U.S. Department
of Transportation

Research and
Innovative Technology
Administration

Hazardous Materials Emergency Preparedness Grants Program: Assessment of the alignment between local activities and program goals

October 2005

Report for:

Office of Hazardous Materials Safety
Pipeline and Hazardous Materials Safety Administration
United States Department of Transportation
Washington, DC

Prepared by:

Economic and Industry Analysis Division
John A. Volpe National Transportation Systems Center
United States Department of Transportation
Cambridge, Massachusetts

TABLE OF CONTENTS

EXECUTIVE SUMMARY

The Hazardous Materials Emergency Preparedness (HMEP) Grants Program provides technical and financial assistance to states, territories, and Indian tribes and their subdivisions to prepare and train for hazardous materials incidents. In the 2005 budget cycle, the Office of Management and Budget reviewed the program using the Program Assessment Rating Tool (PART). The PART review found that HMEP-supported local activities may be insufficiently linked to the Department of Transportation's long-term hazmat incident goal, and that the program lacks independent evaluations to identify potential areas for improvement.

This report has been commissioned as a first step in determining the extent of the links between the HMEP Grants Program and the DOT hazardous materials program, and in identifying opportunities to strengthen these links. It presents findings from an assessment of the linkages between Departmental goals and funded local activities. The assessment draws on a "logic model" that was developed to illustrate the workings of the program, as well as a review of actual grantee activities based on documentation and interviews with a subset of 16 grantees. Information from the interviews has also been compiled to present a comparison of grantees' approaches to program management, including aspects of the sub-grant and prioritization process, recordkeeping, and state-local communication. The final section of the report draws on these findings to present a set of recommendations on effective practices for improving the alignment between grantee activities and program goals.

Overall, this assessment found that nearly all of the HMEP-supported local activities reviewed were tied to the program and Departmental hazmat incident goal through an interconnected series of linkages, as outlined in the logic model. However, there were two exceptions, in Alaska and Texas, where unique local circumstances have given rise to slightly different approaches. Differences in grantees' administration of the program also suggest a number of effective management practices that should be considered by grantees where relevant:

- A more formal prioritization process for local project applications;
- An overarching, statewide planning and/or training strategy to help state goals "cascade" down to local activities;
- The use of measures of effectiveness for Local Emergency Planning Committees (LEPCs);
- Frequent communication and outreach between state and local organizations to share information and expertise;
- Greater local awareness of the program, with more participation and project applications from LEPCs;
- More use of computerized recordkeeping; and
- Greater consistency in annual reports to the federal Office of Hazardous Materials Safety.

INTRODUCTION

The United States Department of Transportation is responsible for regulating the safety of hazardous materials transportation in commerce. When hazmat incidents occur, however, primary responsibility for mitigating their impacts typically falls on local communities and their fire, police, and emergency medical services. The Hazardous Materials Emergency Preparedness (HMEP) Grants Program was established by the Hazardous Materials Transportation Uniform Safety Act of 1990 (49 USC 5116) to provide technical and financial assistance to states, territories, and Indian tribes and their subdivisions to prepare and train for HM incidents. This assistance is designed to help these localities mitigate the impacts of HM incidents – injuries, fatalities, property and environmental damage – by ensuring that they have adequate plans in place and that their responders are prepared to handle the types of hazmat incidents most likely to occur in their jurisdictions.

In the 2005 federal budget cycle, the HMEP Grants Program was reviewed using the Program Assessment Rating Tool (PART). The program received high marks in most areas and was assigned an overall rating of "moderately effective," the second-highest designation. However, the PART identified several areas where the program could use improvement. Among these are two questions related to strategic planning:

> Question 2.5: Do all partners (including grantees, sub-grantees, contractors, cost-sharing partners, and other government partners) commit to and work toward the annual and/or long-term goals of the program?
>
> Answer: No. While RSPA's partners are committed to reducing the number and consequences of hazmat incidents on the roadways, states are not required to address, nor are states required to track, their progress toward agency goals. […] Also, local emergency planning committees detail the tasks to be funded with HMEP grants. These plans are not directly tied to the agency's long-term hazmat incident goal.
>
> Question 2.6: Are independent evaluations of sufficient scope and quality conducted on a regular basis or as needed to support program improvements and evaluate effectiveness and relevance to the problem, interest, or need?
>
> Answer: No. No independent evaluations of sufficient scope are conducted on a regular basis or as needed to fill gaps in performance information to support program improvements and evaluated effectiveness. […] The agency does not have an independent evaluation to evaluate if the program could be improved or become more effective.

This assessment is designed as a first step toward addressing the above-cited issues raised by the PART, particularly as they relate to Question 2.5 on the links between grantee activities and program goals. The report includes three main parts:

- A "logic model" illustrating the logical relationships between program-funded activities and the formal outputs, outcomes, and performance targets of the program;
- A review of actual grantee activities and an assessment of their alignment with program and DOT goals; and

- A comparison of approaches across grantees, leading to a set of recommendations on effective practices for improving the alignment between grantee activities and program goals.

This report is also an independent evaluation that seeks to find means of improving the effectiveness of the HMEP Grants Program, and thus represents a first step toward addressing the concerns raised in PART section 2.6.

METHODOLOGY

This assessment draws on two main sources of information: a review of existing documentation produced by the HMEP Grants Program and its grantees, and telephone interviews with a subset of grantees to obtain more detailed information on program activities and management practices.

As stated above, the first step in this assessment was the development of a logic model mapping the workings of the program and documenting the logical relationships between funding, activities, outputs, outcomes, and goals. This logic model was based on a review of the enabling legislation and program documentation, including the 1998 report to Congress and "after-action" reports submitted to the program office by local response agencies. The manager of the HMEP Grants Program, Charles Rogoff, was also interviewed to clarify certain aspects of the program's operation. The logic model may be useful in its own right as a visual representation of how the program works. More to the point, by showing the chain of logical connections between funded activities and specific outcomes, the logic model was an important first step in assessing the alignment of grantees' activities with program goals.

In the next phase of the research, grantees' actual activities were reviewed in light of this logic model to assess these activities' contribution to, and alignment with, the goals of the program. Volpe Center staff reviewed the annual reports from each of the 70 grantees funded during the program's 11th budget period (2003-2004). These reports provide, in a standardized format, information on the grantee's use of the HMEP funding, including the number and type of people trained in hazardous materials response, the number of commodity flow and other studies prepared, the number of emergency plans updated, and the number of exercises conducted.

