addressed in the same manner regardless of the factors that have caused the situation. Furthermore, Austin's goal is the development of basic procedures and operations that can be applied to all emergency and disaster situations. These procedures are outlined in operational plans developed for disasters such as floods, tornados, or hazardous materials incidents.

Operational plans are developed with consideration of existing response capability. The acquisition of additional resources or expanded capability can result in the refinement of the operational plans. The development of these plans is coordinated by the appropriate agencies.

Finally, continuous coordination and communication is essential to effective emergency response in Austin because no particular agency is authorized to take command on the scene of an emergency. On-scene command is shared by a team of the agencies involved. An agency officer can place some or all resources under the control of another agency but, in general, officials rarely command other agencies' forces.

### **Response and Training**

The Austin Fire Department (AFD) is the primary response agency for hazardous materials incidents. A specific Hazardous Materials Division of the department with four hazardous materials units is on duty 24 hours a day. Primary response is provided by Austin to the surrounding areas through mutual aid agreements with volunteer fire departments.

The AFD has three hazardous materials vehicles, located in north Austin, in south Austin, and at Mueller Airport. These sites were determined by the presence of fixed facilities and their proximity to major transportation routes. Hazardous materials vehicles have a direct radio link to the EMO to receive information from automated chemical identification and response procedures systems. In the near future, computer equipment capable of regenerating graphs of probable plume paths may be available for the trucks. Currently, each truck has a microfiche reader and a microfiche library that provides information for each of 500,000 chemicals compiled from the MSDSs submitted by area businesses in response to the city's ordinance covering fixed facilities.

While the AFD is Austin's primary response agency, the city recognizes that the city police department will usually be the first authority to arrive at the scene of a hazardous materials transportation incident. Police officials therefore assume control of the situation until the hazardous materials response units arrive.

Austin firefighters take a course in hazardous materials response during their general training. In the past, the Austin fire department participated in training conducted by a variety of public institutions and private organizations. This year, however, only a few firefighters will be sent to a National Fire Association training program because of a lack of funds for more extensive exposure.

In addition to regularly scheduled training, Austin's Emergency Management Office holds a major training exercise each year. All affected agencies participate in the response to a simulated disaster. Private industry is included because of its

potential for major emergencies and because it can provide resources essential to a successful response effort in some situations.

### Title III and LEPC

At this time, the Travis County LEPC has not been appointed. Officials believe that Austin's current ordinances are sufficient to comply with Title III requirements. Compliance with monthly training requirements, however, will be difficult for smaller communities in the county.

### Additional Concerns

In general, major problems for Austin's emergency planning and response system are related to training, on-scene jurisdiction issues, a lack of necessary equipment, and a lack of enforcement authorization. Specifically, inadequate funding prevents firefighters and police officers from obtaining additional hazardous materials response training. On-scene coordination appears to be complicated by the lack of a clearly designated on-scene command agency. For example, the AFD has the authority to order a neighborhood evacuated, but it has no authority to issue orders to police or Emergency Medical Service personnel, who may endanger themselves or others in a situation involving materials about which they have little information. It should be noted, however, that Title III requirements regarding on-scene command will probably correct this problem.

Simple equipment such as binoculars that can be used to identify placards from a distance and descriptive placard identification materials are not routinely provided in the Austin police department's patrol cars. Furthermore, the police department does not have any specially equipped hazardous materials units.

## **Sources**

**Unless otherwise indicated, all interviews were conducted between November 3-23, 1987.**

### **BRAZORIA COUNTY**

**John Damon, County Judge, Brazoria County.**

**Richard Gutzman, LEPC Chairman, Brazoria County.**

**Joe King, County Sheriff, Brazoria County Sheriff's Department.**

**Tim Scott, Public Relations Manager, Dow Chemical, Angleton.**

**Greg Wilkinning, Process Engineering Director, Phillips 66 Company, Angleton.**

### **CALHOUN COUNTY**

**"1987 Emergency Management Plan for Calhoun County including the Cities of Point Comfort, Port Lavaca, and Seadrift," Emergency Management Office, Calhoun County, Texas.**

