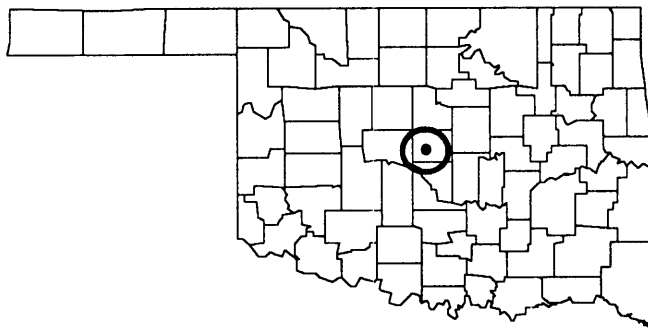

ABOUT THIS BULLETIN

This is another in a series of bulletins EPA is issuing to provide examples of implementation programs and strategies of the Emergency Planning and Community Right-to-Know Act of 1986, known as Title III, that are innovative or have proven effective. The purpose of these bulletins is to share information on successful practices with Local Emergency Planning Committees (LEPCs), State Emergency Response Commissions (SERCs), fire departments, and other Title III implementing agencies throughout the country in the hope that such information will prove useful to other SERCs and LEPCs as their programs develop and evolve.

Elements from the programs featured here may be transferable to other programs in similar communities or with similar situations. The bulletins provide information on a variety of practices — for example, planning, compliance, information management, hazard analysis, and outreach. The particular topics covered in each LEPC or SERC profile are listed at the upper right hand corner of the first page of the profile for easy reference.

The descriptions of the innovative and effective implementation programs and strategies are not exhaustive. They are meant to provide readers with enough information to determine if a particular approach is applicable to their own situation. Each profile includes a contact person who can provide more detailed information.

If you know of Title III implementation efforts that you feel would be of interest to others, please contact your EPA Regional Chemical Emergency Preparedness and Prevention coordinator (see list on the last page) or the Emergency Planning and Community Right-to-Know Information Hotline at 1-800-535-0202, or, in Washington, DC, 479-2449.



LEPC Organization
Compliance
Planning
Information Management
Outreach
Training

Tinker Air Force Base, Oklahoma

LEPC:	32 member Tinker AFB Environmental Protection Committee (representatives of the various tenant and major staff organizations; Chairman: Air Logistics Center Vice Commander)
WORK FORCE:	Over 26,000 military and civilian personnel
FACILITIES:	24, primarily related to aircraft maintenance activities

Tinker Air Force Base (AFB) is located within industrialized Oklahoma County, adjacent to Interstate 40 and Midwest City, which has a population of 55,000. Tinker AFB is one of five Air Force Logistics Centers nationwide, and one of the largest military and industrial complexes in the world. Two hundred and fifty-four acres of floor space are devoted to industrial facilities where the majority of the work force reconditions, modifies, and services military aircraft, missiles, jet engines, accessories, and other military products. Base operations include the largest electroplating facility in the country, with 150 process vats; a 75-vat chemical cleaning facility; two painting and paint stripping facilities; and numerous support operations. Tinker AFB also has an Industrial Wastewater Treatment Plant (IWTP) that treats approximately one million gallons of wastewater daily.

LEPC ACTIVITIES

LEPC Organization. In December 1989, Tinker AFB decided to comply voluntarily with the requirements of Title III in recognition of the value of such efforts to the surrounding community and the importance of strengthening inter-governmental emergency response communication. This determination was consistent with and pursuant to Department of Defense (DOD) policy, which encourages DOD facilities to comply with Title III to the greatest extent practicable. In keeping with the demands of national security arising from its classified operations, the base was designated by the Oklahoma Emergency Response Commission as a separate Local Emergency Planning District within Oklahoma County in February 1990. The Tinker

AFB Local Emergency Planning Committee (LEPC) is comprised of the members of the base Environmental Protection Committee. Upon completion of the contingency planning process, Tinker AFB may serve as an example for the other federal facilities, including other Air Force Logistics Centers, in complying with Title III.

Compliance. The Environmental Management (EM) Directorate serves as the central point of contact for environmental compliance at Tinker AFB, and, in that role, ensures Tinker AFB's compliance with the requirements of Title III. As part of its Title III program, the EM Directorate is responsible for identifying the quantities and locations of all hazardous materials stored and used on the base. For the purposes of reporting under Title III, each building on the base is considered to be a separate facility. Once a covered facility has been identified, designated facility managers are briefed on the Title III program and their compliance responsibilities.

Building 3001, covering 61 acres of floor space, is the largest industrial facility in the world. To survey this facility, a twelve-person environmental compliance team divided the building into five sections for inspection. Extremely hazardous substances (EHSs) present in this facility above their threshold planning quantities include sodium cyanide, potassium cyanide, phenol, sulfuric acid, and nitric acid. The survey of Building 3001 and other facilities on the base provided valuable information for the Tinker AFB Fire Department concerning the storage locations of EHSs, and was used in the development of the Title III emergency response plan. The base has provided the Oklahoma SERC with information on all EHSs that have been identified at the base, and intends to comply with the public access requirements of section 324.