In addition to the review of documentation, the statement of work for this assessment called for follow-up interviews with a sample of roughly 15 grantees, as resources were not available to interview all 70. Rather than take a random sample, grantees representing a diversity of circumstances and approaches to administering the grants were selected – for example, grantees with different training emphases, such as a focus on high-skills specialized training courses versus a focus on basic awareness courses.

In order to generate these groupings, information from the annual reports was entered into a database and analyzed. In addition to the training example mentioned above, other groupings were based on the total level of funding; the number of responders trained per dollar of Training funding; the number of commodity flow studies and risk analyses prepared per dollar of Planning funding; and the number of emergency plans updated per dollar of Planning funding. A normalized measure of the size of the local planning units was also generated by the taking the number of Local Emergency Planning Committees in the state/territory and dividing through by the overall funding level.

A list of 17 grantees who stood out as very high, very low, or very close to the average on any of these measures was generated to cover as many of these sub-groups as possible,

while also maintaining some element of geographic diversity so that a range of US regions were represented. These 17 grantees were selected for follow-up interviews so that the effects of their different approaches could be explored. The state of Nevada was also added as an interviewee at the recommendation of the federal manager of the HMEP Grants Program, who noted some of the state's innovative approaches. This made the final list of grantees selected for interviews as follows:

- Alabama
- Alaska
- California
- Colorado
- District of Columbia
- Idaho
- Indiana
- Kentucky
- Maine
- Minnesota
- Nevada
- New Jersey
- Oklahoma
- South Carolina
- South Dakota
- Texas
- Vermont
- Virginia

Table 1. Grantees selected for follow-up interviews, by HMEP characteristics

	Number of LEPCs per $100,000 of Funding	
Low (0.6 – 9.0)	Average (28.3 – 34.7)	High (45.7 – 202.7)
California District of Columbia Minnesota Nevada Oklahoma	Alabama Colorado Indiana	Kentucky New Jersey South Dakota Virginia
	Focus of Training	
Lower-level Skills (Awareness-level trainees 61%-91% of total)	Average Mix (Awareness-level trainees 26%-40% of total)	Higher-level Skills (Awareness-level trainees 0%-5% of total)
Alaska Kentucky Maine Oklahoma Vermont	Indiana South Dakota Texas	Alabama Idaho South Carolina Virginia

	Level of HMEP Grant Funding	
Low ($73,484 - $113,259)	Average ($181,716 – 190,616)	High ($668,460 – $964,316)
Alaska District of Columbia Idaho Maine Vermont	Colorado Kentucky Oklahoma South Carolina	California Texas
	Number of Responders Trained per $10,000 of Funding	
Low (1.3 – 41.3)	Average (65.0 - 125.0)	High (292.1 – 696.8)
Alabama Alaska Colorado Idaho Indiana South Carolina South Dakota Texas Virginia	Kentucky Oklahoma Vermont	California District of Columbia Maine Minnesota Nevada New Jersey
	Commodity Flow Studies and Risk Analyses Conducted per $1 million of Funding	
Low (0 – 16.5)	Average (39.4)	High (90.4 – 165.3)
Alabama California Colorado District of Columbia Idaho Kentucky Maine Minnesota New Jersey Texas Virginia	South Dakota	Alaska Indiana Nevada Oklahoma
	Emergency Plans Written or Updated per $10,000 of Funding	
Low (0.3 – 4.8)	Average (12.1 – 16.3)	High (27.1 – 65.9)
California New Jersey South Dakota Texas Vermont Virginia	Alaska District of Columbia Maine Minnesota	Alabama Indiana Kentucky

Each of these 18 grantees was contacted, starting with the designated contact person listed on the annual report, and interviews were conducted by telephone. Interview questions were based on the outline shown in the Appendix, focusing on:

- The grantee's state-level program structure and administrative arrangements, including the State Emergency Response Committee and LEPCs
- The sub-grant process: how planning and training funds are allocated, and how prioritization decisions are made among competing local projects
- Uses of grant funding, including Planning and Training activities
- Program management, recordkeeping, and reporting.
- Communication between the SERC and LEPCs and among LEPCs

Interviewees were also asked to supply copies of any available reports, sub-grant application forms, project tracking spreadsheets, or major deliverables. However, because the review was intended to be non-intrusive, large documentation requests were not made of grantees who kept paper records.

In two states, Colorado and Indiana, it was not possible to schedule an interview because both of the state-level HMEP coordinators had recently retired and had not yet been replaced. A total of 16 interviews were thus conducted.

Together with the logic model, information from these interviews was used to conduct the assessment of the degree of linkage between grantees' activities and program goals. This assessment and a summary of the interviews are presented in the Findings section of this report. Differences in the sub-grant process, funding strategies, and program administration across grantees were also analyzed to produce a list of effective practices that may be useful in improving the effectiveness of the program.

LOGIC MODEL

This section describes the logic model of the Hazardous Materials Emergency Preparedness Grants program that was developed to serve as a reference framework for subsequent parts of this assessment. The model is a stylized summary of the workings of the program and the relationships between funding, activities, outputs, outcomes, and goals. The diagram on the next page provides a high-level overview of these relationships. It shows, from left to right, the flow of funds to grantees for planning and training activities; the activities funded; the specific impacts of these activities with respect to program goals; and the relationship to program- and department-level goals. The narrative sections below provide more detail on each of the parts of the diagram.

Funding Structure

Funding Note 1: Granting of Funds to States, Territories, and Tribes

Federal law (49 USC §5116) provides for the U.S. Department of Transportation to make grants to states and Indian tribes to help fund hazmat-related planning and training activities. The statute includes a maintenance-of-effort requirement.

