KANSAS ADJUTANT GENERAL'S DEPARTMENT

HMEP FFY 2014 GRANT APPLICATION GUIDE

FOR LOCAL EMERGENCY PLANNING COMMITTEES

December, 2012

This document is intended to guide County and Tribal Local Emergency Planning Committees (LEPCs) in applying for a competitive grant offering under the Hazardous Materials Emergency Preparedness Grant (HMEP) Program.

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1. OVERVIEW

Federal Hazardous Material Law authorizes the United States Department of Transportation/Pipeline and Hazardous Materials Safety Administration (USDOT/PHMSA) to provide assistance to public sector employees through training and planning grants. The purpose of the Hazardous Materials Emergency Preparedness (HMEP) Grant program is to increase State and local effectiveness in safely and efficiently handling hazardous materials accidents and incidents; enhance implementation of the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA); and encourage a comprehensive approach to emergency planning and training by incorporating the unique challenges of responses to transportation situations.

The HMEP grant process involves two parts:

- SUBMISSIONS OF STATE HMEP GRANT APPLICATION TO USDOT FOR HMEP GRANT FUNDS - The steps are described in Section A. This includes seeking subgrant applications from LEPCs (subgrantee), review and approval of subgrant applications by the Commission on Emergency Planning and Response (CEPR), submission of State proposal to USDOT for hazmat planning and training, and finally, the review and approval of the State proposal by USDOT. The total process takes approximately 10 months.

- PASS THROUGH OF HMEP FUNDS TO SUBGRANTEES - The steps are described in Section B. In order to utilize the HMEP funds efficiently, KDEM will be making small modifications to this phase beginning FFY 2014. We noticed that some LEPCs notify KDEM about their inability to complete the project only at the very end of the grant year. Due to the short turnaround time, we are not able to reallocate these deobligated funds to other LEPCs needing assistance. During the FFY 2014 HMEP grant cycle, we will be contacting the LEPCs that did not start their projects by March 30 2014, to find out if they still want to carry on with their projects, withdraw their projects, or request for a reduction of allocated funds. If a LEPC closes to withdraw the project or requests for reduction of the allocated funds, these funds will be deobligated and the monies will be reallocated to other LEPCs.

A. **FFY 2013-2014 HMEP GRANT IMPLEMENTATION SCHEDULE (STATE HMEP GRANT APPLICATION – LEPC AWARD):**

- December 17, 2012 – Solicit LEPC project proposals for FFY 2014 grant period.
- February 15, 2013 – FFY 2014 HMEP application closing deadline.
- March 7, 2013 – HMEP subgrant applications received from LEPCs are reviewed by the HMEP Grant Review Committee. Selected applications are submitted to CEPR in the March meeting for approval.
- May 1, 2013 – Deadline for KDEM to submit State HMEP grant application to USDOT. Selected sub-grantee applications are included in the State application.
- September, 30, 2013 – Deadline for PHMSA to notify States on the grant award.
- October 10, 2013 – LEPCs are notified of grant awards, contracts are mailed to LEPCs.

B. **SUBGRANT IMPLEMENTATION (OCTOBER 1, 2013 – SEPTEMBER 30, 2014):**

- October 1, 2013 – FFY 2014 grant performance period begins. Subgrantee grant performance period begins on the date the contracts are signed by the LEPC.
- March 30, 2014 – KDEM contacts the LEPCs who did not start their HMEP FFY 2014 projects. The LEPC chooses to continue or withdraw the project. The LEPC may also request for reduction of allocation of awarded funds. Unspent funds are deobligated.
- April 10, 2014 – KDEM seeks new HMEP subgrant applications from LEPCs for the deobligated funds.
- May 1, 2014 – KDEM submits the new HMEP grant applications to USDOT for approval through USDOT's online "Activity Request" process.
- June 1, 2014 – LEPCs are notified of status (approval/denial) of their new sub-grant applications.
- September 10, 2014 – Deadline for completion of all LEPC projects and submission of paperwork to KDEM.
- September 30, 2014 – All HMEP grant activities are brought to an end. Closing of FFY 2014 grant.

C. **QUARTERLY REPORTS:**

Quarterly progress reports are required from the subgrantees. KDEM uses this information

in a mandatory report to USDOT at the end of each quarter. The deadlines for quarterly reports from LEPCs are:

- January 15, 2014 – Deadline for submission of Qtr 1 report to KDEM.
- April 15, 2014 – Deadline for submission of Qtr 2 report to KDEM.
- July 15, 2014 – Deadline for submission of Qtr 3 report to KDEM.
- September 10, 2014 – Deadline for submission of Qtr 4 and Final Report to KDEM.

2. ELIGIBILITY:

Local Emergency Planning Committees (LEPCs) are eligible to apply for HMEP funds to develop, improve, and implement emergency plans under the Planning grant program. Eligible active LEPCs must have a current membership form, by-laws, and a compliance certification form on file with the State.

3. FUNDING ALLOCATION (75% Pass Through):

The total HMEP grant award from USDOT to Kansas for FFY 2013 is $396,755.00. The HMEP grant is divided into two areas of funding, training and planning. USDOT requires that all HMEP training and planning activities are related to hazmat transportation. The HMEP planning and training allocations for FFY 2013 are:

Total: $396,755.00
Planning: $165,942.00
Training: $230,813.00

KDEM is required to pass through a minimum of 75% of the HMEP grant funds to LEPCs; however, since 1996, KDEM has passed through approximately 90% of the grant funds to Kansas LEPCs for hazmat training and planning activities. On the planning side, HMEP grant funds provide support to LEPC's to conduct commodity flow surveys, table top exercises, and full scale exercises to improve their community's ability to respond to hazardous materials incidents. The training activities include hazmat trainings that are compliant with the federal standards and that enable first responders to safely and effectively handle transportation related hazardous materials accidents and incidents.

4. 20% MATCH REQUIREMENTS:

A 20% matching share of the **direct** and **indirect** costs of all project activities is required under the HMEP program. If the grant recipient is eligible to receive $40,000 in HMEP grant federal funding, then $10,000 is the grant recipient's non-federal (match) share, which is your share. The total cost of the project is $50,000.

Examples of **direct** cost: Project staff, consultants, project supplies, publications, travel, labor, material, etc.
Examples of **indirect** cost: Telephone charges, computer use, project clerical personnel, postage and printing, miscellaneous office supplies, overhead, etc.

Calculating Non-Federal Match and Total Project Cost when the Federal award is known:

$$\frac{\text{Match}}{\text{Federal Award}} = \frac{20\%\ (\text{Non-Federal Share})}{80\%\ (\text{Federal Share})} = \frac{2}{8} = \frac{1}{4} = 0.25$$

Calculating Non-Federal Match						Calculating the Total Project Cost		
Federal Award	x	**% Match**	=	**Non-Federal Match**		**Federal Award + Match**	=	**Total Project Cost**
$40,000		0.25	=	$10,000		$40,000+$10,000	=	$50,000

Note: The ratio of non-Federal (20%) to Federal funds (80%) is 20/80 = 2/8 = 1/4 = 25%; thus, non-Federal funds on an investment equal 25% of Federal funds allocated to that investment.

A match may either be cash (hard match), in-kind (soft match), or a combination of both. The matching share must be unobligated money; funds or costs used for matching purposes under any other Federal grant or cooperative agreement may not be used for matching purposes. You cannot use Federal funds to match since they are already federal dollars. In-kind matches must be verifiable.

If you use contractual services in your proposal, you must include the full contractual amount in your application. Otherwise you will have to come up with hard cash for any remaining amount. Please note that HMEP Program does not pay for backfills or overtime for responders, salaries for LEPC members, equipments for operational use, and expenses not related to the projects, etc. Indirect costs are allowed only if you have a federally approved indirect cost rate and you attach a copy of the rate approval (a fully executed, negotiated agreement).

In-kind contributions are non-cash contributions in the form of goods or services that can be given a cash value. Examples include the fair market value of project supplies, equipment, and services. Examples of matching costs include:

1. Salaries, fringe benefits, per diem, housing, or travel expenses incurred by any person other than a STATE employee while attending training classes or involved with the program.
2. Private contributions such as corporate contributions of facilities or services. (e.g. tanker, cargo tank trailers, van trailer, training site, hazmat equipment, first aid ambulance stand-by, classroom space)
3. Voluntary contributions such as: firefighter support, emergency personnel support, and the time of any LEPC member.
4. Equipment or facilities used for exercises, whether public or private.
5. Voluntary expenditures such as:

    a. A person in the community who is a chemical engineer or a physician donates their time during an exercise.
    b. A professor volunteers to be a trainer or train-the-trainers.
    c. Citizens volunteer to set up or participate in exercises.
    d. Facility space (e.g. a surplus school building used as hazmat academy) is donated to house courses or conduct exercises.
    e. University students volunteer time to participate in exercises, aid data collection or assist in exercise report generation.

NOTE: All in-kind matches must be **reasonable, allowable, and allocable** to the project.

5. PERFORMANCE PERIOD:

The performance period for the HMEP grant is October 1, 2013 - September 30, 2014. However, KDEM requires that LEPCs close their grant by September 10, 2014 to allow sufficient time to review the documents and take any corrective actions. Please refer to the FFY 2014 SUBGRANT IMPLEMENTATION process (Section 1.B) for details.

6. FUNDING CRITERIA:

USDOT enforces strict guidelines concerning the specifics of how the HMEP grant awards may be spent by the grant recipients (LEPC). A LEPC project must relate to hazardous materials transportation. Please ensure that the subgrant proposals or any modifications are reviewed and approved by KDEM/USDOT prior to execution. Activities carried out without prior approval from these agencies will not qualify for reimbursement and the LEPC will be responsible for the incurred expenses.

Planning:

Federally identified activities congruent and incongruent with the objectives outlined by the HMEP are to include, but not be limited to the following:

Eligible Planning Activities:

- Development, improvement, and implementation of emergency plans required under the Emergency Planning and Community Right-to-Know Act (EPCRA), as well as exercises that test the emergency plans. Enhancement of emergency plans to include hazard analysis, as well as, response procedures for emergencies involving transportation of hazardous materials, including radioactive materials.
- An assessment to determine flow patterns of hazardous materials within a state or between one state and another state, territory or Native American land; also the development and maintenance of a system to keep such information current.
- An assessment of local response capabilities.
- Conduct emergency response drills and exercises associated with emergency preparedness plans.

- Technical staff to support the planning effort (staff funded under planning grants cannot be diverted to support other requirements of EPCRA).
- Additional activities that the USDOT Associate Administrator for Hazardous Materials Safety deems appropriate to implement the scope of work for the proposed project.