Planning. Prior to its involvement in Title III efforts, Tinker AFB had prepared a spill prevention and response plan addressing many of the hazardous substances contained in its facilities. The base has finalized its Title III contingency plan, which was developed separately from the pre-existing spill prevention and response plan. Now that the emergency response plan has been finalized, the base intends to carry out table-top exercises to prepare surrounding municipalities for coordination of responsibilities in the event of a serious hazardous materials incident.

The base maintains a 24-hour emergency spill response team, composed of safety, health, environmental, fire, and other specialists and headed by the Tinker AFB Fire Department, whose representative serves as the on-scene commander for most spills. The Fire Department also maintains a hazardous materials vehicle, which serves as a Mobile Command Post. This specialized vehicle is equipped with emergency response and decontamination equipment and a Wang lap-top computer which will be linked with the Tinker AFB Title III computer system to retrieve MSDSs and facility-specific information.

Information Management. Tinker AFB is using a locally developed dBase III program to help manage the volumes of data collected by the EM Directorate and present the data in Tier II form for each facility. In the near future, the base will implement the second phase of its data management system, the Chemical Tracking System (CTS), developed by the Tinker AFB Directorate of Communications-Computer Systems. CTS will

incorporate the information currently stored in the dBase system into a more comprehensive structure that contains MSDS information and tracks storage locations of all EHSs. The update system will also contain section 311-312 information for other hazardous chemicals.

Outreach. Information on Title III was provided to Tinker AFB management personnel during the hazardous material inventory survey of base facilities. In addition, the Tinker AFB newspaper, the "Tinker Take-Off," has featured several articles on Title III, the latest describing compact disc information on the chemicals used and stored on the base. Once the emergency response plan is approved, outreach information will be provided to the media in surrounding communities to update citizens on Title III activities at Tinker AFB.

Training. Ongoing training is provided to the emergency response team, as well as to the personnel working in shops that use hazardous chemicals. A number of the response team's first responders have received training from the state fire academy; the others have been trained in conjunction with Oklahoma State University. In the future, there are plans to provide further training for all facility managers, the emergency response team, and other personnel as mandated by section 126 of SARA, which requires that local emergency responders be provided with training in understanding chemical hazards and proper safety procedures. To train these specialists, Tinker AFB plans to take advantage of EPA training courses and to develop in-house training packages, and to coordinate training efforts with nearby LEPCs.

LESSONS LEARNED

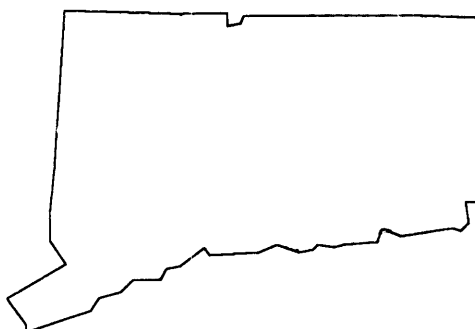
Worker Right-to-Know Coordination Supports Title III. The size and complexity of the task of identifying the hazardous materials for even one of Tinker AFB's facilities posed a difficult task to the EM Directorate. As a result, it was essential to seek the cooperation of the base work force during the course of the hazardous materials survey. At the present time, worker right-to-know efforts are supported by a program designed to reinforce the awareness of the locations and hazards posed by hazardous materials as well as other regulated chemicals, as required under the Occupational Safety and Health Administration's Hazard Communication Standard.

Participation of Federal Facilities is Part of the Title III

Mandate. The determination to voluntarily comply with the reporting requirements of Title III is consistent with DOD policy, which encourages DOD facilities to participate in the Title III program. Furthermore, the base was able to address the national security problems that would otherwise have limited their Title III achievements by establishing its own LEPC. This decision satisfied the SERC because it enabled the emergency planning concerns arising from Tinker AFB to be directly addressed by the base in cooperation with the Oklahoma County LEPC, while still allowing the public around Tinker AFB access to non-national security information. In addition to the identification of chemical hazards at Tinker AFB, this spirit of cooperation between Tinker AFB and the surrounding community will provide expanded and faster access to emergency response resources. Finally, by creating a functional Title III emergency planning organization in three months, the base serves as an example to federal facilities of how management can follow the Title III mandate within the scope of normal operations.

Outreach Magnifies the Benefits of Emergency Planning. The Title III program at Tinker Air Force Base has been instrumental in focusing emergency planning efforts on EHSs. These planning efforts are addressing off-site impacts and have led to better cooperation with state and local authorities on common emergency response and preparedness concerns. Awareness by neighboring communities and local government officials of this vital, comprehensive program will enhance the success of the program, and assure the public that Tinker AFB officials are fully aware of their responsibilities and are truly concerned about the public's well-being.

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Planning
Funding
Information Management
Outreach
Training
Use of Section 313 Data

State of Connecticut

State Characteristics:	156 Local Emergency Planning Committees, with over 2200 members, including 153 single municipality districts and 3 multi-municipality districts consisting of sixteen municipalities
SERC Membership:	16 members, including representatives from the Departments of Environmental Protection (Chair), Transportation, Health, and Public Safety; Connecticut Conference of Municipalities; Offices of State Fire Administration, Emergency Management, and Policy and Management; State Senate; New Haven Department of Fire Services; Bureau of State Fire Marshals; labor, industry, and the League of Women Voters

In November 1985, the Connecticut Governor appointed a 60-member Task Force on Accidental Toxic Releases, composed of representatives from state and local government agencies and industry, to address release prevention and emergency response issues. Prior to the passage of the Superfund Amendments and Reauthorization Act of 1986, the Task Force laid the groundwork for Title III in Connecticut and produced legislation to institute emergency planning and community and worker right-to-know programs, and to establish an inspection system for hazardous materials transportation and storage equipment. Title III was implemented by Public Act 88-246, which designated the Department of Environmental Protection (DEP) as the lead agency for administrative matters, and the Office of Emergency Management (OEM) as the lead agency for emergency planning.