HMEP grantees include every state, the District of Columbia, several U.S. territories, and several Native American Tribes. Each grantee is required to apply for funding. An application must include a letter from the State's executive (or equivalent) stating which agency will receive and disburse the grant funds. Status reports detailing what activities the funds are being used for and how programs are progressing are required to maintain funding in subsequent budget periods. With the exception of Native American Tribes, for which there is a separate formula, the level of funding for each grantee is calculated using set formulas as follows:

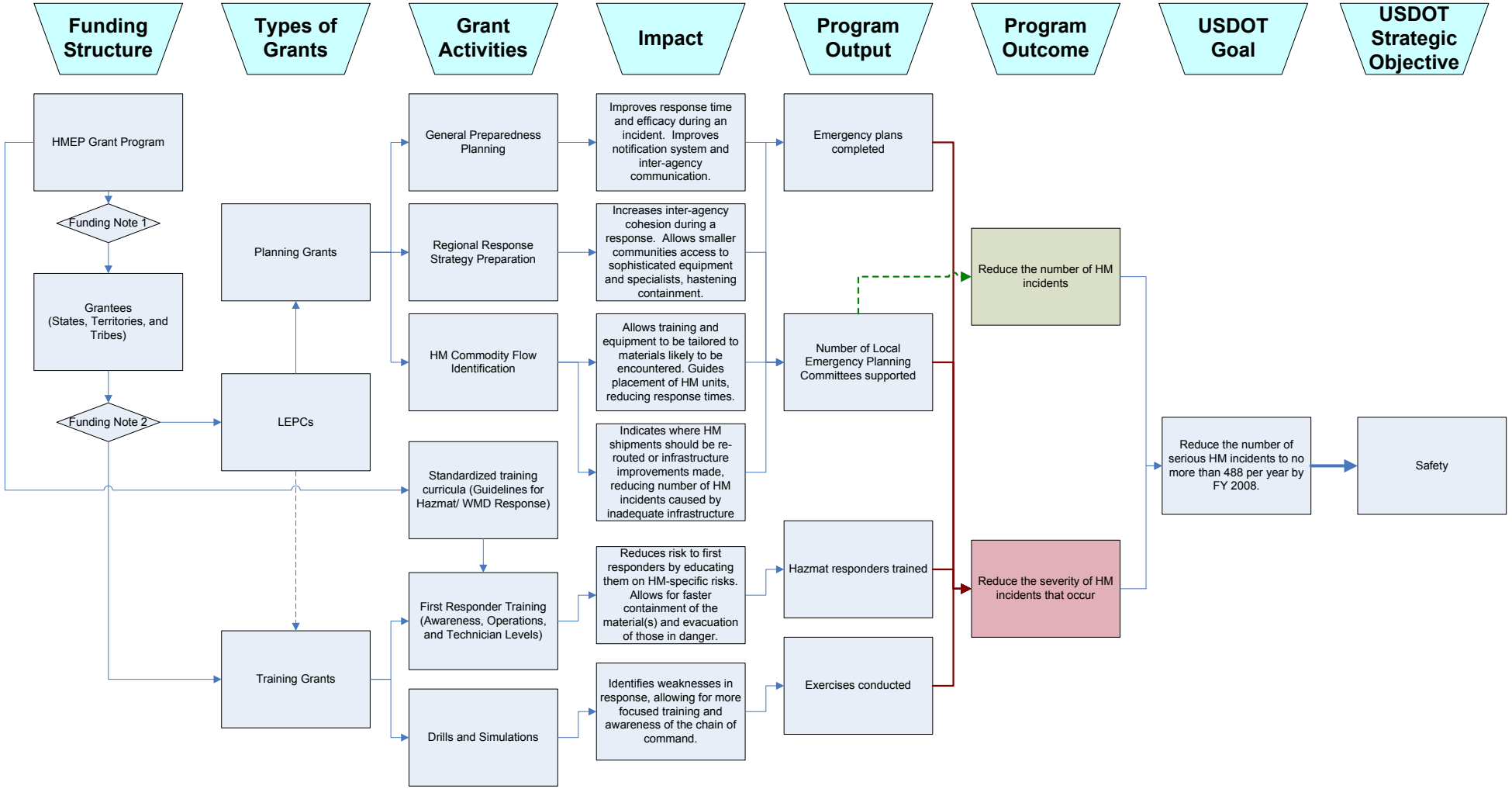
Planning Funds = (Equal Share of Base Amount) + (Total Planning Grant Funds – Base Amount) * [.2 * (Percentage of Total Population) + .4 * (Percentage of Total Hazmat Truck Miles) + .4 * (Percentage of SARA 302 Chemical Facilities)]

Training Funds = (Equal Share of Base Amount) + (Total Training Grant Funds – Base Amount) * [.5 * (Percentage of Total Population) + .3 * (Percentage of Total Highway Miles) + .2 * (Percentage of Fixed Hazmat Facilities)]

Funding Note 2: Local Disbursement of Planning and Training Funds

Local Emergency Planning Committees (LEPCs) are planning entities created by state and local governments in response to the federal Emergency Planning and Community Right-to-Know Act. The HMEP Grants program's authorizing legislation requires that state, territorial, and Tribal grantees pass at least 75 percent of all Planning funds received to LEPCs. (In practice, this number has been closer to 80 percent.) However, the number of LEPCs varies considerably from state to state, and grantees are not

HMEP Grant Program Logic Model



required to divide funds among their LEPCs in any particular way. Some states also have regional structures in addition to the LEPCs.

State recipients of Training funds are also required to use at least 75 percent of the Training funds to train employees of local government units. This can take place via disbursement of Training funds to LEPCs, but is more commonly achieved by allocating the funds to one or more state-level training providers, such as the state fire academy, which then offers training courses to local responders. More detail on the specific processes by which grantees distribute Planning and Training funds is available below, in the Findings section.

Types of Grants

Planning Grants

Roughly 40 percent ($5 million in recent years) of HMEP grants go towards planning activities. This percentage is not mandated by law. 49CFR110.40 states that eligible programs for funding include:

(1) Development, improvement, and implementation of emergency plans required under the Emergency Planning and Community Right-to-Know Act of 1986, as well as exercises which test the emergency plan. Enhancement of emergency plans to include hazard analysis as well as response procedures for emergencies involving transportation of hazardous materials, including radioactive materials.
(2) An assessment to determine flow patterns of hazardous materials within a State, between a State and another State or Indian country, and development and maintenance of a system to keep such information current.
(3) An assessment of the need for regional hazardous materials emergency response teams.
(4) An assessment of local response capabilities.
(5) Conduct of emergency response drills and exercises associated with emergency preparedness plans.
(6) Provision of technical staff to support the planning effort.
(7) Additional activities the Associate Administrator deems appropriate to implement the scope of work for the proposed project plan and approved in the grant.