Examples of Planning Activities Funded by HMEP in the Past:

- Commodity Flow Study
- Hazardous Analysis
- LEOP development under EPCRA
- LEOP update
- Exercises to test the plan

Examples of Allowable Planning Activities Listed by PHMSA: Please refer to the **Appendix A** in this document.

Use the Scope of Work and Checklists developed by KDEM as guide for Commodity Flow Studies and Hazard Analysis projects (**Appendix B**). For additional information, consult the EPA's Technical Guide for Conducting a Hazard Analysis and USDOT's Guide for Conducting a Commodity Flow Survey. Use the Planning Guidance CPG 101 and NRT-1 for hazmat plan development and improvement. USDOT's PHMSA is the authority for final approval of LEPC Planning projects.

Training:

Training grants can be used for training public sector employees to respond safely and efficiently to accidents and incidents, including those involving transportation of hazardous materials. Training may also be designed for public officials who are not responders, but who perform activities associated with emergency response plans developed under EPCRA.

Eligible Training Activities:

- An assessment to determine the number of public sector employees who need training and to select courses consistent with the National Curriculum.
- Delivery of comprehensive preparedness and response training to public sector employees 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.

- Emergency response drills and exercises associated with training, a course of study, and tests and evaluation of emergency preparedness plans.
- Management of the training effort to achieve increased benefits, proficiency, and rapid deployment of public service employees who respond to accidents and incidents involving hazardous materials
- Expenses associated with training by a person (including a department, agency, or instrumentality of a State or political subdivision thereof or an Indian tribe). Activities necessary to monitor such training including, but not limited to examinations, critiques and instructor evaluations.
- Activities the Associate Grant Administrator (USDOT) deems appropriate to implement the scope of work for the proposed project plan and approved in the grant.

Examples of Allowable Training Activities Listed by PHMSA: Please refer to the **Appendix C** in this document.

For training not listed above but required for the jurisdiction, the LEPC must provide a training curriculum and identify the standard it follows. For complete guidance on the HMEP grant allowable activities please refer to the **DOT HMEP Activity Guidance**. USDOT's PHMSA is the authority for final approval of LEPC Training projects.

EXERCISE:

Exercises allowed Under HMEP mainly fall under two categories:

- Discussion-based (Seminar, Workshop, Game, Tabletop):

  These exercises familiarize players with current plans, policies, agreements, and procedures, as well as provide a medium for developing new plans, policies, agreements and procedures. Discussion-Based exercises may involve single or multiple agencies and/or functions. Though they generally only cover broad topics, they involve little or no cost, modest time commitments and are a quick method to brief persons or organizations on unfamiliar topics. Discussion based exercises are usually funded under the HMEP Planning grant.

- Operations-based (Drill, Functional, Full-Scale):

  These exercises are used to validate the plans, policies, agreements, and procedures solidified in discussion-based exercise. They can clarify roles and responsibilities, identify gaps in resources needed to implement plans and procedures, and improve individual and team performance. Operations-Based exercises are characterized by actual reaction to simulated intelligence: response to emergency conditions: mobilization of apparatus, resources, and/or networks; and commitment of personnel, usually over an extended period of time. In these exercises, player action is designed to mimic reaction, response, mobilization, and commitment of personnel and resources in real time play. Operations based exercises are usually funded under the HMEP Training grant.

Please use the attached Scope of Work for Exercises developed by KDEM for conducting hazmat exercises (**Appendix D**). USDOT's PHMSA is the authority for final approval of LEPC Exercise projects.

7. INELIGIBLE HMEP ACTIVITIES:

- Expenses not related to hazardous materials (activities must alleviate incidents related to hazmat transportation)
- Expenses claimed and or reimbursed by another program
- Expenses counted as match funds toward another program
- Expenses that supplant existing funds/programs
- Entertainment costs/ food provided during exercises
- Any costs disallowed or stated as ineligible in 49 CFR part 110 Final Rule
- Software with the exception of CAMEO
- Software to manage Title III materials
- Excessive costs for general office supplies, equipment, computer software, printing and copying
- Operational equipment
- National Incident Management Systems (NIMS) courses
- Weapons of Mass Destruction (WMD) courses
- Any costs disallowed or stated as ineligible in OMB Circular A-87 or 49 CFR Part 110 Final Rule

Note: Equipment rental or purchase for exercise purpose may be allowed, depending on the reasonableness of the proposal with prior approval from KDEM and USDOT.

Examples of Planning and Training Unallowable Activities Listed by PHMSA: Please refer to the **Appendix E** in this document.

8. FEDERAL FUNDING PRIORITIES:

The HMEP grant program prioritizes efforts that lead to the prevention of serious hazmat transportation related incidents, principally those of high consequence to people and the environment. Within the area of Planning those federal priorities include:

- Training conducted in agreement with NFPA 472 core competencies
- Training conducted in agreement with NFPA 472 mission specific training based on assessed hazmat transportation safety risks
- Ensure state, federal and local emergency planning and preparedness is established, integrated, and mutually supportive.
- Community, industry, state and federal disaster plans are integrated under a single unified Incident Command System (ICS). Plans are reviewed and updated as necessary annually.
- Conduct appropriate hazard assessments and gap analysis to determine the level of hazmat safety risk within a jurisdiction, state, or region.
- Conduct drills and exercises to test State and County emergency response capabilities and to identify gaps in training and planning needs.
- Improve interagency inoperability to better respond and mitigate hazmat incidents.

9. PROJECT DEVELOPMENT AND SUB- GRANT APPLICATION:

- **Beginning the Process:** Several questions should be considered to determine where the State is in the planning process. What percentage of the population is covered by emergency plans? Are these emergency plans based on technically-sound hazards analyses? To what degree is transportation-related risk considered in these plans? Have the plans been tested by conducting exercises? Does the County have necessary

capability to respond to a hazmat emergency? Are there any gaps and what trainings are needed to fill the gap?

- **Establishing Priorities:** Each County has unique risks and unique planning organizations associated with it, each County should consider prioritizing the uses of its HMEP allocation. Questions to consider when making this determination include: Are there certain geographical areas that are of particular concern, especially considering transportation related risk? Is there any presence of specific high-risk, high-priority chemicals?

- **HMEP Application:** In order to request funds from the HMEP grant, each LEPC should fill out an application with the KDEM for the activity they are interested in pursuing. The approved activities must relate to hazmat transportation. Please refer to the **DOT HMEP Activity Guidance** for additional information**.** A narrative description explaining the anticipated expenses associated with the activity is required. If the LEPC applies for a training project and the training is provided by an individual, a syllabus of the course and the instructor's credentials must be attached with the application. For training provided by a vendor, detail information about the vendor must be included. A HMEP application should contain the following sections. The "FFY2014 HMEP Grant Application Instructions" provides further details on the grant application components:

- **Project Development:**

  Project Narrative*:* Provide detail description of the project that includes the following elements:
  - Background Statement
  - Impact on the Program
  - Timeline
  - Monitoring Efforts
  - Coordination of Planning
  - Scope of Work: List scope of work, schedule and deliverables, use Scope of Work developed by KDEM for Commodity Flow Surveys, Hazard Analyses, and Tabletop exercises.

  For Training Projects, in addition to the above, please include the following:
  - Type of Training

- Estimated Date of Training
- Place of Training
- Estimated Number of Public Sector Employees to be Trained
- Identify the Training Compliance that will be Met for Training not Listed in the Application Form
- List Training Provider's Information (Name, Address, Phone number, Email, etc)
- Attach Instructor's Credentials, Affiliation and Certifications

For Training Projects, In addition to the above, please include the following:

- Type of Exercise
- Proposed Date of Exercise
- Any Equipment Purchase/Rental for Exercise
- List Agencies that Will Participate in the Exercise

Budget: Training and planning are two parts of the comprehensive national grant program. Applicants are encouraged to request funds to conduct one or both parts in a single application package. If both are included in one package, provide separate budgets for training and planning. Provide a line item budget for each activity so that the grant reviewers have the opportunity to ensure that the expenses described are in compliance with federal requirements.

Match Information: Provide detail information on the 20% match

Certifications: Application certified by appropriate authorities

10. REIMBURSEMENT REQUIREMENTS:

KDEM will submit Reimbursement Requests to USDOT upon receipt of appropriate documents from the LEPCs. The required documents would include invoices or proof of payment, proof of completion of project, and local match. It takes approximately 4-6 weeks to process a reimbursement request and send the check to the LEPC.

If the proposal includes a HazMat Planning or Exercise, and a contractor is hired for the project, ensure that the contractor completes the project in a timely manner so that the

LEPC has sufficient time to review the product and close the grant with KDEM by the September 10 deadline. The contractor can be reimbursed based on a quarterly basis or percentage of the project completed. However, the LEPC must ensure that the project will be completed at the end of the grant period and include appropriate clauses in the contract that any delay or failure to deliver the product in time will result in breach of contract and the contractor will be required to return the funds. The LEPC may submit reimbursement requests using a progressive payment schedule. For training projects, the LEPC should furnish a proof of project completion such as copy of the class roster, evaluations, certificates, etc along with the receipts or invoices for reimbursements. Once the project is complete, close the grant by providing copies of deliverables, such as copies of plans, exercise reports and improvements plans, training report, etc and finally, a the grant closeout checklist by the September 10 deadline.

The Kansas State Travel rules will apply for travel reimbursement. The cheapest mode of travel will be reimbursed when more than one alternative is available. For example, if renting a car turns out to be cheaper than driving personal or office vehicle, then a rental car should be the preferred option. Lowest coach/economy rate based on advanced booking will be reimbursed. Copies of hotel receipts, airline tickets, shuttle receipts, vouchers, etc should be saved and submitted with grant closing documents. Mileage reimbursement will be based on the current State of Kansas mileage rates. Local reimbursement rates for travel will not be allowed. If the LEPC requests reimbursement only for fuel and not the mileage rate, receipts for fuel must be provided.

11. REPOTING REQUIREMENTS:

Quarterly Progress Report: A progress report is required each federal fiscal quarter. At completion of the project, a report that describes what was done, what was learned, and what action has or will be taken as a result of the project must be submitted to KDEM. Upon completion of the project the sub-grantee must supply the KDEM with a complete accounting of expenditures with documentation verifying expenditures incurred and match provided. Quarterly reports are due at the end of each quarter as stated in the grant contract. Please use the attached reporting form for quarterly reports (**Appendix F**). The deadlines for submitting quarterly reports to KDEM are described in the section 1C of “Overview” in this guidance.