SERC ACTIVITIES

Planning. Connecticut was one of the first states to achieve 100 percent compliance with the initial emergency planning requirements of Title III. OEM supported this accomplishment by providing emergency planning guidance to Connecticut's Local Emergency Planning Committees (LEPCs).

OEM distributed the Hazardous Materials Emergency Planning Guide (NRT-1) together with a supplemental OEM bulletin providing clarification and guidance on each of the nine planning elements required under section 303 of Title III. OEM staff has also developed a model LEPC emergency plan and DEP developed Connecticut-specific guidance on hazards analysis. The hazards analysis guidance indicated that LEPCs should initially either request a vulnerability analysis from facilities subject to section 302 or perform the analyses themselves using the Technical Guidance for Hazards Analysis, a joint publication of EPA, the Federal Emergency Management Agency (FEMA), and the Department of Transportation (DOT), and DOT's Emergency Response Guidebook.

In December 1989, a member of the SERC, the Connecticut Business and Industry Association, produced the Emergency Resource Manual, developed from a survey of over 100 businesses across the state. The 130-page manual has been distributed to all Connecticut LEPCs and fire departments, and serves as a means of quickly identifying response resources available at nearby facilities in the event of a hazardous materials incident. These emergency response resources are separated into 11 categories: expertise and personnel; instruments and labs; chemical handling equipment; special construction equipment; fire suppression equipment; special mechanical equipment; neutralizing chemicals; personal protective equipment; breathing apparatus; spill control/cleanup materials; and tanker truck facilities. Each category is broken down alphabetically by the city in which the facility is located, and includes the company name, phone number, 24-hour phone number, and the specific type of resources available; an index provides the street address and emergency contact for the facility. The manual also includes sample provisions for borrowing or use of these resources in the event of an emergency.

Funding. Connecticut Title III activities have been funded from several sources, including a state trust fund, Title III training grant funds, and appropriations from the state general fund. The Connecticut Municipal Liability Trust Fund was created from a budget surplus at the close of FY '86; over \$1 million was made available to 74 Connecticut cities and towns for Title III-related hazardous materials planning, training, and surveys. Title III training grants provided through FEMA totalled \$72,000 in 1987, \$52,000 in 1988, and \$30,000 in 1990 for training of state and local administrative and response officials; \$100,000 was appropriated in both 1989 and 1990 from the Connecticut General Fund for the administration of the Title III program by the SERC. The majority of Title III program accomplishments, however, have been achieved by the staff of agencies represented on the SERC. As a result, the staff costs have been absorbed by individual agency budgets, rather than by the SERC.

Information Management. DEP has developed a data management system using the SAS statistical software package. The system consists of two modules: administrative and Form R. The administrative module is a tracking program for the reports received under sections 302, 311-312, and 313, and contains components that create a facility reporting history; log in public information requests; enter and update LEPC membership; and generate reports on facilities, LEPCs, and public information requests. The Form R module allows the entry of all information on completed toxic chemical release inventory reporting forms (Form R) received from facilities, as well as the generation of reports from this data.

A third module of the data management system is being developed for accidental release information reported under Title III section 304 and Connecticut law, which is more comprehensive and requires reporting of any quantity of a petroleum product or hazardous waste which is spilled or released. In addition, local fire departments have found the information on chemical quantities and storage locations contained in the section 312 Tier II form to be valuable; consequently, the SERC currently requires the submission of Tier II forms rather than Tier I forms.

Outreach. The Connecticut SERC has made education a major priority in its Title III implementation activities. In the last two years, the SERC and Waterbury State Technical College have sponsored an 18-hour program on Title III compliance for representatives of business and industry. Over 7,000 Title III compliance brochures have been mailed to potentially covered facilities and organizations. The SERC also sends bi-monthly mailings on Title III issues to LEPC chairpersons. In conjunction with the League of Women Voters, the SERC has produced an informative citizen's guide called "An Ounce of Prevention" identifying the roles of SERCs, LEPCs, communities, government, and business and industry in the Title III effort. The guide is distributed at conferences and made available to LEPCs for distribution. Finally, the SERC encourages its members and staff to accept speaking engagements with community and business groups.

Training. The SERC has sponsored or supported a number of Title III training activities. Regional training conferences for over 400 local officials were conducted from October 1987 to January 1988. In the summer of 1988, a series of outreach workshops were held with over 800 attendees from state and local government and the media. A two-day, statewide LEPC conference, held in May 1989, had almost 200 attendees and a second conference was held in February 1990. All of these activities were developed with the assistance of Title III training grants. In August 1989, OEM conducted a four-day exercise design course for LEPC members. The SERC also sponsored four hazmat personnel safety courses in 1988 and 1989 for emergency medical personnel, transportation road crews, and municipal police.