Training Grants

Roughly 60 percent ($7.8 million in recent years) of HMEP grants go towards Training. This percentage is not mandated by law. 49CFR110.40 states that eligible programs for funding include:

(1) An assessment to determine the number of public sector employees employed or used by a political subdivision who need the proposed training and to select courses consistent with the National Curriculum.
(2) Delivery of comprehensive preparedness and response training to public sector employees. Design and delivery of preparedness and response training to meet specialized needs. Financial assistance for trainees and for the trainers, if appropriate, such as tuition, travel expenses to and from a training facility, and room and board while at the training facility.
(3) Emergency response drills and exercises associated with training, a course of study, and tests and evaluation of emergency preparedness plans.
(4) Expenses associated with training by a person (including a department, agency, or instrumentality of a State or political subdivision thereof or an Indian tribe) and activities necessary to monitor such training including, but not limited to examinations, critiques and instructor evaluations.

(5) Provision of staff to manage the training effort designed to result in increased benefits, proficiency, and rapid deployment of local and regional responders.
(6) Additional activities the Associate Administrator deems appropriate to implement the scope of work for the proposed project and approved in the grant.

Grant Activities and Impacts

Planning Grants

Planning grants are designed to assist LEPCs in planning and preparing for hazardous materials incidents. The specific activities funded include:

- General Preparedness Planning: A general preparedness strategy is the basic building block of local hazmat response. The strategy specifies how first responders should proceed when encountering a hazmat incident, including how evacuations should be undertaken and which officials and agencies should be notified. *Having such a plan leads to a quicker response time and more efficient communication between agencies. Both of these factors tend to reduce the severity of hazmat incidents that occur, since they allow responders to reach the scene more quickly and mitigate damage more effectively.*

- Developing a Regional Response Strategy: Both rural and urban communities may lack the resources to adequately respond to a serious hazmat emergency on their own. Regional response plans are therefore essential in coordinating the efforts of multiple communities and agencies in response to HM incidents. *Regional strategies can help communities exploit economies of scale by pooling their limited resources. Establishing institutional linkages between communities, a unified chain of command, common standards for radio communication, and a notification system before an incident occurs can greatly reduce response time and increase the efficacy of the response.*

- Conducting Hazmat Commodity Flow Studies: A hazardous materials commodity flow analysis details where and with what frequency hazardous materials travel within a given area. The quantities and types of materials are often documented as well. Fixed facilities in the area are also commonly included in the analysis. All of this information is used to determine what areas are at greatest risk to experience a hazmat incident, and what type of materials are most likely to be encountered. This information can be paired with Geographic Information Systems to understand the effects of potential hazmat incidents, such as the population affected by a particular type of chemical spill. *Information from these studies can be used to guide local training programs, determine where hazmat units should be located, and guide the development of evacuation plans. Again, these activities can reduce response time, improve incident response, and improve the efficacy of evacuations. Furthermore, information found in hazmat flow studies can be used to identify mis-matches between hazmat carriers' local travel patterns and roadway characteristics. This can be used to re-route hazmat vehicles onto more appropriate roads, or to identify roadway*

improvements. These actions can reduce the number of HM incidents that occur due to inadequate transportation infrastructure.

Training Grants

Training grants help defray the costs of training first responders (such as firefighters, police, and emergency medical technicians) and other local officials (such as environmental and public works staff and elected officials) on how to address hazmat incidents when they occur. There are two main activities:

- First Responder Training: First Responder Training typically involves a mix of classroom teaching and real world simulations. Training courses can be adapted to local conditions and circumstances, but must follow the nationally standardized curricula set forth in Guidelines for Hazmat/WMD Response, Planning and Prevention Training. This document is produced by an inter-agency group that is led by the Federal Emergency Management Agency (FEMA) and includes representatives from the HMEP Grant Program. This requirement helps to ensure that local training courses are tied to national-level program goals and priorities.

  This Guidelines document specifies the objectives and subject matter for each of the standardized levels of hazmat training. At the Awareness level, first responders are trained on how to identify a hazmat incident, gather information safely, and initiate the correct response. The focus is on ensuring the safety of responders themselves since conventional methods of firefighting may be inappropriate and pose a danger to the responders. At the Operations level, responders are trained on protecting the environment, people, and property in the area, largely through defensive and protective measures. This requires more specific information on types of hazardous materials and how to implement a response strategy. The next level of specialized training, the Hazmat Technician level, is for that sub-set of responders who are actually charged with stopping the release of hazardous materials. This requires even more detailed knowledge of hazardous material response and more hands-on training with specialized methods and protective equipment.

  Such training reduces the risk posed by hazardous materials to first responders, ensuring that they do not put themselves in danger by approaching a hazmat incident in the same way they would a more typical incident. At more advanced levels, the training ensures that first responders make the appropriate decisions concerning evacuations and containment options, and allows first responders to take proactive steps to contain the hazardous material(s). All of these factors can help reduce the severity of a hazmat incident by reducing the number of people (including responders) exposed to the hazardous material, limiting the amount of material released through timely intervention, reducing the chances of a follow-on explosion, ensuring orderly evacuations, and averting unnecessary evacuations.

- Drills and Simulations: Drills and simulated HM incidents give first responders experience dealing with complex emergency situations, imperfect information, and

real-time decision-making. Such experience helps ensure a proper response during an actual event, especially for those responders and officials who do not receive specialized training concerning hazardous materials. Such experience will enable first responders and officials to maintain control over HM incidents, leading to quicker containment. Simulated incidents are also crucial components of technician and incident commander training. *Drills and simulations complement training activities and highlight areas where training and planning can be improved, leading to more effective hazmat response.*

Program Outputs

The HMEP Grants program tracks four output measures: the number of hazmat responders trained, the number of emergency plans completed, the number of LEPCs supported, and the number of exercises conducted. Each of these relates in a straightforward way to the activities conducted by grantees.

In addition, the program gathers information from grantees' annual reports that allows several other output measures to be tracked. These include the number of commodity flow studies and risk analyses conducted.