**Chief Joe Pena, Port Lavaca Police Department.**

**Chief Stringham, Port Lavaca Fire Department.**

**Mr. W.R. Billy Zworschke, Director, Emergency Management, Calhoun County.**

### **CAMERON COUNTY**

**E.G. Lantz, LEPC Chairman, Cameron County.**

**Domingo Ramirez, Emergency Management Coordinator, Cameron County.**

**Ray Tamayo, Director, Medical Services, Brownsville.**

### **COLEMAN COUNTY**

**John Baugh, Assistant County Emergency Management Coordinator and LEPC Chairman, Coleman.**

**Billy Don Faries, Police Chief, Coleman.**

**Roy McCorkle, City Manager and County Emergency Management Coordinator, Coleman.**

**Joe Watson, Fire Marshall and Fire Department Supervisor, Coleman.**

## **DALLAS COUNTY**

**Dr. Elizabeth Todd, County LEPC Chair, Institute for Forensic Sciences, Dallas.**

**"Emergency Operations Plan," City of Dallas Internal Document, Dallas, Texas.**

**Barbara Block, Office of Emergency Preparedness, Dallas.**

**John Pickett, Office of Emergency Preparedness, Dallas.**

**"Routes for Hazardous Materials Carriers," City of Dallas, Dallas. (Brochure.)**

## **ECTOR COUNTY**

**Sgt. R.A. Clark, Odessa Police Department.**

**Johnny L. Hodges, Director Safety/Security, El Paso Products, Odessa.**

**Sgt. K.B. Jones, Odessa Police Department.**

**Patricia J. MacAllister, LEPC Chair, Deputy Emergency Management Coordinator, Ector County.**

**Susan K. Thorpe, Emergency Management Coordinator, City of Odessa.**

**Dale Welch, Training Chief, Odessa Fire/EMS Department.**

## **EL PASO COUNTY**

**L.C. Aceves, Lieutenant, Patrol Division, El Paso County Sheriff's Department.**

**Beverly Bogle, El Paso County LEPC Chair, Health Engineer, El Paso City-County Health District.**

**John E. (Jack) Parks, Coordinator, El Paso City & County Office of Emergency Management.**

**Jim Rice, Environmental Scientist, ASARCO, El Paso.**

## **GRAY COUNTY**

**Don Copeland, Trooper, Licenses and Weight Division, Texas Department of Public Safety, Pampa.**

**Joe Duncan, Texas Highway Department, Pampa.**

**Robert Eberz, Chief of Police, Pampa.**

**Ray Fisher, Assistant Fire Chief, Pampa.**

**Hazardous Materials Team. Interviews with team members, Pampa.**

**Larry Hollis, News Editor, Pampa News, Pampa.**

**Jim Howard, Area Supervisor, Rural/Metro Corporation (Gray Co. EMS), Pampa.**

**Rufus Jordon, Gray County Sheriff, Pampa.**

**C. L. Penalber, Manager, Regional Freight Office, Atchison, Topeka, and Santa Fe Railway, Amarillo.**

**Jim Powell, Sergeant, Texas Highway Patrol, Texas Department of Public Safety, Pampa.**

**J. L. Rainey, Trainmaster, Atchison, Topeka, and Santa Fe Railway, Amarillo.**

**J. D. Ray, Fire Chief, Pampa.**

**Bob Russell, Captain, District 5, Texas Department of Public Safety, Amarillo.**

**Steve Vaughn, Emergency and Environmental Management Director, Pampa.**

**Issa Zouhari, Production Supervisor, Cabot Corporation, Pampa.**

## **HARRIS COUNTY**

**Captain K. W. Berry, Harris County Sheriff's Department.**

**District Chief Max H. McRae, Hazardous Materials Response Team, Houston Fire Department.**

## **HARRISON COUNTY**

**Mason Dement, County Fire Marshal's Office, Marshall.**

**J. T. Holmes, City of Marshall Fire Chief, Marshall.**

**Max Sandlin, County Judge, Harrison County Court House.**

## **TRAVIS COUNTY**

**Richard Brumbelow, Battalion Chief, Hazardous Materials Division, City of Austin Fire Department. October 1987.**

**Charles Harrison, Director, City of Austin Emergency Management Office. September and October 1987.**

**Ociel Nava, Chief, Plans and Administration, City of Austin Emergency Management Office.**

**Royal G. Wilson, Captain, City of Austin Police Department, Traffic Patrol Administration Section. Personal interview, October, and telephone interview, November 1987.**

**Staff members of the Travis County Judge William Aleshire. Telephone interview, November 1987.**

**Notes**

1. Unless otherwise indicated, county statistics come from 1988-89 Texas Almanac and State Industrial Guide, (Dallas: Dallas Morning News, 1988).
2. TransCAER is a CAER program specially focused on transportation.
3. For an explanation of annex Q, please refer to chapter three, p. 49.
4. Odessa Planning Division 1986 Census.