Final Report: Upon completion of the proposed HMEP projects, the LEPCs will submit a grant closing report with supporting documents. As mentioned in the “Reimbursement Requirements” section, the documents would include copies of checks, orders and vouchers, receipts, invoices, bills, training certificates, class rosters, deliverables such as copies of completed plans, exercise reports and improvement plans, etc showing that the funds were utilized to achieve the outcome of the project. Please include a narrative information supporting soft match elements must be sufficiently explained to provide the reviewers with adequate assurance that appropriate levels of effort were made.

Appendix A

PLANNING: Examples of Allowable Activities

HOTZONE

TRANSCAER

International Association of Fire Chiefs (IAFC) International Hazmat Conference

Midwestern Hazmat Conference

Fire Department Instructors Conference

Fire Rescue International

National Association of SARA Title III Program Officials (NASTTPO) Conference

Hazmat/LEPC Regional Conference

U.S. EPA Chemical Emergency Prevention and Preparedness (CEPP) Conferences

Hazmat/LEPC Regional Conference

Hazmat Challenge

Regional Hazmat Workshops/Training/Conferences

Regional/Local Hazmat Preparedness Conferences

Hazmat Planning Conferences

Regional Hazard Analysis

Transportation and Handling of Radioactive Contaminated Injured Individuals

Commodity Flow Surveys

Hazardous materials disaster scenario table top exercises

Aerial photography for use with Commodity Flows

Annual Hazmat Workshop

Attendance to the Regional Response Team (travel)

Planning Specialist Courses

Tri-State Hazmat Exercises

TRANSCAER Task Group and CHEMTREC Tour/Meeting

Area Plan triennial update and the design

CAMEO software

EPA-RMP

Appendix B

Hazard Analysis - Scope of Work

Develop one comprehensive Hazard Analysis plan to identify and assess potential hazard in the community, primarily from **Technological** hazards from releases of Extremely Hazardous Substances (EHS) from fixed facilities and transportation of chemicals to and from the facilities (for HMEP funded projects). **Natural**, **Civil,** and **Vector** hazards can also be included to broaden the scope of the study. The final product will include the following:

General Summary: Provide an overview of:

- Background of the study
- Regulations and compliance issues
- Process used for analysis
- Utilization of information (purpose, how the product will be utilized)

County Profile: Describe county profile containing the summary of following information:

- Geographic
- Demographic
- Infrastructure
- Historical
- Geologic
- Climate & Weather
- Economic
- Transportation
- Response Organizations
- Critical Facilities

Hazards Identification: Identify, characterize and evaluate potential hazards in the jurisdiction, include pertinent maps as applicable.

- Identify EHS present in the community from County/State Tier II data, Environment Pollution Agency (EPA) data, Emergency Planning and Community Right To Know Act (EPCRA) data, United States Department of Transportation (USDOT) filings, Chemical Spill data, other state/federal databases that might contain information to identify hazard, field inspection of storage tanks, business sites, stored chemical sites, railroad spurs, water treatment plants, etc
- Locate facilities with EHS exceeding the threshold planning quantity (TPQ), list type and quantity of EHS present in the community
  - Identify top 30 top ranked chemicals (EHS or other top ranked) in the community
  - Identify top ranked 30 facilities with EHS chemicals
    - List facility name, address, maps, longitude/latitude, emergency contacts
    - List chemicals on site, characterize by
      - Chemical Abstract Service(CAS) #, physical state, type of hazard (explosive, reactive, toxic, etc)
      - Maximum quantity stored at a time, amount in largest or interconnected vessels
      - Type and design of container (size and shape) and condition of storage
    - Identify transportation routes (on a map) for transporting chemicals, frequency of shipments, form of shipments, and quantity of shipments
    - Depict evacuation routes in the event of an chemical release
    - Additional facilities contributing or subjected to additional risk due to their proximity to facilities
  - Other technological hazards such as radiological, dam failure, power failure, major transportation incidents, etc that can cause secondary hazard to a chemical release
- Identify potential hazards from natural events such as flood, tornado, earthquake, drought, winter storm, excessive heat, landslide, wildfire, etc that can cause secondary hazard to a chemical release
- Identify potential hazards from civil disturbance, terrorism, deliberate human actions to threaten or harm another person or cause damage to property that can cause secondary hazard to a chemical release
- Identify potential hazards from biological agents, foreign animal disease (FAD), infectious disease, etc

Vulnerability Analysis: Determine vulnerability of population, property, essential services, and environment from information obtained from hazard identification and community profile, focus on hazards that present greatest risk. Use tables and maps as needed to illustrate results. Assess the following:

- Estimate vulnerable zones for the top 30 locations with reported EHS and depict on a map
- Assess vulnerability based on threat from EHS present at the facility and safeguards present -- such as chemical detection devices, alerting systems, shelter in place, etc
- Estimate impact on life (population, animal, endangered species, etc) in the event of a release
- Identify impact on critical facilities within the vulnerable zone
- Determine impact on the environment within the vulnerable zones
- Determine impact on essential services within the vulnerable zones
- Determine impact on response organizations and equipments within the vulnerable zones
- Determine vulnerabilities from other technological hazards that were identified in the hazards identification process
- Determine vulnerability of population, property, and environment based on potential natural incidents such as flood, tornado, earthquake, storms, severe winter weather, excessive heat, etc; historical data, forecasts and trends.
- Determine vulnerability based on historical data on terrorism, civil disorder and any unrest or unlawful use of force, data sources such as homeland security data, and subjects of interest that can act as a source of secondary hazard
- Determine vulnerability based on historical data on infectious diseases, FAD, biological agents, insects, etc

Risk Analysis: Evaluate risk using the following methods:

- Describe risk assessment methodologies. Collect chemical risk information (e.g. from EPA's Chemical Emergency Preparedness and Prevention Office), unusual environmental conditions, assess population and properties that could be at risk. Present data in the form of tables. Describe
  - Risk rating methods for
    - Chemical Hazards
    - Natural Hazards
    - Other Hazards such as Civil Hazards, Vector Hazards
  - Describe models and algorithms used in risk analysis
- Estimate risks for each hazard category using risk ratings and prioritizes risk based on conservative estimates and worst-case scenarios. Present data in tables for each hazard categories.
  - Prioritize and rate to 30 facilities based on EHS present in the facility, historical accident records, and probability of release based on observation at the facility
  - Estimate probability that a release will occur and any unusual environmental conditions
  - Rate the severity of consequence to life/damage to property/damage to environment, if an actual release were to occur; rank high, medium, low, or use numeric ratings based on appropriate technical consideration
  - Assess risk due to other technological hazards that were identified in the hazard identification process
  - Develop Cascading Hazard Risk Matrix, showing potential secondary risks from primary sources to reflect local conditions. Presents data in tables
  - Assess potential risks for natural events such as flood, drought, wildfire, severe weather, earthquake, landslide, etc; analyze other unique risk factors that might affect neighboring entities
  - Assess potential Civil Hazards risks from historical and other data sources such as homeland security data, law enforcement data, suspected targets within the jurisdiction, etc
  - Assess Vector Hazard risks from agricultural, ecological, FAD, infectious disease, historical data, etc

Conclusion and Recommendations: Assemble information concerning hazards, vulnerability, and risk. Identify highest threat and recommend response actions; identify any gaps observed in data collection; time period for which the plan is valid; recommend maintenance of the plan.

Resources: Include state/county maps and tables, historic site maps, contingency maps and tables, references, acronyms, glossary

Hazard Analysis Checklist

Reviewed by: **Date:**

A. General Summary	Criteria Met	Reference Location
Includes clear delineation of the objective of the Hazard Analysis study, overview of project concept		
Identifies and lists regulations and compliance issues (local, state, and federal laws and regulations concerning EHS)		
Describes process used for conducting the analysis (review of county/state/federal data, maps, historical data, personnel interviews, facility visit, etc)		
Includes utilization of information (purpose, how product will be used)		
B. County Profile	**Criteria Met**	**Reference Location**
Geographic/Climate and Weather: Provides information on location, topography, land use, river, lakes, streams, cities and towns, wetlands, flood plains, tribal land, land zoning, climate such as temperature (high, average, low), wind, snow, precipitation, etc		
Demographic: Describes population characteristics, population over 65, population under 18, homeless, transient population, special needs population (e.g. hearing impaired, non-English speaking, prison inmate, etc) population covered by sirens, growth areas, single family homes, apartments, etc		
Infrastructure: Includes energy sector, communications sector, dams, reservoirs, canals, watersheds, pipeline, electrical distribution systems, freight, mass transit, public housing, hazardous waste, sewage system, water systems, utilities, etc		
Historical: Includes historical information of all types of hazards, trends, etc		
Geologic: Considers seismic activity, aquifers, oil and gas fields, mining, land structure, underlying strata, etc		
Climate and Weather: Includes county climate, temperature (high, average, low)		
Economic: Economic base including income, labor force, tangible assets, business & industry, agriculture, etc		
Transportation: Transportation routes such as highways, railroads, waterways, local airports, local roads, paved roads, pipelines, etc		
Response Organizations: Describes emergency equipment and facilities in the community that are available (name, address, and contact information on fire departments, police, emergency management, emergency medical services (EMS), etc)		
Critical Facilities: Hospitals, schools, nursing homes, day care centers, educational institutions, adult care centers, other health care facilities, etc		

C. Hazard Identification	Criteria Met	Reference Location
Describes methods used to identify extremely hazardous substances (EHS) from local, state, and federal databases, field surveys and visual inspection of stored chemicals, storage tanks, agro business sites, etc		
Identifies EHS that are manufactured, processed, used, disposed, or stored within the study area		
Lists Top 30 EHS (chemicals) in the study area		
Identifies top 30 facilities that contain EHS exceeding the threshold planning quantity (TPQ) in the study area		
Includes facility name, address, maps, emergency contacts, latitude/longitude, etc		
Includes chemicals on site, identifies CAS #, physical states and type of hazard associated with the chemicals such as explosive, reactive, toxic level of concern (LOC), hazard class, etc		
Includes maximum quantity stored at a time and the amount stored in largest interconnected vessels		
Lists type and design of container (size and shape) for the identified EHS in the facility, storage condition		
Includes route maps likely to be used for the transportation of chemicals to and from the facilities		
Includes frequency of shipments, form of shipments, quantity of shipments, etc from and to the facilities		
Depicts evacuation route maps in the event of an chemical release and shelter in options		
Lists additional facilities contributing or subjected to additional risk due to their proximity to the referred facilities		
Identifies other possible technological hazards such as dam failure, nuclear power plant accidents, other radiological incidents, major power failure, major transportation incidents, etc		
Identifies possible hazards from natural events such as flood, tornado, severe weather, drought, excessive heat, earthquake, landslide, wildfire, etc		
Identifies seasonal pattern, speed of onset, and duration time of natural hazards		
Includes reference maps and tables depicting areas of potential risk such as flood plains, earthquake fault zones, fault lines, rivers, lakes, etc in the county		
Includes maps of past flooding events		
Identifies number of residents with flood insurance		
Identifies number of residents with earthquake insurance		
Identifies number of residents with property insurance		
Analyzes historical data on previous civil hazards such as school/workplace violence, terrorism, civil disturbance, etc from local records and evaluates in terms of frequency of past incidents, extent of affected areas, duration of impact, casualties, and property damage		
Identifies location of correctional institutions and probation and parole offices		
Analyzes historical data on previous vector hazard related incidents and disasters (public health & animal health emergencies) from local records and evaluates frequency of past incidents, extent of affected areas, duration of impact, casualties, and property damage		
Identifies percent and location of county that is farmland		
Identifies feedlot locations and approximate number of animals present in each feedlot		
Identifies potential hazards from biological agents, Foreign Animal Disease (FAD), infectious disease, etc		