Program Goal and Outcomes

The program's ultimate outcome goal is to reduce the number of serious hazmat incidents to 488 or less per year by 2008. This is aligned with the Departmental hazmat goal as stated in the USDOT Strategic Plan for 2003-2008. A "serious incident" is defined as any incident involving:

- a fatality or major injury caused by the release of a hazardous material,
- the evacuation of 25 or more persons as a result of release of a hazardous material or exposure to fire,
- a release or exposure to fire which results in the closure of a major transportation artery, the alteration of an aircraft flight plan or operation,
- the release of radioactive materials from Type B packaging,
- the release of over 11.9 gallons or 88.2 pounds of a severe marine pollutant, or
- the release of a bulk quantity (over 119 gallons or 882 pounds) of a hazardous material.

There are two related mechanisms by which HMEP-funded planning and training activities contribute to this goal: by reducing the overall *number* of hazmat incidents, and by reducing the *severity* of those hazmat incidents that do occur. The use of commodity flow studies to identify opportunities for upgrading local roads or re-routing HM vehicles onto more appropriate roadways can reduce the likelihood of incidents occurring in the first place. Once these limited opportunities to control the flow of hazmat vehicles over local roads and railways or to influence the practices of the many private-sector HM

carriers are exhausted, HMEP-funded activities are principally oriented toward *reducing the severity of incidents that occur via improved response capabilities*.

Comparing the definition of serious incidents with the impacts of HMEP-funded activities points out a number of specific ways that these activities can prevent an incident from becoming "serious" once it occurs. Swift response by trained personnel, operating under an agreed emergency plan and with strong institutional cooperation, can, among other things:

- Isolate or evacuate the appropriate area so that the hazmat release does not cause injury;
- Administer appropriate medical treatment to those affected so that their injuries do not become "major";
- Stop the release of hazardous material before it reaches the threshold quantity;
- Prevent the hazmat release from resulting in a fire or explosion, or in a transportation artery closure; and/or
- Avoid unnecessary evacuations.

Strategic Objectives

USDOT's Strategic Plan links the hazmat safety goal to the larger strategic objective of Safety, which is to "enhance public health and safety by working toward the elimination of transportation-related deaths and injuries." Clearly, reducing the number of serious hazmat incidents is an important component of the Department's overall commitment to this Safety objective.

FINDINGS

The model developed in the previous section describes the chain of logical connections by which the program's envisioned range of local activities can contribute to the long-term program goal, generally by creating conditions in which local responders can more effectively mitigate the impacts of a hazmat incident, preventing it from becoming a "serious" incident.

In this section, information from grantee reports and follow-up interviews is examined to assess the extent to which this model describes the actual activities carried out by state and local partners. The various mechanisms that grantees use to distribute grant funds to their local partners, to keep records and track progress, and to facilitate SERC-LEPC communication are also examined for their suitability for aligning local activities to state and federal goals. As these findings are based on a sample of 16 grantees rather than all 70, they should not be viewed as definitive, though as described in the Methodology section, care was taken to ensure to ensure representation from a range of grantees with different characteristics.

Uses of HMEP Grants Program Funds

Information from program documentation and the interviews provides insight on two interrelated questions at the heart of the issue raised by PART section 2.5: how are state and local partners using the funds they receive from the HMEP Grants Program, and how closely tied are these activities to the goals of the program? The table below summarizes the information gathered from interviewees, with Planning and Training grants listed separately since they have distinct purposes and activities. The adjoining columns in the table are an overall assessment of whether the funded activities contribute to the USDOT hazmat incident goal in the ways envisioned in the logic model.

Summary Table: Interviewees' Use of HMEP Grants Program Funds

Grantee	Activities Funded with Planning Grants	Tied to USDOT goal in logic model?	Activities Funded with Training Grants	Tied to USDOT goal in logic model?
Alabama	Local projects, with focus on plan updates and, more recently, commodity flow studies.	Yes	HM training courses for first responders, with focus on Technician-level training.	Yes
Alaska	3 joint SERC-LEPCs meetings per year to exchange information. Statewide commodity flow survey. If additional funds available, distributed to LEPCs for local projects (none in recent years).	No	HM training courses for first responders	Yes
California	Local projects, with priority on emergency plans, which must be updated every 3 years. Other funded activities include exercises, hazard analyses, information manuals, response team assessments, and public outreach materials.	Yes	HM training courses for first responders	Yes
District of Columbia	Approximately 40% goes to critical facilities analyses/ commodity flow studies, 40% to exercises, and 10-15% to community outreach.	Yes	HM training courses for first responders	Yes
Idaho	Local projects, focused on plan updates and commodity flow studies.	Yes	HM training courses for first responders, with focus on specialized hazmat teams.	Yes
Kentucky	Local exercises; exercise design course and annual LEPC workshop; updated hazmat reference materials for LEPCs.	Yes	HM training courses for first responders and other officials. Focus on interagency training, Operations level. Also funds annual LEPC conference with training components.	Yes
Maine	Local projects that cannot be completed with existing state funding. Focused on plan updates and commodity flow studies. Planning funds must be used for plan update if the LEPC does not yet have a state-approved HM Emergency Response Plan.	Yes	HM training courses for first responders	Yes
Minnesota	Support Regional Review Committees or localities directly, mostly in small amounts for exercises and planning. Other eligible activities are LEPC implementation, IT training, conferences, special events.	Yes	HM training courses for first responders	Yes

Grantee	Activities Funded with Planning Grants	Tied to USDOT goal in logic model?	Activities Funded with Training Grants	Tied to USDOT goal in logic model?
Nevada	Local projects: exercises and plan updates, some commodity flow studies.	Yes	Primarily funds attendance for local responders and LEPCs at annual Hazmat Explo, which combines hazmat training with related courses and workshops. Additional funds, if available, used for hazmat training courses.	Yes
New Jersey	Local projects, mostly for emergency planning, exercises, and commodity flow studies. Plan evaluations required every 4 years.	Yes	HM training courses for first responders	Yes
Oklahoma	Distribute lump-sum amount to all active LEPCs to defray costs of planning activities, including required participation in one exercise per year and maintenance of 24-hour spill hotline.	Yes	HM training courses for first responders, with emphasis on Awareness-level training.	Yes
South Carolina	Local projects: vulnerability and capability assessments, commodity flow studies, exercises, databases, plus some community outreach.	Yes	HM training courses for first responders, with focus on higher-level training	Yes
South Dakota	Local projects, with 75% for plan updates and 25% for commodity studies. Goal of having an updated emergency plan in every LEPC area. Exercises funded through separate program.	Yes	HM training courses for first responders. State goal of getting all responders up to Awareness level.	Yes
Texas	Local projects: primarily public awareness and outreach, also emergency planning and commodity flow studies.	Mixed	HM training courses for first responders	Yes
Vermont	Local projects: plan updates, commodity flow studies, exercises, CHER-CAP capability assessment	Yes	HM training courses for first responders, with focus on Awareness-level training	Yes
Virginia	Local projects: plan updates, commodity flow studies, and exercises. Mostly small projects (< $1500).	Yes	HM training courses: higher-level training for state's 13 regional hazmat response teams.	Yes