## **Appendix B. Local Emergency Planning and Response Questionnaire**

### **A. RISK DESCRIPTION**

1. Are there any special geographic or demographic factors that affect your planning (e.g. industry clustered in one spot)?
2. What transportation routes pass through here? Please describe them (e.g. railroad north-south through town) and how they affect your community's planning.
3. What fixed facilities are present (railroad yards, pipelines, plants, etc.)? How do they affect your planning?
4. What kinds of materials and chemicals are present on these routes and in these facilities (include volumes/amounts, toxicity, etc.)?
5. Are there any other characteristics of this community that affect your needs or capabilities in the area of emergency response (e.g. hospital with special burn unit, reservoir near facility, superfund site, etc.)?

### **B. PLANNING/PREVENTION**

1. Please describe your current planning structure. Specifically, who is involved (police, fire, EMS, DPS, etc.) and what is their role in the planning process?
2. Does planning occur only within the community or are there regional or county-wide plans?
3. Does this community have a written emergency response plan? Does it have one specifically for hazmat situations? What is the goal of the plan? That is, is the goal to protect lives and property or do you have the capability to do more, such as trying to control the situation?
4. Who is responsible for developing the plan? How is coordination between agencies achieved? Is any one person or agency primarily responsible for the plan and for coordinating response?
5. How often is the plan reevaluated or revised?
6. If the plan includes mutual aid with other communities or organizations, how are responsibilities divided? Do you have formal written agreements with them or are these informal understandings?
7. Do you collect any hazmat data (e.g. require local plants to provide lists of chemicals or Material Safety Data Sheets)? Specifically, do you collect the data required by Title III? If you do, how do you use it in your planning? If you don't, why not? Do you feel it would be useless or cumbersome?

8. What types of information systems do you use (chemical identification, plume-plotting, etc)? Are they manual (chemical handbooks) or automated? If automated, what software do you use (CHARM, CAMEO, etc)? What hardware do you use (microcomputer, minicomputer, mainframe)?
9. What types of hazmat incident/accident data do you maintain? How do you use it? Do you have access to state databases (from the Texas Water Commission, DPS, or Railroad Commission)? If you do, do you regularly request and use this information? Do you send in reports and information as required by these agencies (e.g. the form required by the DPS to be filled out at an accident site)?
10. What role does the public play in planning, if any? How is the public informed in an emergency situation? Would people know what to do if an evacuation were ordered? Is there a general public information program concerning public safety in emergency situations (e.g. storm, flood, etc)?
11. Do you coordinate any of your planning with state or federal authorities (e.g. DPS, Railroad Commission, Water Commission)? If you do, what have you found helpful? Unhelpful? If you don't, why not? What kind of useful information or help could you use from them?
12. Do you think too much responsibility is being placed on communities? Are there problems and constraints that the state is not taking into account when they ask for plans? Do you think the state should be more active in your planning process?
13. What do you see as the community's primary responsibility for planning emergency response? Do you think it should be expanded?
14. House Bill 1353, which was passed this past session, mandates reporting spills to DPS. Who is responsible for the reporting, and how is it done?
15. Does this community have any accident prevention programs or policies (these can include enforcement and/or public awareness programs)? Specifically, does this community have hazardous materials storage/transportation ordinances that would allow civil or criminal charges to be filed against violators? How are the Federal Motor Carrier Safety Regulations being enforced?

### C. TRAINING/CERTIFICATION AND RESPONSE CAPABILITIES

1. What sources or types of training for first responders do you have? Do you believe enough people are being trained in your community? What other resources for training do you believe are necessary or would be helpful?
2. Will anyone from your community be attending courses relating to the enforcement of FMCSR and resulting in certification by DPS? Does the community have the resources to send them to the courses? What more do you think the state could do to help ensure that local responders are adequately trained?
3. How often are local or regional training exercises/dry runs held? What have been the results? Are they useful in planning response?