D. Vulnerability Analysis	Criteria Met	Reference Location
Assesses likelihood of incidents from EHS stored at the facilities identified in hazard identification process and estimates vulnerable zones based for each reported EHS based on physical and chemical properties, quantity of storage, rate of release, meteorological condition, surrounding topography, etc		
Analysis includes instantaneous and continuous releases including spills, leaks, fires, explosions, and BLEVEs		
Includes zones of impact, vulnerability tables and maps for the top 30 facility sites		
Vulnerability analysis takes into account safeguards such as toxic chemical detection devices, alerting systems, methods for determining the occurrence of release, sirens, facility evacuation and shelter in place plans, etc		
Vulnerability analysis evaluates impact on life (population, animals, endangered species) within the estimated vulnerable zones		
Analysis includes vulnerability of special population		
Assesses critical facilities to be impacted within the estimated vulnerable zone		
Assesses potential Impact on the environment, drinking water, croplands, vegetation, etc		
Assesses potential impact on essential services within the vulnerable zones		
Assesses impact on response organizations and equipments within the vulnerable zones		
Assesses vulnerabilities due to other technological hazardous identified in the hazard identification process		
Assesses vulnerability of population, property and environment from natural hazards such as flood, tornado, severe winter weather, earthquake, excessive heat, widfire, etc. Describes procedure for analysis, ranks vulnerability and includes relevant maps and tables		
Assesses likelihood of significant Civil Hazard events in the county, particularly in locations where large masses gather, and estimates potential impact on people, property, and services.		
Assesses likelihood of Vector Hazard incidents and an estimate of potential impact or risk posed to people, property, and services.		

E. Risk Analysis	Criteria Met	Reference Location
Describes methodology used for determining risk ratings for chemical hazards		
Determines severity rating based on chemical attributes, health hazard factors, likelihood of occurrence, etc		
Describes risk rating procedures for natural hazards such as flood, tornado, seismic activities, wildfire, etc		
Describes risk rating procedures for other hazards such as civil hazards, vector hazards, etc		
Describes algorithms and models used for risk analysis		
Prioritizes and rates top 30 EHS or other chemicals identified in the county		
Prioritizes and rates top 30 facilities based on EHS or other chemicals present in the facility, historical accident records, storage conditions, control technologies in place, and field inspection		
Estimates probability that a release and severity of consequences based on magnitude, frequency of occurrence, speed of onset, etc		
Estimates probability that a release will occur and any unusual environmental conditions, such as flood plain areas, seismic activity, or potential for simultaneous occurrence of emergency incidents		
Rates the severity of consequence of damage to property if an actual release were to occur		
Rates the severity of consequence of damage to life/property/environment if an actual release were to occur, rank in order		
Estimates probability that an incident will occur due to other technological hazards that were identified during the hazard identification process		
Analysis includes cascading hazard matrix, showing potential secondary risks from primary sources is revised to reflect local conditions		
Assesses potential risks from natural events such as tornado, drought, wildfire, winter storm, flood, hail storm, earthquake, excessive heat, landslide, etc; analyzes other unique risk factors that might affect neighboring entities		
Assesses potential Civil Hazards risks from historical information and other data sources such as homeland security data, law enforcement data, suspected targets in the jurisdiction, etc		
Assesses Vector Hazard risks from agricultural, ecological, foreign animal disease (FAD), infectious disease, etc		
F. Conclusion and Recommendations	**Criteria Met**	**Reference Location**
Provides summarized information concerning hazards, vulnerability and risks, identifies potential highest threats and recommends response actions		
Identifies gaps observed in data collection, makes recommendations		
Identifies time period for which the plan is valid		
Recommends maintenance of the hazard analysis		

G. Resources	Criteria Met	Reference Location
Includes state and county maps and tables		
Includes historic site maps		
Includes contingency maps, tables, charts, pertinent to the hazard analysis study		
Includes glossary of items		
Includes illustration of acronyms		
Includes references		

Scope of Work – Commodity Flow Study

The project will construct and publish a comprehensive report on the goods that are moving through the particular area of interest. The study will identify hazardous materials transportation flow patterns in the study area, identify fixed facilities that handle, store, and transport hazardous materials, perform a general assessment of issues regarding hazardous materials transport, and perform an analysis of the data and assess vulnerabilities. The following components should be included in the study:

General Summary: Provide an overview of:

- Background of the study (Hazmat transportation overview, objective, project concept, data requirements)
- Regulations and statutes (compliance with requirement s of Emergency Planning and Community Right to Know Act (EPCRA), local statutes)
- Utilization of information (purpose, how the product will be utilized)

Study Area Profile: Describe County profile based on the following information:

- Geographic
- Demographic
- Climate and Weather
- Transportation
- Infrastructure
- Emergency Response Organizations
- Critical Facilities

Data Collection:

- **Flow of Hazardous Materials through the Roads and Highways**
  - **Existing Data Overview:**
    - Locally or institutionally available data (transportation of hazmat in the study area by modes and routes; Incident and accident information for the study area; previous Hazmat Commodity Flow Studies, local, state and federal data on hazmat transportation, information maintained by local hazmat facilities and carriers, trade, environmental, and social advocacy organizations, and printed maps, etc)
    - Electronic databases and reports (databases and reports that have information about transportation networks, commodity movements, system performance (traffic) levels, historical incident and accident occurrences and locations)
    - Evaluates existing data (commodities, hazardous materials, hazard class, traffic corridors, origin/destination, top 30 hazardous materials transported, etc)
    - Evaluate new data needs
  - **New Data Collection:**
    - Interview shippers, receivers, and carriers to determine type and quantity of hazardous materials by time, mode, and route, origin/destination
    - Interview emergency responders and managers, etc to determine priority survey locations, transportation corridors, volume, frequency and time of shipments, and content of hazmat transport, etc
    - Field data collection
      - Survey Study Design
        - Develop project data collection methods, count intervals, precision
        - Select data collection sites – maps, target survey locations
        - Data elements that will be collected during the survey – include survey form
        - Determine survey duration and schedule – time, frequency
      - Collect Field Data:
        - Traffic network by time of the day, local movements
        - Commercial Vehicle Survey
        - Total Truck Survey
        - Truck Type and Configuration (e.g. Type - Tank, Van/Box, Step Bed/Flat Bed, Service/Utility, Refrigerated, Other Cargo Bodies, etc; Configuration – Straight Trucks, Tractor Trailer, Tractor with Multiple Trailers, etc)

- UN/NA (United Nations/North American Identification) Placard ID Survey
- Combined Commercial Vehicle and UN/NA Placard ID Survey
  - Total Truck and UN/NA Placard ID Surveys
  - Truck Type and Configuration and UN/NA Placard ID Survey
- Directional and Intersection Surveys

- **Flow of Hazardous Materials through the Railroad** - collect waybill hazmat information from railroad carriers (Standard Transportation Commodity Code data(STCC), collect data on release incidents, accidents, fatalities, and derailments
- **Movement of Hazardous Materials through the Pipelines** - map pipelines, obtain flow summary of materials transported through pipelines, incident information
- **Movement of Commodities by Air** - Airports and commodity transported/Storage of fuel in the airport area

Analyze Collected Data:

- Determine flow of Hazardous Materials by road, rail, pipeline, air; produce maps, charts and tables, as applicable
  - **Roads and Highways**
    - Overall truck traffic passing through the study area
    - Movement of hazardous materials by container type – box, flatbed, tank, other
    - Local movements by hazard class and division transported
    - Total movement per time segment & hazmat shipments as a percentage of total traffic
    - Proportions of truck traffic by type and configuration and the percentages of placarded trucks
    - identification of directional movements for both directions of a roadway or for turning movements at intersections
    - Hazmat shipments in both placarded and un-placarded vehicles, shipment sizes and packing methods, specific materials, and shipment origin and destination
    - Placard count per site and predicted routes
    - Placard count per traffic direction – east/west/north/south
    - Peak transportation time and days
    - Routes and locations with highest placard counts
    - Lists variation of hazmat traffic from Placard Survey by day of week
    - Establish major traffic corridors used for hazmat transportation
    - Identify top ranked 30 chemicals transported through roads and highways
  - **Rail Road**
    - Analyze data on train derailments and chemical releases, depicts in tables
    - Analyze data on highway-rail grade crossings, determine vulnerable locations
    - Include summary of hazardous incidents involving trains
    - Estimates peak hour of traffic through the rail traffic corridor, list in tables
    - List top 30 hazardous chemicals passing through the study area by the railroads in the region
  - **Pipeline**
    - Provide relative breakdown of hazardous materials shipped through pipelines by total volume
    - Evaluate past accidents and trends
    - Identify pipeline corridors and vulnerable areas
    - Provide a summary of yearly volume of hazardous materials shipped via pipeline
  - **Air**
    - Determine relative breakdown of air cargo hazardous material shipments by total volume
    - Determine air cargo hazardous materials shipments by county
    - Assess hazards due to storage of fuel

Hot Spots:

- Identify hot spots
  - Identify areas and facilities along major traffic routes that are at a higher level of risk
  - Geographical areas where a spill or release could create significant risk to the population
  - Evaluate potential impact on critical facilities along the traffic corridor due to a hazmat release

- Evaluate impact of a spill or release on environmentally sensitive areas and bodies of water that are sources of drinking water
- Evaluate risks at rail grade crossing

Identify Emerging Risk Sources:

- Identify potential issues arising from community changes that could elevate risk and vulnerability along emergency routes
  - Consider traffic growth exceeding capacity
  - Development of future critical facilities along the traffic corridor
  - Identify growth of population requiring special consideration
  - Likelihood of spill event based on past experience and worst-case scenarios
  - Potential increase in hazardous materials transportation
  - Number of major roadway transport corridors included in the Commodity Flow Survey area increases

Conclusion and Recommendations:

- Consider variability of local needs and conditions, assumptions and limitations, makes recommendation
- Need for new data in the future, gaps observed
- How information can be used including identification of most frequent or greatest threats, needs for additional intelligence, etc
- Recommends maintenance of the plan

Resources: Text, matrices, lists, tables, charts, graphs, maps, etc for different materials classifications, modes, and network segments, including all existing data sources, reports, statistics, and documents that were used, glossary , acronyms, and references

Commodity Flow Study Checklist

Reviewed by: **Date:**

General Summary:	Criteria Met	Reference Location
Provide background summary of the Commodity Flow through the study area		
Provide clear delineation of the objective of the Commodity Flow study		
Provide an overview of project concept, and define data requirements		
Identify regulations, compliance issues, EPCRA and any local statues		
Utilization of information is included		
Study Area Profile:	**Criteria Met**	**Reference Location**
Geographic: Describes study area physical features and natural sources such as location, topography, land use, river, lakes, streams, cities and towns, wetlands, flood plains, tribal land, land zoning, etc		
Demographic: Describes population characteristics, population over 65, population under 18, homeless, transient population, special needs population (e.g. hearing impaired, non-english speaking, prison inmate, etc), population covered by sirens, growth areas, single family homes, apartments, etc		
Climate and Weather: Identifies temperature, high, average, low, wind, snow, precipitation, drought, flood, etc		
Transportation: Identifies transportation routes such as highways, railroads, waterways, pipelines, local airports, local roads, paved roads, etc		
Infrastructure: Identifies industries and predominant economic contributors throughout the county: Includes energy sector, communications sector, dams, reservoirs, canals, watersheds, pipeline, electrical distribution systems, freight, mass transit, public housing, hazardous waste, sewage system, water systems, utilities, etc		
Emergency Response Organizations: Lists emergency equipment and facilities in the community that are available (Name, address, and contact information on Hospitals, Fire Departments, Police, Emergency Management, EMS, etc)		
Critical Facilities: Lists hospitals, schools, nursing homes, day care centers, higher educational institutions		

Data Collection:	Criteria Met	Reference Location
Flow of Hazardous Materials through the Roads and Highways Highways		
Existing Data Overview		
Analyzes locally or institutionally available data sources on transportation of hazmat in the study area by modes and routes; incident and accident information for the study area; prior Hazardous Materials Commodity Flow Surveys (local/regional); local, state, or federal data on hazmat transportation; information maintained by local hazmat facilities and carriers, trade, environmental, and social advocacy organizations, and printed maps, etc		
Analyzes electronic databases and reports that have information about transportation networks, commodity movements, system performance (traffic) levels, historical incident and accident occurrences and locations		
Identifies overall commodities being transported by different modes through the study area		
Describes hazardous materials classification system and primary hazard class transported through the study area		
Identifies hazardous materials transported through the study area by weight (tonnage)		
Identifies major traffic corridors used for hazmat transportation of hazardous materials including extremely hazardous substances (EHS), transfer points, etc		
Identifies primary origin and destination locations for hazmat transports		
Identifies Top 30 Hazardous materials transported through the study area		
Evaluates new data needs		
New Data Collection:		
Interviews shippers, receivers, and carriers of hazmat to determine:		
what hazardous materials are shipped/received/carried through the study area, and by the time of the day, day of the week, season of the year, etc		
what is the origin, destination, or both of hazardous materials and what transportation routes hazardous materials are carried by		
how much hazardous materials (by volume) is shipped/received/carried		
what modes are used to transport hazardous materials		
Interviews emergency responders and managers, other key informants to identify key hazmat transportation corridors, volume of shipments, time of shipments, methods and frequency of shipments, and content of hazmat transport, etc		

Field Survey Study Design:	Criteria Met	Reference Location
Provides an overview of data collection methods, sampling, and precision		
Survey location points are identified and the basis for selecting locations is explained, provides location maps		
Identifies data elements that will be collected during the survey – includes survey form		
Describes survey schedule, frequency and time when survey data are collected		
Collect Field Data:		
Conducts Total Truck Survey - Identifies overall truck traffic passing through the study area during sampling period		
Conducts Truck Type and Configuration Survey - Collects information about truck traffic, levels, by type and configuration during sampled time periods		
Conducts UN/NA ID ((United Nations / North American Identification)) Placard Survey - Collects information about the number and types of hazmat placards present during sampled time periods - identifies class/division of hazmat materials		
Conducts Total Truck and UN/NA Placard ID Surveys - Collects information about overall truck traffic levels and the number and types of hazmat placards present during sampled time periods - allows for both identification of the percentage of placarded trucks for the time period, and identification of the hazmat placards		
Conducts Truck Type and Configuration and UN/NA ID Placard ID Survey - Collects information about truck traffic levels by type and configuration and the number and types of hazmat placards present during sampled time periods - identifies overall truck traffic levels, proportions of truck traffic by type and configuration and the percentages of placarded trucks for each category, and identification of the hazmat placards		
Conducts Directional and Intersection Surveys - Collects information for more than one roadway lane collected at a single location - allows for identification of directional movements for both directions of a roadway or for turning movements at intersections		
Flow of Hazardous Materials Through the Railroad		
Collect waybill hazmat information from railroad carriers (local data, Standard Transportation Commodity Code (STCC) data), collect data on release incidents, accidents, fatalities, and derailments		
Movement of Hazardous Materials Through the Pipelines		
Obtains information on flow summary of materials transported through pipelines, and hazmat incidents		
Movement of Commodities by Air		
Obtain information on commodities transported through air, information on storage of fuel in the airport area		

Analyze Collected Data:	Criteria Met	Reference Location
Roads and Highways		
Determines overall truck traffic passing through the study area during sampling period, depicts in charts/graphs or tables (Total Truck Survey)		
Identifies truck traffic, levels, by type and configuration, during sampled time periods, depicts in charts or tables (Truck Type and Configuration Survey)		
Identifies class/division of hazmat materials, depicts in charts or tables (UN/NA ID Placard Survey)		
Identifies percentage of placarded trucks for the time period, and by hazmat placards (Total Truck and UN/NA Placard ID Survey)		
Identifies overall truck traffic levels, proportions of truck traffic by type and configuration and the percentages of placarded trucks for each category, and identification of the hazmat (Truck Type and Configuration and UN/NA Placard ID Survey) placards, depicts in charts or tables		
Identification of directional movements for both directions of a roadway or for turning movements at intersections (Directional and Intersection Surveys), depicts in charts or tables		
Identifies placard count per site and predicted routes		
Identifies placard count per traffic direction – east/west/north/south		
Identifies peak transportation time and days		
Identifies routes and locations with highest placard counts		
Lists variation of hazmat traffic from Placard Survey by day of week		
Lists top 30 hazardous chemicals passing through the study area by the roads in the study area		
Rail Road		
Analyzes data on train derailments and chemical releases, depicts in tables		
Analyzes accident data on rail grade crossings		
Includes summary of hazardous incidents involving trains		
Identifies elevated risk locations along the rail traffic corridor, identifies on map		
Estimates peak hour of traffic through the rail traffic corridor, list in tables		
Lists top 30 hazardous chemicals passing through the study area by the railroads in study area		
Pipeline		
Provides relative breakdown of hazardous materials shipped through pipelines by total volume		
Evaluates past accidents and trends for pipelines		
Identifies pipeline corridors and vulnerable areas		
Provides a summary of yearly volume of hazardous materials shipped via pipeline		

Air	**Criteria Met**	**Reference Location**
Determines relative breakdown of air cargo hazardous material shipments by total volume		
Determines air cargo hazardous materials shipments by county		
Assesses hazards due to storage of jet fuel		
Hot Spots:	**Criteria Met**	**Reference Location**
Identifies areas and facilities along major traffic routes that are at a higher level of risk in the event of an accidental release		
Identifies geographical areas where a spill or release could have significant impact on population		
Evaluates potential impact on critical facilities along the traffic corridor due to a transportation related hazmat release		
Determines potential impact on environmentally sensitive areas due to transportation related release, including bodies of water that are sources of drinking water		
Identifies elevated risk locations at rail grade crossings based on historical data and observation		
Emerging Risk Sources:	**Criteria Met**	**Reference Location**
Identifies traffic growth exceeding capacity and potential impact on communities in relation to hazmat transport		
Identifies possibilities development of future critical facilities along the traffic corridor		
Identifies growth of population requiring special consideration		
Evaluates likelihood of spill event based on past experience and worst-case scenarios		
Potential increase in hazardous materials transportation issues is discussed		
Number of major roadway transport corridors included in the Commodity Flow Survey area increases		
Conclusion and Recommendations:	**Criteria Met**	**Reference Location**
Considers variability of local needs, assumptions and limitations, makes recommendation		
Identifies gaps observed in data collection, makes recommendation		
Discussed how information can be used including identification of most frequent or greatest threats, needs for additional intelligence, etc		
Recommends maintenance of plan		
Resources:	**Criteria Met?**	**Reference Location**
Contingency maps, tables, charts, etc included		
State and County transportation maps included		
Historic site maps included		
Maps of railroad passing through the region is included		
Maps of pipelines passing through the study area is included		
Maps of highways passing through the study area is included		
Glossary included		
Acronyms included		
References included		

Appendix C

Appendix C

TRAINING: Examples of Allowable Activities

Mission and Competency

Hazmat Incident Command System (ICS):

ICS-100: Introduction to the Incident Command System

ICS-200: Incident Command System for Single Resources and Initial Action Incidents

ICS-300: Intermediate Incident Command System

ICS-400: Advanced Incident Command System

Industrial Fire Fighting- (rail yards, fuel transfer facilities, and ports)

Confined Space Rescue

Hazmat Basic Life Support/Advance Life Support – Medics respond to hazmat calls

Chemistry for Emergency Responders

Marine Operations - Ship-board rescue, fire fighting, and hazmat

Airport Rescue Fire Fighting (aircraft response and rescue)

Explosive Ordinance Disposal/Explosives in transportation

Radiological (sources in transportation, but not weapons of mass destruction)