As the table shows, grantees vary somewhat in their approaches to using Planning and Training funds. On the Planning side, each state funds a slightly different mix of local planning activities, though almost all are focused on plan updates, exercises, commodity flow studies, and capability and vulnerability assessments, plus ancillary activities such as database development, reference materials, and workshops.

States use their Training grants to fund hazardous materials training courses for their first responders, with two main variations in approach observed in the interviews. First, some grantees focus their efforts on advanced training for specialized hazmat teams, while others aim to get as many responders as possible up to the Awareness level. This difference is somewhat correlated with state characteristics, with states that rely primarily on rural, volunteer firefighters more likely to focus on Awareness. The second difference relates to the flow of funds: in most cases, states use Training funds to support the state fire academy (or other training body), which then offers hazmat courses to local responders free of charge. In other cases, LEPCs or localities are instead directly reimbursed for the cost of training courses taken. Despite these variations in approach, all of the grantees interviewed, with the partial exceptions of Nevada and Kentucky, used HMEP Training funds exclusively to provide hazmat training courses for local officials and responders. Nevada and Kentucky use part of their Training grants to fund local attendance at annual conferences that combine hazmat training courses with planning workshops and information sessions.

Overall, the information obtained in this review indicates that the vast majority of all HMEP-supported activities are those specifically envisioned by the enabling legislation, and that they are linked to the goals of the program through the mechanisms outlined in the logic model. However, there are two notable exceptions to this overall pattern.

Activities with less direct links to program goals

- In Alaska, HMEP Planning funds are not ordinarily passed through to LEPCs for local planning projects such as emergency plan updates. Instead, the Planning funds are used principally to defray the costs of periodic joint meetings between the SERC and LEPCs. These meetings are held three times per year to exchange information, share best practices, and provide training to local officials. Program managers in Alaska stated that if additional funds were available beyond the cost of the joint meetings, they would be used to fund local projects based on LEPC applications, but that this has not been the case in the past several years. (LEPCs do, however, have access to a separate pool of state funds for planning projects.)

  These joint meetings seem to be useful forums for information exchange, and indeed similar meetings are used in other states as a means of enhancing the effectiveness of the program. Even so, they are not envisioned by the program's enabling legislation (or the logic model derived from it) as a *primary* use for HMEP Planning grant funds. This approach also seems inconsistent with the HMEP Grants Program's 75 percent

pass-through requirement. However, further review of the state's programs could determine whether this approach is in fact cost-effective in light of circumstances unique to Alaska, i.e. the state's sparse settlement, which makes face-to-face meetings and in-person training more costly.

- State program managers in Texas stated that Planning funds distributed to LEPCs are most commonly used for public awareness and outreach campaigns on hazardous materials safety. These activities include the development of educational programs and informational brochures, and the translation of existing English-language outreach materials into Spanish for use in predominantly Spanish-speaking communities. By raising public awareness of the dangers associated with hazardous materials, the activities can yield benefits in terms of reducing the impacts of hazmat incidents. For this reason, several other states fund at least some outreach activities as one component of a broad-based hazmat planning strategy. In Texas, however, these proportions are inverted, with more funding going toward outreach than to plan updates and commodity flow studies.

  Again, additional review of Texas' programs could determine whether this approach is warranted by local circumstances – particularly the concentration of hazmat facilities in areas of the state that are predominantly Spanish-speaking and therefore harder to reach through conventional awareness activities. Otherwise, the state has an opportunity to strengthen the linkage between local activities and program goals.

Prioritization of Local Planning Activities

In most states, local requests for Planning funds exceed the amount available, and some mechanism for prioritizing these requests is necessary. As the summary chart below indicates, the most common method for accomplishing this is to require LEPCs to apply for funding and then to judge the applications against a set of criteria. These criteria may be formal or informal, and the evaluation process may use a points-based scoring system or simply a qualitative assessment.

Some states require LEPCs to be "active" in order to be eligible for funding, meaning that the LEPC must meet regularly, publish its minutes, and/or comply with other formal guidelines. A number of states also have explicit priorities for the use of Planning grants, often requiring that Planning funds be used to develop an updated local hazmat emergency plan before any other activities are undertaken. New Jersey also gives preference to projects that will benefit other jurisdictions.

A few grantees deviate from this general pattern. Idaho, for example, has yet to develop a formal prioritization process, and in Alaska the issue has been moot in the past few years because no funds were distributed to LEPCs. The District of Columbia also has unique arrangements; its SERC and LEPC are the same body, so funding decisions are simply made by that body according to its priorities.

Generally speaking, while each grantee has a process in place to prioritize local projects, these approaches differ in their ability to link local activity to state and federal priorities. The Recommendations section will discuss these differences and discuss ways of improving these linkages.