In addition, the SERC and the Commission on Fire Prevention and Control (CFPC) have sponsored over 130 training courses for first responders, police officers, hazmat technicians, hazmat instructors, and LEPC members which have reached a total attendance of over 1700. Courses include first responder hazardous material recognition, contingency planning, the Computer-Assisted Management of Emergency Operations (CAMEO) system, and emergency response. They were taught as the by-product of a series of train-the-trainer courses, which achieved substantial savings in training funds while preparing 220 instructors by the end of 1988. CFPC has also sponsored Incident Command training for 196 emergency management officers in 22 separate programs. More than 75 additional first responder courses were offered in 1989, and a number of additional instructors have been trained to deliver courses on first responder procedures and the chemistry of hazardous materials.

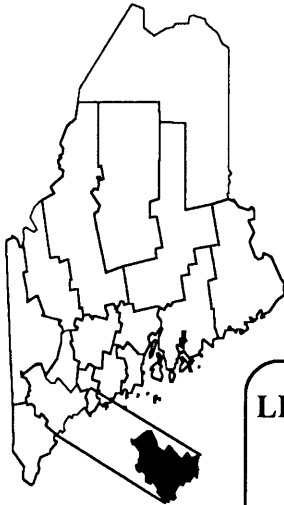
Use of Section 313 Data. The SERC has analyzed the 1987 Toxic Release Inventory (TRI) data by media, chemical, and facility. The TRI data on emissions to water were examined in conjunction with discharge permits issued by the Bureau of Water Management, and the ten companies reporting the highest level of emissions were all permitted by the state. While most of the chemicals that were reported in the TRI are in compliance with existing regulations and standards, in some cases additional controls are necessary and are being implemented under the state waterprogram. In addition, TRI data have been presented as evidence in support of chemical-specific and emission control legislation pending before the Connecticut legislature.

LESSONS LEARNED

Effective Coordination of SERC Activities Enhances Achievements. Without sufficient funding for its own staff, the SERC has relied upon the staff of its members to achieve its Title III obligations. Fortunately, the agencies and groups involved have contributed successfully to these efforts under the overall leadership of DEP, whose deputy commissioner serves as the chair of the SERC. The extensive Title III training program supported by the Commission on Fire Prevention and Control and the Emergency Resource Manual developed by the Connecticut Business and Industry Association serve as prime examples of the contributions of an active, well-coordinated SERC.

Education and Awareness are Critical to Continuing Title III Efforts. Outreach for the general public, business and industry, local officials, and emergency responders is an important aspect of a successful, long-term Title III program. Connecticut has made extensive efforts to provide preparedness and response training as well as outreach materials for all members of the community in order to establish a basis for future activities. As a result of these efforts, the SERC experienced a threefold increase in section 312 filings from 1987-88 to 1988-89, and has received over two hundred Title III information requests from the public.

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Cumberland County, Maine

LEPC:	An elected official and representatives from police, emergency management, fire, emergency medical, and health departments, hospitals, citizens groups, and facility representatives
POPULATION:	230,000
FACILITIES:	141 facilities reporting under section 311-12 and 22 facilities reporting under section 302

Cumberland County is located along the southern coast of Maine, and is the most industrialized and densely populated county in the state. It contains the largest city in Maine, Portland, which has a population 63,000; the 125 square mile Sebago Lake; and several major transportation routes, including US Route 1, Interstate Highways 95 and 295, and State Route 302.

On July 15, 1989, Rigby Yard in South Portland reported a leaking railroad tank car. The initial response unit surveyed the scene and reported the placard information and tank car number to the fire department; minutes later a second unit donned encapsulating suits to confirm this information, identifying the substance as muriatic acid. After a brief meeting, senior police and fire officers decided an evacuation was necessary, and designated response units to carry out the evacuation while other units sealed off the area. The plume modeling system from the Computer-Aided Management of Emergency Operations (CAMEO) system, a software package designed to assist emergency planners and first responders with Title III activities, was employed to assist with the response to this event. Information on the substance, its rate of release, and the weather conditions were input into the modeling program, which produced a plume diagram that was overlain on a local map to assist responders in determining areas for evacuation.

The responders established a forward command post to carry out the immediate response operations and a rear command post or staging area for equipment and the media. Rotating pairs of response personnel spread four tons of soda ash under and around the tank car during the next several hours; next, the leak was plugged, and the remaining muriatic acid off-loaded. The following day, several units returned to monitor the purging of the remaining product and vapors from the tank car before it was returned to the manufacturer for inspection. Over 150 responders were involved in response activities at the site; these personnel and their equipment were provided by several nearby municipalities and included two dozen response vehicles.

LEPC ACTIVITIES

Planning. The events surrounding this and another more recent transportation-related incident that involved muriatic acid validated the LEPC's emergency planning assumptions and response procedures to the extent that they had been developed. Principal planning successes highlighted by these events include the identification of available public and private response resources, industry contacts for technical and resource expertise, and sheltering locations. In addition, the development of standard operating procedures (SOPs) and staffing protocols for an incident command post and equipment staging area during the planning process allowed for improved coordination of response activities.