Tank Car Specialty

Cargo Tank Specialty

Intermodal Tank Specialty

Marine Tank Vessel Specialty

Flammable Liquid Bulk Storage

Flammable Gas Bulk Storage

Radioactive Material Specialty

Core Competency

Awareness

Operations

Technician

Hazmat Incident Commander

Hazmat Officer

Hazmat Safety Officer

Hazmat Refresher

Hazmat Technical Decon Refresher

Developing a Plan of Action

Chemistry of Hazmat-Part I

Chemistry of Hazmat-Part II

Surveying a Hazmat Incident

General Competencies

Level A Personal Protective

Level B Personal Protective

Hazmat Level B Dress-out and Decon

ID of Methods and Procedures

Hazardous Materials Monitoring Refresher

Additional Training Courses

CAMEO training

The Hazmat IQ Training

Hazmat for Emergency Management System (EMS)

Hazmat for Dispatcher

Hazmat Containers

Hazmat Decontamination Drug Lab Training

Containment and Control

HAZWOPER Training

Hazmat Air Monitoring Training

Ammonia Training

Tank truck rollover simulator

National Incident Management System Levels 300 & 400

Calibration Gas Kits for Hazmat Training (equipment)

Hazmat Training Tools Package (geared towards hazmat training and exercises)

Clandestine Lab Training

Chlorine training props (equipment)

The Paratech Light SU&R Rescue Strut System (equipment)

Ammonia Safety and Emergency Response Training (ASERT)

Hazardous Materials Outreach videos/Hazardous Material Team brochures

Ethanol Training for First Responders

Automobile Hazmat Fire Prop (equipment)

Hazmat Training List for LEPCs

(Developed by KDEM)

This list has been developed by the Kansas Division of Emergency Management (KDEM). The purpose of this list is to assist the Local Emergency Planning Committees (LEPC) and Emergency Managers with developing long and short term hazmat training plans for their jurisdictions. A brief summary of the courses is also included. Though these trainings are likely to meet USDOT's requirements, KDEM was not able to get the list approved by USDOT. USDOT's policy prevents them from approving such a flat list. USDOT advised that hazmat training applications will be evaluated on a case by case basis and will be awarded based on availability of funding and the conditions set forth by USDOT. A class size of a minimum of 15 students is required for any training.

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1. First Responder Awareness and Operations Training – 24 Hours

This is a combined course of the First Responder Awareness Level and First Responder Operations Level. Course meets or exceeds OSHA, EPA and DOT requirements. This course meets NFPA 472, Standard for Professional Competence of Responders to Hazardous Materials Incidents (2008 edition). It will examine the tasks that are within the realm of the hazardous materials operations responder. The first module will include an overview of hazardous materials, using the recognition and identification clues in risk assessment, decontamination, estimating the likely harm and risks, and determining the options of intervention and nonintervention.

Some of the topics to be covered are:

- Regulations overview
- Hazardous materials emergency response plans
- Basic hazard and risk assessment
- Personal protective equipment
- Respiratory protection
- Incident control
- Decontamination
- Diking and damming
- Termination procedures
- Hands-on training

2. Hazardous Materials Emergency Response Technician Training – 40 Hours (hours may vary)

This is a combined course of First Responder Awareness Level, First Responder Operations Level, and Hazardous Materials Technician. Course meets or exceeds OSHA 29 CFR 1910.120, EPA and DOT requirements. This course is not approved by Texas Commission on Fire Protection guidelines specified in Chapter 6 of the commission's Certification Curriculum Manual. Upon successful completion of this course, you will be awarded 4.0 Continuing Education Units (CEU) certified through the International Association for Continuing Education & Training. The NFPA 2008 compliant training includes additional topics and the total training hours can vary between 80 and 120 Hours depending on the prerequisite requirements. A request for Hazmat Technician training must describe which standard the training follows and the course length.

Some of the topics to be covered are:

- Incident command
- Response operations
- Decontamination
- Personal protective equipment
- Principles of toxicology
- DOT information
- Exposure guidelines
- Identification of hazardous materials
- Respiratory protection
- Incident control
- Confinement and containment
- Additional related subjects

**NFPA 472 compliant courses may include additional topics and hands on activities

3. NFPA 472 Hazardous Materials Rail Specialist Training - 16 Hours (hours may vary)

Students must be trained to the NFPA 472 HazMat Technician level to receive Pro-Board certification at the end of the HazMat Transportation Specialist course. Proof of technician level training must be submitted prior to the end of class.

This 16 hour advanced course is designed for the Hazardous Materials Technician to further their training at the specialist level. The course meets the NFPA 472 Chapter 12 competencies for the tank car specialty. The responder will be training to handle bulk container emergencies. After successful completion of this course, students will receive a Pro Board Certificate for the NFPA 472 Hazardous Materials Rail Specialist.

Some of the topics to be covered are:

- Cargo Type Design
- Damage Assessment
- Transfer Techniques
- Repair & Patching
- Flaring
- Safety
- Drilling, Pumping & Product Removal
- Midland Kit

4. NFPA 472 Hazardous Materials Highway Specialist Training - 16 Hours (hours may vary)

Students must be trained to the NFPA 472 HazMat Technician level to receive Pro-Board certification at the end of the HazMat Transportation Specialist course. Proof of technician level training must be submitted prior to the end of class.

This advanced course is designed for the Hazardous Materials Technician to further their training at the specialist level. The course meets the NFPA 472 Chapter 13 competencies for the tank car specialty. The responder will be training to handle bulk container emergencies. After successful completion of this course, students will receive a Pro Board Certificate for the NFPA 472 Hazardous Materials Highway Specialist.

Some of the topics to be covered are:

- Cargo Type Design
- Damage Assessment
- Transfer Techniques
- Repair & Patching
- Flaring
- Safety
- Drilling, Pumping & Product Removal
- B Chlorine Kit

5. NFPA 472 Hazardous Materials Intermodal Training – 8 Hours (hours may vary)

Students must be trained to the NFPA 472 HazMat Technician level to receive Pro-Board certification at the end of the HazMat Transportation Specialist course. Proof of technician level training must be submitted prior to the end of class.

This 8 hour advanced course is designed for the Hazardous Materials Technician to further their training at the specialist level. The course meets the NFPA 472 Chapter 14 competencies for the tank car specialty. The responder will be training to handle bulk container emergencies. After successful completion of this course, students will receive a Pro Board Certificate for the NFPA 472 Hazardous Materials Intermodal Specialist.

Some of the topics to be covered are:

- Cargo Type Design
- Damage Assessment
- Transfer Techniques
- Repair & Patching
- Flaring
- Safety
- Pumping & Product Removal

6. NFPA 472 Hazardous Materials Transportation Specialist Training - 40 Hours (hours may vary)

Students must be trained to the NFPA 472 HazMat Technician level to receive Pro-Board certification at the end of the HazMat Transportation Specialist course. Proof of technician level training must be submitted prior to the end of class.

Upon the successful completion of this course, participants will be able to analyze a HazMat incident involving tank cars, cargo tanks, and intermodal tanks; predict their likely behavior; plan a response; and implement the planned response.

Some of the topics to be covered are::

NFPA 472 HazMat Highway Specialist

- Incident for Tank Cars
- Predicting Behavior for Tank Cars
- Planning the Response for Tank Cars
- Implementing the Response for Tank Cars

NFPA Hazmat Rail Specialist

- Analyzing the Incident for Cargo Tanks
- Planning Behavior for Cargo Tanks
- Planning the Response for Cargo Tanks
- Implementing the Response for Cargo Tanks

NFPA 472 HazMat Intermodal Specialist

- Analyzing the Incident for Intermodal Tanks
- Predicting Behavior for Intermodal Tanks
- Planning the Response for Intermodal Tanks
- Implementing the Response for Intermodal Tanks

7. Air Monitoring For Hazardous Materials/Operations Mission Specific Training - 16 Hours (may vary)

This course is designed for individuals who may discover or respond to a hazardous materials incident and are expected to conduct air monitoring. Instruction is focused on the knowledge and techniques necessary to properly utilize air monitoring devices and the implementation at an incident. This course requires participants to don level B PPE and conduct field exercises utilizing these instruments and the techniques learned during instruction. This course meets the requirements of the NFPA 472 Mission-Specific competency 6.7 Air monitoring and Sampling. Individuals attending this course should be trained to the NFPA 472 Chapter 5 Operations level and Chapter 6 Mission-Specific competency 6.2 PPE to successfully complete this training.

Some of the topics to be covered are:

- Detecting Unknown Materials/Atmospheres
- Using Monitoring Equipment to Determine Hazards
- Personal Protective Equipment
- Decontamination Methods

8. Hazardous Materials Pipeline Emergency Response Technician Training - 40 Hours

This course consists of a 40-hour program which addresses pipeline awareness (8 hours), pipeline operations (16 hours) and pipeline emergency response (16 hours). This course incorporates both classroom and hands on exercises using training props. This course is designed for pipeline operators, emergency responders, law enforcement, local officials, command staff and other potentially involved parties who manage and mitigate pipeline emergencies

Some of the topics to be covered are:

- Pipeline emergency response operations
- Hands on training to pipeline emergencies
- Identification of hazardous materials
- Develop incident action plans
- Incident Command System, NIMS
- Regulatory factors
- Transmission and distribution systems
- Below and above ground equipment
- Pipeline safety programs
- Inspection
- Mapping systems
- Equipment identification
- Pipeline markings
- Management resources and manpower

9. NFPA 472 Air Monitoring For Hazardous Materials/Operations Mission Specific Training - 16 Hours (may vary)

Individuals attending this course should be trained to the NFPA Chapter 5 Operations level and Chapter 6 Mission-Specific to 6.2 PPE to successfully complete this training.

This course is designed for individuals who may discover or respond to a Hazardous materials incident and are expecting to conduct air monitoring. Instruction is focused on the knowledge and techniques necessary to properly utilize air monitoring devices and the implementation at an incident. This course requires participants to don level B PPE and conduct field exercises utilizing these instruments and techniques learned during instruction. This course meets the requirements of the NFPA 472 Mission-Specific competency 6.7 Air Monitoring and Sampling. Participants who successfully complete the course and the required written and skills tests will receive National Board on Fire Professional Qualifications (Pro-Board) Certification. This course is targeted for responders including firefighters, Emergency Medical Services (EMS), Hazardous Materials (HazMat) response, public works, health care, public health, and law enforcement.

Some of the topics to be covered are:

- Detecting Unknown Materials/Atmospheres
- Using Monitoring Equipment to Determine Hazards
- Personal Protective Equipment
- Decontamination Methods

10. Fresh Water Oil Spill - Tactical and Operations Level - 40 Hours (hours may vary)

This 40-hour core course emphasizes oil spills in rivers, small streams, on land and sub-surface. It is designed for persons in industry, the regulatory community and the emergency response area who may be required to respond to an oil-spill incident.