- 4. What resources does the community have (e.g. foam trucks, CAMEO, public warning system) to use in a hazmat emergency situation?**
- 5. How are emergency response resources allocated throughout the community (e.g. hazmat unit near railroad yard)? How are resources allocated among agencies (i.e. which agency has data on chemicals--only fire or fire and police)?**
- 6. Who has on-scene authority in an emergency?**
- 7. Has this community had hazmat incidents in the past? How have your experiences influenced your planning and training?**

#### **D. TITLE III AND THE LEPCs**

- 1. What do you know about Title III and its requirements?**
- 2. Given what you know about it, how do you think it will affect your community? Will it be helpful? Will the public care?**
- 3. Has this county's LEPC been established? What kind of jurisdictional boundaries were made (sub-county, county-wide)? Are you (this agency) involved in the committee and its planning? If it has not been established, when do you think it will be?**
- 4. Given that this county has established an LEPC, is emergency response planning being reevaluated or changed? How? What existing infrastructure components will be used in implementing Title III?**
- 5. Does the State Emergency Response Committee (SERC) approve local standards under Title III?**
- 6. How are committee members chosen? Is greater citizen involvement in planning a positive or negative change or no change at all?**
- 7. Has this LEPC considered the liability issue? What are your thoughts, suggestions concerning liability?**
- 8. Do you see the LEPC's responsibility as providing inputs or planning or both? What do you believe is the LEPC's primary responsibility?**
- 9. Under Title III, written incident/accident reports are required to be filed with the LEPC. Do you have any plans for how you will use this information (e.g. developing safety ratings of local facilities based on their incident profile)?**
- 10. Is this LEPC working with local industry to help them comply? What steps are you taking?**
- 11. What do you see as the LEPC's strengths and weaknesses?**

12. In your opinion, how much time and effort will be needed to make Title III effective and worthwhile? Is Title III an important issue for localities, or does it belong at the state level?
13. Are you finding Title III requirements burdensome? What could the state do to reduce these burdens? Are there limitations in your locality that you think might prevent full compliance and/or full effectiveness of Title III requirements?

#### E. COMMENTS

Are there any other comments or observations you would like to make concerning hazardous materials transportation risks, emergency planning, or Title III?

## **Appendix C. List of Acronyms and Abbreviations**

<b>ACD</b>	Automatic Call Distribution
<b>BEA</b>	Bureau of Economic Analysis
<b>CAER</b>	Community Awareness and Emergency Response
<b>CAMEO (TM)</b>	Computer Aided Management of Emergency Operations
<b>CAN</b>	Community Alert Network
<b>CFR</b>	Code of Federal Regulations
<b>CHEMTREC</b>	Chemical Transportation Emergency Center
<b>CIS</b>	Chemical Information System
<b>CMA</b>	Chemical Manufacturers Association
<b>CMV</b>	Commercial Motor Vehicle
<b>CP</b>	Command Post
<b>CPO</b>	Central Permit Operations
<b>DEM</b>	Texas Department of Emergency Management
<b>DOT</b>	U.S. Department of Transportation
<b>DPS</b>	Texas Department of Public Safety
<b>ERG</b>	Emergency Reponse Guidebook
<b>EMO</b>	Emergency Management Office
<b>EOC</b>	Emergency Operations Center
<b>EPA</b>	U.S. Environmental Protection Agency
<b>FEMA</b>	Federal Emergency Management Agency
<b>FHMR</b>	Federal Hazardous Materials Regulations
<b>FMCSR</b>	Federal Motor Carrier Safety Regulations
<b>FRC</b>	Federal Railroad Commission
<b>HB</b>	House Bill

<b>HMTA</b>	<b>Hazardous Materials Transportation Act</b>
<b>ICC</b>	<b>Interstate Commerce Commission</b>
<b>LEPC</b>	<b>Local Emergency Planning Committee</b>
<b>LPG</b>	<b>Liquified Petroleum Gas</b>
<b>MCSAP</b>	<b>Motor Carrier Safety Assistance Program</b>
<b>MSDS</b>	<b>Material Safety Data Sheet</b>
<b>OSC</b>	<b>On-Scene Coordinator</b>
<b>OSHA</b>	<b>Occupational Safety and Health Administration</b>
<b>PMVI</b>	<b>Periodic Motor Vehicle Inspection</b>
<b>RRC</b>	<b>Texas Railroad Commission</b>
<b>SARA</b>	<b>Superfund Amendments and Reauthorization Act of 1986</b>
<b>SB</b>	<b>Senate Bill</b>
<b>SDHPT</b>	<b>State Department of Highways and Public Transportation</b>
<b>SERC</b>	<b>State Emergency Response Commission</b>
<b>SIIS</b>	<b>Spill Incident Information System</b>
<b>TDH</b>	<b>Texas Department of Health</b>
<b>TERC</b>	<b>Texas Emergency Response Center</b>
<b>TMTA</b>	<b>Texas Motor Transportation Association</b>
<b>TWC</b>	<b>Texas Water Commission</b>



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