In both recent events, however, the complexity of the response operations and the necessity of relocation and sheltering produced situations that went beyond the range of elements contained in prior full-scale exercises. One revision to the LEPC response plan suggested by these experiences involved access to the incident site. Private industry response vehicles, equipment, and personnel could not be readily identified by officers in charge of maintaining the security of the incident site. On weekends or off-days, industry responders and clean-up personnel do not normally have company identification readily available. As a result, the LEPC may develop a system of identification cards for private citizens who may be needed at an emergency response operation, and an insignia system (e.g., a colored ribbon on the radio antenna) for response and clean-up vehicles.

These incidents also highlighted several difficulties in carrying out an evacuation: (1) giving directions to the nearest shelter proved excessively time-consuming for the personnel in charge of the evacuation; (2) tourists in nearby hotels were unwilling to evacuate to shelters and wanted to move to another hotel or motel; and (3) evacuees in shelters need to have access to the latest incident information because they are generally cut off from normal media connections -- radio and television. As a result, the Fire Department is considering a system of pre-designed cards with directions for evacuees that can simply be handed out by response personnel. The cards will provide a list of things to do before evacuating, a list of necessities to bring to the shelter, and an indication of the nearest safe hotels or motels for tourists. Existing communication and response procedures have also been updated to insure that the latest information on the incident will be transmitted regularly to evacuation shelters.

The Title III planning process in Cumberland County also identified a major deficiency in response capability -- the lack of sufficient emergency response vehicles. The Cumberland County Fire Chiefs Association (CCFCA) has set a goal of three units for the county in keeping with the provisions of Maine Public Law 464, which implemented and expanded upon Title III. This law requires facilities reporting under SARA Title III section 302 to have response vehicles and/or equipment on-site, provide or buy this equipment in conjunction with the local fire department, and/or establish a mutual aid agreement with the LEPC. The CCFCA initiative, funded from the county budget, has so far produced one of the three vehicles needed; this vehicle was provided by a facility. The LEPC hopes that county facilities

will provide the two additional vehicles, otherwise, school buses may be converted for response use. In addition, a comprehensive mutual aid agreement, as well as SOPs for activation of mutual aid pact resources, are being developed between facilities and county fire departments to implement this initiative.

Public Law 464 also requires contingency planning by all facilities that report under SARA Title III section 302. Facilities with extremely hazardous substances present in quantities above specified thresholds must submit a facility contingency plan to the local fire department, LEPC, and SERC. This plan, which must be exercised and reviewed annually, must address warning systems, transportation routes, employee training, and response procedures and equipment. Of the 22 facilities in Cumberland County that reported under section 302, 19 have already submitted contingency plans. The three other businesses were sent a notice of non-compliance via registered mail; of these, two are currently in the process of preparing their plan. The last facility has not yet responded to successive notices, and the case will be handed over to the State Attorney General's office, through the Maine SERC, if action is not soon forthcoming.

Exercises. In conjunction with a local wastewater treatment training program, field demonstrations/exercises were held in 1985 and 1986 that increased local awareness of preparedness and response issues before the passage of Title III. Prior to the recent incidents, the LEPC held a table-top exercise simulating a hazardous materials accident at a fixed facility; the exercise focused on the establishment and staffing of an incident command post. Although it posed a different scenario than that of the two transportation-related accidents, the exercise, by sponsoring direct communication among all county response organizations, helped to clarify the roles and responsibilities of command post staff, which proved extremely beneficial during the actual responses.

Training. The LEPC established a four-hour hazardous materials identification and recognition course for its members and all emergency responders. A 24-hour course is under development to meet the requirements of section 126 of SARA, which requires local emergency responders to be provided with training in understanding chemical hazards and proper safety procedures. In addition, a management-level course for public officials on hazardous materials incident command is being developed. The LEPC is also identifying a core of response personnel to receive hazardous materials team training. These responders will man the new emergency response vehicles as they become available.

LESSONS LEARNED

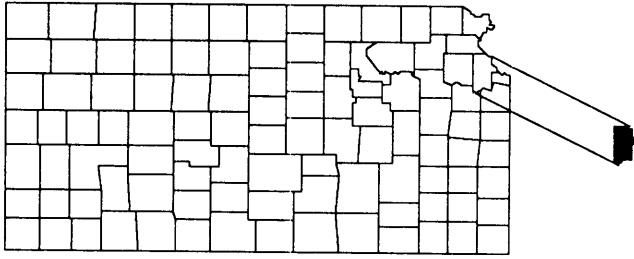
Face-to-Face Contact Between the LEPC and Industry Crucial.

The LEPC believes that face-to-face contact between the LEPC and industry officials is the most important feature of Title III activities. Above and beyond the completion of an emergency response plan, the planning process is a most effective means of promoting interaction and awareness among local government and private industry. In addition, the preparedness process has been further strengthened by interaction between these individuals at field exercises and other initiatives (e.g., the response vehicle project), as well as at actual response incidents. The opportunity for the exchange of ideas, concerns, and suggestions provided both formally and informally by the LEPC structure and its activities remains the critical element in the success of an emergency preparedness and response program. Community and facility officials are better able to interact and respond to an emergency situation when the planning process has already established mutual respect and understanding.

Evacuation Coordination Meetings: Short but Effective.