Prioritization Approach for Planning Grants

Grantee	
Alabama	Applications from LEPCs. Criteria include the applying LEPC's level of activity and the level of HM flow through the area in question.
Alaska	No sub-grants to LEPCs in recent years.
California	Applications from LEPCs. Priority to emergency plans, but otherwise based on local requests and the severity of the risks to be addressed.
D.C.	SERC and LEPC are same body, so projects are chosen by vote according to member priorities.
Idaho	Informal application process; generally approve most applications from active LEPCs. More formal process in development.
Kentucky	For exercises, score applications from LEPCs based on formal criteria: grants management, technical soundness, and organizational support. No application required for HM reference materials.
Maine	All LEPCs receive state funds, which are distributed by formula based on population and HM facilities. When additional funds are needed for specific projects, LEPCs can apply for HMEP funds to cover the difference. Applications judged on project merit and most approved.
Minnesota	Applications from LEPCs or Regional Review Committees; informal criteria.
Nevada	Applications from LEPCs. Formal criteria for approval are that applying LEPC must be active and that no LEPC can receive more than $25,000. Informally consider LEPC's past performance on projects.
New Jersey	Applications from LEPCs. Funding applications judged on formal rubric, including preference to projects of potential benefit to other jurisdictions. Also makes effort to fund LEPCs that have not previously received funds.
Oklahoma	LEPCs that meet 9 formal criteria are invited to apply for small, fixed amount of funding.
South Carolina	Applications from LEPCs. Criteria include past performance and reporting quality; lowest priority goes to those who failed to fully obligate funds in prior year.
South Dakota	Applications from LEPCs. State allocates 75% of planning funds to plan updates and 25% to commodity flow studies. All requests have been funded in past 2 years, but if decisions need to be made, priority will go to updating plans.
Texas	Applications from LEPCs. Formal scoring system using criteria including relevance, potential benefits, performance measurement plan, and LEPC activity.
Vermont	Applications from LEPCs. Applications scored against formal criteria, which will soon be updated to include measures of LEPC effectiveness.
Virginia	Applications from LEPCs. Able to fund most applications, but prioritization based on number of HM facilities and HM mileage in area, population at risk, and potential to improve preparedness.

Documentation and Recordkeeping

Grantees' recordkeeping is an important means of ensuring transparency and of documenting the outputs and outcomes of the program. Findings from the interviews

indicate that most grantees keep paper-based records of all of the planning and training activities carried out using HMEP funds. At a minimum, this typically includes the initial application for funds and a copy of the final deliverable, such as a commodity flow study or updated emergency plan. (In the case of an exercise or training course, this "deliverable" is a written summary of the event and attendees.) In many states, LEPCs are also required to provide periodic status reports and/or financial data for their HMEP-supported projects; the level of detail and the required frequency of updates vary from state to state. As the summary chart below shows, only a handful of grantees have started to track projects using spreadsheets or electronic records. California, with its well-organized databases of project status and financial information, is one notable exception. Electronic recordkeeping is likely to be more necessary in this state because of the comparatively large amount of HMEP funding that it distributes.

Project Reporting and Tracking Procedures

Grantee	
Alabama	State receives final deliverable on all projects and keeps hard-copy records. Summary information on LEPC grants, funding, and project status are also part of the minutes of SERC meetings.
Alaska	Limited documentation of funded projects, in part because no money has been made available to LEPCs for projects in several years.
California	Well-organized databases and summaries of project funding, status, and financials. Sub-grantees submit quarterly reports and final deliverable.
D.C.	Final reports and deliverables are submitted to coordinator.
Idaho	Maintains paper records on funded activities and LEPC activity.
Kentucky	LEPCs submit final reports. Keeps hard-copy records of grants and activities.
Maine	LEPCs submit final report on project activities, success, any difficulties faced, and lessons learned. Also submit quarterly financials with status update.
Minnesota	State receives final report and deliverable for local projects. Developing web-based tool to track project information.
Nevada	LEPCs submit monthly or quarterly financial reports, plus final report and deliverable.
New Jersey	LEPCs must submit detailed project narratives for reimbursement, including a mid-project report and final report.
Oklahoma	LEPCs submit semi-annual reports on activities.
South Carolina	Requires LEPCs to submit quarterly and final reports, plus final deliverable.
South Dakota	LEPCs submit final deliverable for all projects and complete annual update to LEPC compliance review.
Texas	Requires monthly updates and final reports for all funded planning projects.
Vermont	Requires final report from local projects; mix of Excel spreadsheets and paper reports. Annual reports list projects funded.
Virginia	Requires final report, financials, and deliverable from local planning projects. Information logged in database.

Communication between the SERC and LEPCs

Another topic explored during the interviews was the grantee's approach to facilitating communication between the SERC and LEPCs, as well as communication among

individual LEPCs. This communication is an important means of disseminating "best practice" information and ensuring that local activities are effectively linked to state and federal program goals.

The chart below summarizes the interview findings on this topic. Almost all of the grantee states interviewed have at least some formal communication strategy, most commonly an annual or periodic joint SERC-LEPC meeting to share program information. Often these meetings are supplemented by informal communication throughout the year as new developments arise. Several grantees have also produced handbooks for their local partners, and some have (or are developing) program websites with information on grant guidelines, SERC meetings, and other relevant topics. Others have regional bodies or other coordinating entities that help to foster communication across levels of government. California, Kentucky, and New Jersey take this approach a step further, with dedicated staff serving as liaisons to the LEPCs. Similarly, in Virginia, the state Department of Emergency Management tries to ensure that at least one DEM staff person is in attendance at each LEPC meeting to share information and answer questions. Kentucky ensures that a state DEM staff person is in attendance at all major local exercises.

Approaches to Facilitating SERC-LEPC Communication

Grantee	
Alabama	Nothing formal yet, but working on a SERC website to share information with LEPCs, with links to lessons learned, best practices, and training opportunities.
Alaska	Joint SERC-LEPC meetings 3 times per year.
California	Dedicated staff liaisons between state OES, counties, and LEPCs. LEPCs hold 6-12 meetings per year for county-level officials. State produces handbooks for local officials and maintains website with program information, SERC meeting minutes, and frequently asked questions.
D.C.	SERC and LEPC are same body; meetings double as information sessions.
Idaho	Annual conference, plus guidebook and distribution of LEPC minutes to other LEPCs.
Kentucky	State division of emergency management maintains liaisons with LEPCs via 14 area offices. A DEM staffer also attends each full-scale local exercise.
Maine	Annual conference and periodic e-mail updates. LEPC chair group consists of the heads of each LEPC and meets several times per year.
Minnesota	Annual conference, plus guidebook, website, and regional workshops.
Nevada	One-on-one technical assistance to LEPCs. Also funds local attendance at SERC meetings and Hazmat Explo, produces LEPC handbook.
New Jersey	Regional coordination by state police, who administer program.
Oklahoma	Annual conference, plus newsletter and regional workshops. The regional FEMA office also puts out a guidebook and holds conferences.
South Carolina	SERC annual report; collaboration among neighboring LEPCs on exercises.
South Dakota	Two SERC (tele-)conferences in January, plus intermittent communication between SERC and LEPCs throughout the year.
Texas	Two joint SERC-LEPC conferences per year.
Vermont	Joint SERC-LEPC workshop twice a year.
Virginia	Staff from state Department of Emergency Management attend most LEPC meetings.