This course utilizes classroom lecture, multimedia presentations and practical hands-on exercises to provide students with the essential information and training needed to effectively manage a spill response operation. Students assume leadership roles and direct simulated response operations under the supervision of the instructors.

Some of the topics to be covered are:

- Contingency planning and response team training
- Movement, containment and clean-up of oil
- Boom and skimmer design
- Shoreline protection, clean-up and restoration
- Oil recovery from soil and oily debris disposal
- Oil-spill contractors and cooperatives
- Containing and recovering oil on surface water
- Sorbents and chemical agents
- Preventing oil spills
- Boom deployment and operations
- Skimmer operations
- Oil sampling and documentation techniques
- Oil-spill simulation exercises

11. Responding to Chlorine Emergencies - 8 Hours (hours may vary)

This course will prepare students to respond appropriately to chlorine emergencies. Both lecture and hands-on activities will be used to familiarize students with the physical and chemical properties of chlorine, the health and safety hazards of chlorine, the safe handling of chlorine, chlorine transportation containers, and the safe emergency patching and plugging techniques used during an emergency response to a chlorine release. The course can be tailored (8-16 Hours) to meet the local needs.

Training through lecture and field exercise, be able to objectively demonstrate competency in the following areas:

Regulatory overview pertinent to chlorine emergencies

- Department of Labor
- Environmental Protection Agency
- Department of Transportation
- NFPA

An understanding of what chlorine is and the risks associated with it in an incident

- General characteristics
- General toxicology associated with chlorine
- Chemical data
- Exposure data

An understanding of the potential outcomes associated with exposures to chlorine

- Clinical and Physical information
- Response to a chlorine leak
- How to detect a leak
- PPE requirements
- Chlorine Kits and parts
- Chlorine Container and common problems
- Sulfur Dioxide (SO2) - properties, uses, exposures, health effects, and emergency planning requirements
- Chlorine Emergencies - Exercises
- Application of Chlorine A, B, and C kits

12. Ammonia Emergencies – 8 Hours (hours may vary)

Ammonia is one of the highest volume chemicals produced in the United States. This course includes both classroom and field activities. Ammonia is considered a high health hazard because it is corrosive to the skin, eyes, and lungs. Exposure to 300 ppm is immediately dangerous to life and health. Anhydrous ammonia bulk-storage tanks are a common sight in across rural Kansas as well as in some urban areas. Farmers will often transport anhydrous ammonia from fertilizer plants in trailer tanks hooked to pickup trucks or tractors. Ammonia is also used as refrigerant in many industries. The material is not dangerous when handled properly, but if not handled carefully it can be extremely dangerous.

The Ammonia Emergencies training will discuss:

- Characteristics of ammonia and its use
- Potential hazards, workplace safety and emergency response
- Chemical and physical properties of ammonia, hazard and risk assessments
- Familiarize students with nurse tanks, transport containers, and storage facilities where releases may occur
- Emergency response options to safely mitigate an anhydrous ammonia incident
- Public protection options

13. Handling Liquid Propane Emergencies – 8 Hours

This course provides students knowledge and skills necessary for handling LP-Gas and propane emergency incidents. Course focus is on propane. Students learn:

- LP-Gas properties
- Propane storage & transportation
- LP-Gas incident assessment.

Strategy and tactics are also covered and demonstrated by allowing students to participate in different live-fire training evolutions. Participants must furnish full PPE, including SCBA and fit test verification. Participants must attend the Handling Propane Emergencies-Classroom portion of the class prior to participation in the hands-on training.

14. Ethanol Emergencies – 4 Hours (hours may vary)

This course is designed to educate emergency response personnel of the principles for handling Ethanol, E85 and E95 fuel emergencies. With the growing national ethanol production, participants must be able to make the correct decision in how to handle assorted ethanol emergencies. Through lecture and demonstrations in the classroom the student will see, discuss, and learn about:

- Vapor pressure, flash point, upper and lower flammable limits
- Properties of hydrocarbons and polar solvents (Ethanol, E85 and E95)
- Ethanol plant layout and operation
- How foam works and determine foam flow and foam needs for typical incidents
- The difference between: Class A foam (wetting agents) AFFF Class B foam for hydrocarbons, alcohol resistant foam (AR-AFFF) for E85, and Emulsifiers.

15. NFPA 472 Hazardous Materials Product Control Training - 12 Hours (hours may vary)

Students must trained to the Operations level and be able to provide proof of training.

Upon the successful completion of this course, participants will have the basic skills required for certification to Chapter 6, “Competencies for Operations Level Responders Assigned Mission-Specific Responsibilities,” Product Control (6.6), as described in National Fire Protection Association (NFPA) 472, Standard for Competence of Responders to Hazardous Materials/Weapons of Mass Destruction Incidents (2008 Edition). Participants who successfully complete the course and pass the required written and skills tests will receive a National Board on Fire Service Professional Qualifications (Pro Board) certification. Emergency responders assigned to perform product control at hazardous materials incident.

Some of the topics to be covered are:

- Identifying Response Options
- Control Techniques And Their Associated Purpose, Equipment, And Safety Precautions
- Selection Of Appropriate PPE To Support Product Control
- Foam Application
- Remote Shutoff Devices
- Procedures For Technical Decontamination

16. Advanced Hazardous Material Emergency Response Training - 24 Hours (hours may vary)

This training includes extensive field operations involving various emergency responses to Highway, Rail and other Hazmat response scenarios. All fire prevention, suppression, control and safety personnel, especially those who respond to hazardous materials release

Some of the topics to be covered are:

- Personal protective equipment serviceability
- Instrument calibration
- Incident management
- Team organization
- Mitigating techniques
- Field exercises

17. HazWoper for Clean-Up Operations Training - 40 Hours

This course provides awareness of potential hazards encountered at hazardous waste cleanup operations. Provides knowledge and skills necessary to perform work with minimal risk to workers' health and safety. Provides awareness of the purpose and limitations of safety equipment and ensures workers safely avoid or escape from emergencies. Upon successful completion of this course, you will be awarded 4.0 Continuing Education Units (CEU) certified through the International Association for Continuing Education & Training.

Some of the topics to be covered are:

- Regulatory overview
- Hazard recognition and evaluation
- Toxicology
- Exposure guidelines
- Personal protective equipment
- Monitoring equipment
- Sampling techniques
- Field operations
- Site safety plan
- Standard operating procedures
- Decontamination
- Emergencies
- Field exercises
- Additional related subjects

18. NFPA 1006 2008 Edition Confined Space Rescue Levels I & II Training - 36 Hours

This course is designed for all emergency response personnel involved with technical rescue incident response and is designed to meet the training requirements of NFPA 1006 Chapter 7 Job Performance Requirements (JPR).

Upon the successful completion of this course, emergency responders will have the skills and knowledge required for certification to Chapter 7, "Confined Space Rescue, " as described in National Fire Protection Association (NFPA) 1006, Standard for Technical Rescuer Professional Qualifications (2008 edition), including the areas of confined space rescue operations, utilizing appropriate equipment, methodologies, protocols, and patient and resource management techniques. Participants who successfully complete the course and pass the required written and skills test will receive a National Board of Fire Service Professional Qualifications (Pro Board) national certification.

Participants will have the ability to evaluate, manage, and perform a confined space rescue in accordance with NFPA 1670 and NFPA 1006.

Some of the topics to be covered are:

- Knot Tying
- Patient Packaging
- Hauling Systems
- Lowering Systems
- Federal Regulations
- Confined Space Hazards
- Atmospheric Monitoring
- Hazard Control and Personal Protective Equipment (PPE)
- Confined Space Rescue without Atmospheric Hazards
- Confined Space Rescue with Atmospheric Hazards

19. Cargo Tank Workshop – 8 Hours (hours may vary)

Safe Transportation Training Specialists and involves a combination of multi-media training, hands-on instruction and demonstrations designed to prepare the fire service and emergency response communities for cargo tank and HazMat emergencies.

Training uses tank models, props and simulators to demonstrate tank operations and safety devices. Participants will have the opportunity to experiment with cargo tank truck replicas and hands-on training modules. This training is in compliance with NFPA standards.

Course Objectives:

- Upon completion, students will be able to:
- Determine the specification, identification, basic construction and operating principles of cargo tanks.
- Understand the purpose and functions of safety devices associated with cargo tanks.
- Understand the principles behind normal and emergency loading and unloading associated with cargo tanks.
- Be familiar with basic containment techniques associated with cargo tanks.

20. Hazardous Material On-Scene Commander – 16 Hours

This course will develop the skills necessary by officers to assume command on haz-mat/WMD incidents. Topics covered in this course include but are not limited to:

- Understanding Federal and State response plans
- ICS
- Toxicology
- Reference materials
- Predicting likely outcomes
- Personal protective clothing
- Decontamination
- Incident action planning and haz-mat strategic goals
- Working with multiple agencies and at crime scene incidents
- Evaluating response objectives
- Conducting incident debriefings
- Transferring responsibility to private contractors
- Conducting post incident analysis and critiques

21. Hazardous Materials/WMD Incident Response: Technician Refresher – Personal Protective Equipment - 8 Hours

This course meets the objectives of NFPA 472, 2002 standard and OSHA 29 CFR1910.120. Some of the topics to be covered are:

- Understanding different PPE ensembles
- special protective ensembles and coverings
- chemical incompatibilities
- understanding limitations of PPE, and
- understanding limitations of the wearer in PPE ensembles

Prerequisite: Hazardous Materials Technician Training

22. Hazardous Materials/WMD Incident Response: Technician Refresher – Properties, Harm, and Toxicology of Hazards - 8 Hours

This course meets the objectives of NFPA 472, 2002 standard and OSHA 29 CFR1910.120. Some of the topics to be covered are:

- Identify different chemical hazards;
- Identify responder safety risks and proper PPE ensembles for various hazardous chemicals and substances;
- Identify public safety risk and establish control zones;
- Properly interpret research information and formulate incident action plans and recommendations to incident commanders; and,
- Understand radiological response procedures and explain their significance in predicting the health and environmental impacts.

Prerequisite: Hazardous Materials Technician Training

23. Hazardous Materials/WMD Incident Response: Technician Refresher – Decontamination - 8 Hours

This course meets the objectives of NFPA 472, 2002 standard and OSHA 29 CFR1910.120. Some of the topics to be covered are:

- Establish a decontamination corridor in the correct location, using information about the material involved to determine the method and materials to be utilized in the decontamination corridor
- Different decontamination techniques used in various types of hazardous materials/WMD incidents.