Following upon its response experiences, the LEPC strongly believes that if the nature of an incident permits (i.e., time and risk considerations are less stringent), a conference between fire, police, EMS, and other involved officials prior to the evacuation can be extremely helpful. In just a few minutes, these response personnel can make specific determinations on who will be evacuated and where and how far they will be evacuated, as well as identifying where traffic control officers should be located or traffic barriers should be established. Such a procedure will insure that all evacuation participants are familiar with the evacuation and sheltering plan, and that response and evacuation activities are coordinated to eliminate potential conflicts.

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**Hazards Analysis
Planning
Compliance
Data Management
Inter-LEPC Coordination
Public Alert Systems**

Wyandotte County, Kansas

- LEPC:** 21 members (elected and other local officials, and representatives of police, fire, emergency medical, civil defense, environmental, and public health agencies, as well as industry, community groups, and the media; chairman: Kansas City-Wyandotte County Health Department Director)
- Population:** 200,000
- Facilities:** Approximately 55 under section 302 and 100 under section 311-12, including soap and detergent and automobile manufacturing plants, and chemical processing facilities

Wyandotte County is a heavily industrialized and densely populated county that includes Kansas City, Kansas, the second largest city in Kansas with a population of 160,000. The county was selected by the Kansas SERC as the urban counterpart to rural Washington County when it developed model emergency plans as guidance for LEPCs in Kansas. Numerous transportation routes, including Interstate Highways 35, 70, 435, and 635 and several major railroad routes, pass through the county. Wyandotte County borders on the intersection of the Kansas and Missouri Rivers, and lies across the state line from Kansas City, Missouri.

LEPC ACTIVITIES

Hazards Analysis. The county air pollution control program initiated a hazards survey under EPA's voluntary Chemical Emergency Preparedness Program (CEPP), the predecessor to Title III. This survey was designed to determine which facilities in the county handled materials on EPA's list of acutely toxic chemicals, which were later designated as extremely hazardous substances (EHSs) under Title III. Every facility in the county was sent a comprehensive survey based on EPA's CEPP: Interim Guidance. If the facility indicated that one or more of these toxic chemicals were present, they were asked to supply further information on quantity and location of storage and use.

The survey produced a very sizable response from local facilities, and using the Technical Guidance for Hazards Analysis, a joint publication of EPA, FEMA, and DOT, the LEPC determined quantities of concern for the chemicals present in the community. Because its limited resources could not support a full-scale effort, the LEPC ranked facilities based on the amount of the toxic chemical on-site and identified 20 facilities that had at least 1,000 times the quantity of concern for one or more chemicals. A second tier of facilities with a smaller multiple of the quantity of concern were to be addressed in the second phase of the program. In this fashion, the ranking reflected not only the raw quantity of acutely toxic chemicals present at a facility, but also the relative health and safety threat that a release might pose to the surrounding community.

The LEPC met with the top 20 facilities and provided them with relevant portions of the Hazardous Materials Emergency Planning Guide (NRT-1), a document to assist LEPCs in preparing and reviewing emergency plans produced by the National Response Team, the organization consisting of the 14 federal agencies with oil and hazardous materials expertise. The LEPC asked these facilities to prepare a hazards analysis for all of the identified EHSs that presented a significant threat to people or property beyond the facility perimeter. The LEPC also distributed copies of:

- Technical Guidance for Hazards Analysis along with a worksheet the LEPC developed to assist in vulnerability zone calculations;
- EPA chemical profiles on identified EHSs; and
- Response Information Data Sheets, which are similar to Material Safety Data Sheets (MSDSs), but more heavily emphasize emergency fire response information for the various chemicals.

Each facility was asked to complete a facility resources questionnaire as well as the hazards analysis matrix recommended in NRT-1. The LEPC set up a team to assist facilities, but placed most of the analytical burden on facilities for several reasons:

- LEPC resources were extremely limited;
- Facilities were more likely to have the technical expertise; and
- Facility operators would give much more credibility to the analyses if they did them themselves.

Planning. The Fire Prevention section of the fire department reviews the survey submissions and other facility information (e.g., information obtained from previous inspections and hazards analyses) to determine if a fire permit will be required under the Uniform Fire Code. In addition, businesses whose responses indicate an extra hazard potential are identified in fire department records with an orange or red warning flag, which focuses emergency planning efforts on these facilities. Information on the warning flags is forwarded immediately to the Hazmat Unit and all dispatchers to

promote safer emergency response activity. The fire department will inspect flagged facilities and all other businesses handling hazardous materials to confirm the hazard information. In addition, the Hazmat Unit will work with red- and orange-flagged businesses to pre-plan for an emergency response situation, develop a working knowledge of the facility, and collect information to perform hazards analyses.

The LEPC developed an innovative system known as Hazard Incident Complexity Analysis (HICA) to evaluate and rank geographical quadrants within the community according to their specific combinations of special hazard and vulnerability factors. This analysis helps determine whether emergency response resources within a quadrant are commensurate with its hazard and vulnerability potential. Although the Hazardous Materials Emergency Planning Guide provides a methodology for performing such an analysis, the LEPC did not have sufficient personnel resources to carry out this more complex procedure. As a result, the LEPC decided to rely on HICA, a highly qualitative evaluation of the chemical hazards in the community. The HICA method took advantage of readily available LEPC resources, enabling useful analysis to be accomplished in a fraction of the time of more conventional methods.