RECOMMENDATIONS

One of the strengths of the HMEP Grants Program is the flexibility it offers grantees to adapt their planning and training strategies to different sets of local circumstances. This assessment uncovered several examples of states taking different approaches to their distribution and management of HMEP grant funding. Some of these program management practices also appear to warrant consideration for adoption by other states because of their potential for improving the effectiveness of the program – particularly for tightening the nexus between local activities and state and federal goals, as indicated by the PART. This section briefly summarizes these effective grantee practices and their relevance.

1. In some states, grantees can benefit from using a **formal project prioritization process** when allocating HMEP Planning funds among competing local proposals. In Texas, for example, LEPC proposals are rated on a 100-point scale, with points assigned based on five aspects of project merit, as well as on cost-effectiveness, the quality of documentation, and other factors. Although points-based scoring is not necessarily crucial, the use of explicit criteria improves the transparency of the sub-grant process and helps LEPCs tailor their proposals to particular state goals or emphases.

2. Grantees should consider having an **overarching, statewide planning and/or training strategy**, which can help ensure that state goals "cascade" down to local activities. South Dakota, for example, has set a goal of establishing updated emergency plans in every area of the state, so it allocates 75 percent of its HMEP Planning funds to plan updates. Maine also prohibits LEPCs from using Planning funds on anything other than bringing their emergency plan up to date unless they have already done so, and similar measures are in place in other states. New Jersey's strategy is to promote planning projects that will benefit multiple jurisdictions, so these types of projects are awarded top priority. On the training side, one common strategy is to focus efforts on bringing as many responders as possible up the Awareness level.

3. Grantees should also establish **measures of effectiveness for LEPCs** and use them as part of the evaluation criteria for planning projects, so that high-performing LEPCs are rewarded. Typical performance measures include having the appropriate membership (as stipulated by state law), holding regular meetings and publishing the minutes, and having an updated emergency response plan. Oklahoma goes even further than these basic measures, requiring that LEPCs also maintain a 24-hour hazmat spill telephone line, participate in at least one exercise per year, and sponsor or co-sponsor an outreach activity. Texas, Alabama, and Nevada are among the other states that make some sort of LEPC performance measure part of the project evaluation process.

4. Grantees should facilitate **communication and outreach** between state agencies, the SERC, LEPCs, and local governments to share information and expertise, including "best practice" information that can help LEPCs improve their effectiveness. A joint conference or workshop appears to be the most common format for this exchange. California, Kentucky, New Jersey, and Virginia also have some form of formal liaison

between the state and local partners, while Nevada offers direct technical assistance to LEPCs. These approaches are effective but may not be feasible in all states due to their cost and staff requirements. Notably, though, several other grantees have developed relatively low-cost approaches for sharing information on a more regular basis: *joint meetings held by teleconference* and *state HMEP websites* with information on program developments, SERC meetings, and best practices.

5. Grantees should also work to raise local awareness of the program and create **more participation from LEPCs**. Among the interviewed grantees, the percentage of LEPCs applying for Planning funding in a typical year ranges from just 5 percent (in Texas) to over 75 percent. By encouraging more applications, states can help spread the benefits of the HMEP Grants Program and, by increasing competition for funding, potentially improve the overall quality of the proposals. Outreach can also help to increase the share of LEPCs that are active, which is beneficial in itself.

6. Grantees should move toward **computerized recordkeeping** of funded activities. Even something as simple as a high-level spreadsheet summary can provide quicker access to information and greater opportunities for analysis. While all of the interviewed grantees maintain adequate records of sub-grants made, project deliverables, and training activities, computerized records help improve the transparency of the process and make it easier to document program achievements.

7. Federal managers of the HMEP Grants Program should work with grantees to **improve the consistency of grantees' annual reports** to OHMS, clarifying certain reporting protocols. For example, in these reports, only HMEP-funded activities should be included (or, at a minimum, should be clearly delineated), and "refresher" training courses should be listed separately from the other categories. Several states have instead combined HMEP and non-HMEP activities on their reports and/or failed to separate out refresher training. There also appears to be some confusion about the use of the training category "Other." These nomenclature issues could be clarified through additional communication between OHMS and the grantees. Some grantees may also need to improve their procedures for collecting output data from their local partners, underscoring the importance of recommendations 4 and 6 above on maintaining links with LEPCs and improving recordkeeping.

Appendix: Interview Guide for Grantees

1. SERC: Who serves on the SERC? How often does it meet?

2. LEPCs : How many LEPCs are currently in your state? What types of geographic areas are represented by a single LEPC (e.g., counties, cities, multiple counties, etc.)? How are members of the LEPCs selected? Do the LEPCs receive best practice information from the SERC? Are there forums for members of different LEPCs to discuss strategies and programs?

3. The Sub-Grant Process: Are LEPCs required to apply to the SERC to receive HMEP grant funding? If yes, what information is in the application? What percentage of LEPCs apply for funding? What types of projects are typically funded? Is there a set of approved activities that is more restrictive than USDOT's? What criteria determine the amount of funding a project will receive? Does the SERC have specific strategies for funding, e.g. on encouraging awareness-level training, that guide the allocation? Does the SERC have a policy/strategy of providing funding to all LEPCs, or to target resources to a smaller number of SERCs? Is there a database listing past funded projects, including line-item budgets?

4. State Level Training: Are local training programs determined and/or coordinated by the State or SERC? Are funding decisions related to an overarching statewide training plan? Does the Grantee provide training seminars and workshops that may be attended by local officials and responders? If so, what agency provides the instruction? Do individuals apply to attend, or are they invited based on some criteria?

5. Performance Review / Reporting: Are LEPCs required to submit reports at the conclusion of a project? What do they include? Are LEPCs required to regularly report on performance measures? If so, what performance measures are used? Are future grant funding opportunities dependent on the past success of an LEPC's projects? Is other reporting and tracking information available at the state level, beyond what is included on the annual report to the federal hazmat office?