In April 1988, the HICA workgroup, representing fire, health, police, public works, railroads, and civil defense, divided Wyandotte County into 2.6 square mile quadrants or portions of quadrants. During a single, day-long session the workgroup developed a numerical hazard incident complexity ranking value for every quadrant within the community based on information from prior Title III activities (e.g., hazards analyses and inspections) and personal experience. This evaluation considered 13 separate factors such as transportation corridors; the location of hazardous and toxic chemical users, manufacturers, and storage facilities; population density; traffic routes; institutions such as hospitals, nursing homes, day-care centers, senior citizen complexes, and schools; and geographic features. The analysis produced a number from zero (the lowest value) to 100 (highest), representing an initial judgment by local officials concerning the relative likelihood of incident complexity and the availability of resources that may be needed to manage an incident for each quadrant.

Compliance. The LEPC believes that many facilities affected by Title III are not aware of its requirements, and instituted a comprehensive compliance program to reach these facilities in 1989. The compliance program was a multi-faceted effort designed: (1) to obtain information essential to firefighter safety, the community, and businesses with hazardous materials; (2) to alert businesses to the necessity of obtaining fire department permits; (3) to inform businesses about the requirements of local, state, and federal law on hazardous materials reporting; and (4) to serve as the first step in the development of a system to insure that critical hazards information is readily available to first responders. The county is also planning to use the newly adopted Uniform Fire Code, which specifies more than 40 categories of activities that require permits, as an additional compliance tool.

The county included a notice on Title III with the 1989 annual business tax bills to 4200 businesses and individuals with occupational licenses. The notice simply stated that the business might be subject to Title III, gave them a phone number to call for more information, and alerted them to expect a package of materials from the county. This package included a cover letter, fact sheets on reporting requirements, and a screening survey on hazardous materials. The survey questions addressed the development of facility contingency plans and OSHA hazard communication programs, as well as the use, production, storage, handling and reporting of hazardous materials, including:

- explosives;
- flammable liquids and other combustible products;
- poisonous, infectious, radioactive, or corrosive substances;
and
- toxic chemicals.

The LEPC cross-checks the survey information against the data reported under Title III to insure compliance. Although the screening survey is quite comprehensive, it includes the option of requesting additional information, rather than providing a specific answer, to avoid intimidating potential respondents and support outreach to businesses unfamiliar with Title III.

Data Management. As with many other LEPCs, Wyandotte County has confronted the problem of incompatible computer systems; fire departments have or are getting Macintoshes to run CAMEO (Computer-Aided Management of Emergency Operations), but county and state governments have IBM-compatible mainframe systems and personal computers. At the same time, the LEPC is trying to develop a data management system that will encompass all the Title III information it receives and simultaneously meet all three facets of Title III: community right-to-know, contingency planning, and emergency response.

The immediate solution to the data management problem has been provided by the Chemical Data Management Unit of the Kansas Right-to-Know (RTK) program. Wyandotte County was the first LEPC to take advantage of a new data transfer service provided by the Kansas SERC that allows Tier II information contained in the state RTK database to be imported into CAMEO. The program became operational in early 1990; the time required to perform the transfer is primarily a function of the amount of data being converted, which in the case of industrialized Wyandotte County was substantial.

The program first converts the existing database records into dBase III+ files, then transfers the dBase III+ files into Macintosh files using the MacLink utility, and finally imports the data into CAMEO. For more information about the conversion process, contact Mr. Terry Franklin at the Chemical Data Management Unit of the Kansas Right-to-Know Program at (913) 296-1690. For the long term, in summer 1990, Wyandotte County will be testing CAMEO II - DOS, the updated version of CAMEO designed for IBM-compatible computers that has recently been developed.

Inter-LEPC Coordination. Representatives from all the municipal and county LEPCs in the area attend regular coordination meetings sponsored by the Mid-America Regional Council, which serves as a metropolitan planning agency spanning the Kansas Cities and their environs. A series of table-top exercises have been conducted involving response organizations on both sides of the state line. Until recently, Wyandotte County possessed the only fully equipped (Level A) hazardous materials response team in the interstate metropolitan area, and thus responded to all major hazardous materials incidents, whether in Kansas or in Missouri. An accident during a response in Kansas City, Missouri, in November of 1988 led to a voter referendum which raised sales taxes to fund a separate hazmat team for the city.

Public Alert Systems. Largely because of difficulties in rapidly and effectively alerting and informing the public during two actual hazmat incidents, the LEPC is involved in two public alert initiatives. The LEPC has supported the introduction of chemical hazard incidents into the tone-activated radio weather alert system sponsored by the National Weather Service (NWS). When an emergency is reported to the fire department, the dispatcher calls the NWS, which confirms the event and then activates the radio alert system, consisting of tone-activated radios, which broadcast the NWS emergency message to locations in every major media (i.e., radio and television) office.

In concert with local media, the LEPC developed a Chemical Watch and Chemical Warning declaration system. In the past two years, three incidents have produced Chemical Watch conditions, involving regular radio and television updates on events that might have produced a serious threat to public health, such as an overturned tanker truck. Because the terminology and triggering circumstances are very similar to those for tornado hazards, the LEPC has been able to piggyback onto extensive tornado public education efforts.

In addition, actual experience has shown that there is often no time to evacuate people during a hazardous materials event. Unless a long-term release is anticipated, in-place protection can prevent individuals from coming into direct contact with hazardous materials during their evacuation, which may not precede the arrival of a toxic cloud by a sufficient time span. As a result, the LEPC has participated in several conferences to learn more about in-place protection as an alternative to evacuation. This knowledge will be used in concert with the Chemical Watch and Chemical Warning system to provide timely information to individuals within the area of a hazardous materials incident on how to remain safely in their homes and businesses.

LESSONS LEARNED

More Detailed Reporting Information Supports Emergency Planning. During the development of hazards analyses in conjunction with facilities, the LEPC recognized that it needed the chemical-specific data contained on Tier II forms instead of the general hazard category data required by Tier I. In addition, the LEPC determined that the ranges for chemical quantities provided inadequate data for planning and response, and recommends that LEPCs require facilities to provide actual quantities. As a result, Wyandotte County now strongly requests Tier II information and more exact quantity information (the actual value for the maximum quantity of a chemical on-site) from facilities.

Hazards Analyses Support More than Just Emergency Planning. The hazards analysis task served as a means of introduction and reinforcement of the chemical emergency preparedness and prevention message, educating facility personnel on the specific hazards posed by the EHSs at their facility. In addition, the process introduced facility owners and operators to a new factor in determining the quantity of material stored at the facility, one which did not rely solely on the lowest per-unit cost for purchase and storage, but instead took into account the health threat (and potential liability) posed by larger quantities of hazardous materials. Some facilities have already started to identify ways to reduce the quantities of hazardous chemicals stored on-site; others have decided that they should eliminate their on-site storage of certain hazardous chemicals. After working with the facilities, the LEPC modified the hazards analysis matrix to include a comments column to give facilities the opportunity to explain why they must store larger quantities, indicate their past safety record with the material, or provide any additional information that the facility considers relevant.

Rapid Communication of Hazard Information to Responders is Essential. The November 29, 1988, accident in Kansas City, Missouri, led the Wyandotte County LEPC to expand responder safety efforts. In the accident, six fire-fighters were killed when they responded to a fire at a highway construction site where almost 50,000 pounds of explosives were stored in an unmarked trailer. In Wyandotte County, red or orange flags from the compliance survey now help to direct appropriate response personnel to an emergency incident. When a chemical-related emergency is reported at a red-flagged facility, the county hazmat team is automatically dispatched; if the facility is orange-flagged, the responding units are immediately notified, and the hazmat team is placed on alert.

A second approach adopted in Kansas City and just now being implemented is a uniform law requiring placarding of fixed facilities similar to the placarding required on trucks carrying hazardous materials. Such placarding can serve as a safety net if the other systems prove insufficient, alerting responders "at the gate" to which materials are present on-site and thus reducing the likelihood of unknown hazards threatening the lives of responders. In doing so, the community adopted the National Fire Protection Association Standard 704 placarding system, in addition to the requirement that the United Nations number, a unique international identification number for each hazardous substance, also be displayed.

Public Alert Systems Critical in an Emergency. With the experience of two hazardous materials incidents, it has become apparent that public alert systems play an important role in a successful emergency response. The Wyandotte County LEPC has taken advantage of existing notification systems to develop a two-fold chemical emergency alert system, which is readily comprehensible to people very familiar with the dangers posed by weather emergencies such as tornadoes. In addition, sheltering and evacuation planning must take into account that there is often very little time to perform an evacuation, and that individuals may not leave homes and businesses until the threat is upon them, or even after the emergency has passed. With this in mind, the LEPC regards in-place protection and requisite public education efforts as an integral part of future Title III activities.

Data Management Must Address Compatibility Issues. The incompatibility of DOS and Macintosh data management systems has been a continuing concern of state and local Title III officials nationally. In Wyandotte County, this problem has been addressed in the short run by the development of a system for data transference by the Kansas SERC. In the long run, the LEPC anticipates that CAMEO II-DOS will finally solve most of the computer compatibility problems that have plagued fire departments and LEPCs, but until its development is complete, LEPCs and fire departments should consider the advantages of the data transferral option.

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More Successful Practices

Additional **Successful Practices in Title III Implementation** technical assistance bulletins are available from your Regional Chemical Emergency Preparedness and Prevention Coordinator (see the listing on the following page), or call the Emergency Planning and Community Right-to-Know Information Hotline at (800) 535-0202, or (202) 479-2449 in Washington, DC, and Alaska. The following bulletins are currently available:

Successful Practices in Title III Implementation

OSWER-89-006.1, January 1989.

- State of Kansas
- Washtenaw County, Michigan
- Butler County, Kansas
- Jefferson County, Kentucky

OSWER-89-006.2, August 1989.

- Calhoun County, Alabama
- Pampa, Texas
- State of Wisconsin
- Cuyahoga County, Ohio
- Racine County, Wisconsin
- State of Idaho

OSWER-89-006.3, December 1989.

- Woodbury County, Iowa
- State of Virginia
- Fairfax County, Virginia
- Pierce County, Washington

OSWER-90-006.1, March 1990.

- New York, New York
- El Paso County, Colorado
- Alexandria, Virginia
- State of Maine

OSWER-90-006.2, June 1990.

- Tinker Air Force Base, Oklahoma
 - State of Connecticut
 - Cumberland County, Maine
 - Wyandotte County, Kansas
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5 - Ohio
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9 - American Samoa
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