Prerequisite: Hazardous Materials Technician Training

24. Ignitable Liquids and Class B Foam – 12 Hours (hours may vary)

This course begins where foam training ended in Firefighter I and II. Some of the topics to be covered are:

- Ignitable liquids (what are they and why they burn), class B foam (how it works and how it is different from wetting agents),
- Eductors and nozzles (their uses and practical exercises for troubleshooting).
- Practical exercises using foam and dry chemical on controlled flammable liquid fires.

Prerequisite: Prerequisite: Hazardous Materials Technician Training

Host Requirements:

- Area for burn
- 2 pumpers for water supply
- Host department will need to dispose of non-hazardous waste material

25. Hazmat Safety Officer - 8 Hours (hours may vary)

One of the most important functions in hazmat emergency response operations is the safety of response personnel at the scene. Safety should be the primary focus of the mitigation effort and is the one of the major metrics of the incident commander's effort as well as the emergency responder's on scene. This is an 8 hr training designed to train hazmat officers and supervisors on how to develop emergency safety plans that can be implemented at any level from the company officer to a multi-agency operation. Participants will understand how to develop practical site/emergency safety plans that can be implemented at any level from company officer to multi agency operation.

26. Alternative Fuel Vehicle Emergencies – 8 Hours

One million alternative fuel vehicles are expected to be on the road by 2015. The scene of a vehicle accident is often chaotic, and first responders must work within the constraints of a critical time frame to ensure their safety and safety of accident vehicle occupants. When an accident involves an AFV, first responders must achieve balance between speed and caution because many potential hazards present. This course provides 1) an overview of an AFV; 2) AFV component parts; 3) Infrastructure; 4) How this technology affects standard operating procedures for emergency response personnel. If properly trained, first responders will be able to deal with the unique scenarios an AFV can create at the site of an accident.

27. Hazmat IQ - 8 Hours

The HazMatIQ 4 Step System is a response tool that incorporates a series of easy to understand job aids called *Smart Charts*. These charts enable responders to quickly assess risk and make a proper decision on how best to mitigate an incident. This system coaches responders through a process that virtually eliminates information overload. The system incorporates the following:

Step 1) Above the Line/Below the Line chemical size up using only the chemical name.
Step 2) Streamlined chemical research process based on only seven (7) chemical and physical properties
Step 3) Detection device selection: CGI, PID, FID, pH paper, Temperature gun, KI paper, etc.
Step 4) Accurate PPE selection: Level A, Level B or SFPC (bunker gear).
HazMatIQ system also incorporates training on how to safely and efficiently respond to unknown chemicals, mixtures or chemical reaction when there is no information on chemical and physical properties available

Fire service, HazMat, law enforcement, environmental, industry, transportation safety and tow truck operators will find this course useful.

28. Hazmat Basic Life Support (BLS) – 8 Hours (hours may vary)

After completing the Basic Hazmat Life Support course, participants will be able to:

- Demonstrate knowledge of important physical, chemical, and other properties of hazardous materials; Recognize that the physical state of a hazardous material, i.e., whether it is a solid, liquid, or gas
- Determines if the material is secondarily contaminating and is one of the major determinants of the route of exposure
- Uses toxicological principles and concepts to organize the medical management of hazmat patients Compares and contrasts toxicokinetics with toxicodynamics
- Recognizes various toxic syndromes (toxidromes) due to hazardous materials
- Formulate an organized approach for treating victims of hazmat incidents, including the AMPLE mnemonic, the primary survey and resuscitation (Airway, Breathing, Cardiovascular, Disability, Exposure), and the poisoning treatment paradigm (Alter absorption
- Administer antidote, Basics, Change catabolism, Distribute differently, Enhance elimination) Demonstrate knowledge regarding personal protective equipment (PPE) for hazardous materials incidents
- Recognize that each antidote has its own indications, contraindications, complications, dosage and route.

29. Advanced Hazmat Life Support Provider Course (AHLS) – 16 Hours (hours may vary)

The Advanced Hazmat Life Support (AHLS) Provider program is a 16 hour, two-day course that gives health professionals a timely and effective response strategy in the medical management of hazmat incidents. This course covers a vast array of hazardous materials, including pesticides, corrosives, toxic inhalants and chemical, biological, radiological and nuclear agents. The AHLS Provider course trains the participant to rapidly assess hazmat patients; recognize toxic syndromes (toxidromes); apply the poisoning treatment paradigm; Identify and administer specific antidotes.

30. Basic Search and Rescue Techniques – 8 Hours (hours may vary)

This course is designed for entry level fire fighters to help them gain confidence in using a self-contained breathing apparatus (SCBA). Students will be given a quick review of SCBA parts and functions, including donning the SCBA. They will participate in search and rescue scenarios to build confidence in the equipment they use and their ability to operate in confined spaces. Training involves the use of the Search & Rescue Simulator. Participants must furnish their own PPE including SCBA and have an up-to-date fit test.

31. Computer Aided Modeling of Emergency Operations (CAMEO):

The CAMEO software suite is a system of software applications used widely to plan for and respond to chemical emergencies. It is one of the tools developed by EPA's Office of Emergency Management (OEM) and the National Oceanic and Atmospheric Administration Office of Response and Restoration (NOAA), to assist front-line chemical emergency planners and responders. They can use CAMEO to access, store, and evaluate information critical for developing emergency plans. In addition, CAMEO supports regulatory compliance by helping users meet the chemical inventory reporting requirements of the Emergency Planning and Community Right-to-Know Act (EPCRA, also known as SARA Title III). The CAMEO system integrates a chemical database and a method to manage the data, an air dispersion model, and a mapping capability. All modules work interactively to share and display critical information in a timely fashion.

Note: *As indicated for some courses, the course length/training time (hours) can be customized to meet the needs of a jurisdiction. The OSHA and NFPA standards, as available, are included. Some of the listed courses may not have a pre-defined NFPA or OSHA standard. Also, this list does not preclude LEPCs submitting a new training proposal that is needed for their jurisdiction. Approval of such courses will be reviewed on a case by case basis. Some of the courses could be offered by vendors under different titles. The LEPCs should review the course description to see if the training will meet the local needs and any prescribed standards. The target audiences for these courses are emergency responders including Firefighters, Emergency Medical Services (EMS Personnel), Hazardous Materials (HazMat) response Teams, Law Enforcement, etc. For the NFPA compliant Operations and Technician level courses, the written/skills testing must receive a passing score in order to receive a Pro Board certificate.*

Appendix D

Scope of Work - Hazmat Exercise

The purpose of conducting a hazardous materials (hazmat) exercise is to test the ability of a jurisdiction to respond to hazmat incidents. The following steps should be followed to plan, organize, and conduct an exercise.

ESTABLISH THE BASE:

- Review the current plan – Emergency Operations Plan (EOP)/area contingency plan/operational or operating plan/what resources, personnel, and procedures will be used to respond to a hazmat related incident
- Assess the jurisdiction's capability to conduct an exercise – Existing hazmat emergency response capabilities of the community in terms of skills, personnel, time, facilities, support, and funding
- Address cost and liabilities – Financial aspects, organizational liabilities, staff time, equipment and materials, contract services, miscellaneous items
- Select exercise type - Tabletop/functional/full scale
- Gain support and announce the exercise – Build a comprehensive, progressive exercise program/gain support from management
- Organize design team – Identify team members, assign responsibilities, delineate activities, develop schedule, share expertise, and measure progress

PREPARE EXERCISE DOCUMENTS – Include exercise plan (EXPLAN), controller and evaluator handbook, exercise evaluation guide (EEG), player handbook, master scenario event list (MSEL)

DESIGN & DEVELOP EXERCISE - The following eight steps are generally applicable regardless of the type of exercise. Additional steps that are required depending on the type of exercise are listed below:

- Assess needs – identify potential hazards /functions most in need of rehearsal/potential participants/past exercises/ exercise requirements and capabilities, in regards to hazmat response, etc
- Define scope - Type of emergency/location/functions/participants/all functions/ in the context of hazards from hazmat incidents/in all exercise formats/employing all resources, etc
- Write a statement of purpose - Develop statement of purpose
- Prepare objectives – SMART (Simple, Measureable, Achievable, Realistic, Task-Oriented) objectives- actions stated in observable term (e.g. Identify and activate an alternate communication system to be used as a backup within 30 minutes of failure of the primary communication system)
- Compose a narrative - Outline the key points/compose the script/be very specific/phrase in present tense/write in short sentences. Must include hazmat incident scenario
- List major detailed events - List events that might occur in your emergency scenario/list of specific problems likely to occur in connection with each major event, chemical spills/release, etc
- List expected actions - Write expected actions from participants involved in the exercise
- Prepare messages - Consider message variables/examples/ format/compose messages , etc

Prepare Master Scenario Events List - Outputs from the design process are pulled together in the MSEL, a chart that the controller and simulators can use in keeping the exercise on track and on schedule

Tabletop Exercise: The tabletop exercise is designed to conduct a group brainstorming session centered on a scenario narrative and problem statements or messages that are presented to members of the group.

- *Exercise Format* – Informal brainstorming session/scenario narrative and problem statements or messages are presented to members of the group/self evaluated
- *Facilitating a Tabletop* - The facilitator is responsible for
  - Setting the stage/distributing messages/stimulating discussion and pushing participants toward in-depth problem solving/involving everyone/controlling and sustaining the action
- *Designing a Tabletop Exercise* – Follow the eight step design process described above
  - First four steps are handled in normal manner
  - Short narrative
  - Only a few major or detailed events, usually turns into problem statement
  - Expected actions are identified, usually involve discussion or reaching consensus
  - Needs only a few carefully written messages or problem statements

Functional Exercise: The functional exercise usually takes place in the operating center and involves policy makers and decision makers. It uses an event scenario to test multiple functions or organizations, emphasizing coordination and communication.

- *Exercise Format* – Primarily includes policy makers and decision makers, uses an event scenario to test multiple functions or organizations, emphasizing coordination and communication.
- Exercise participants include
  - Controller(the manager of the exercise)
  - Players (people responding to the scenario within their normal roles
  - Simulators (people playing parts of the organizations and field unit outside the operations center)
  - Evaluators (observers who record actions taken in response to messages)
- *Participant Roles* - Participants respond in real time, adding an element of stress to the exercise. Communications equipment, displays, and other enhancements can be used to add to the realism
- *Designing a Functional Exercise* - The full eight-step process is used to develop functional exercises

Full scale Exercise: The exercise combines the interactivity of the functional exercise with a field element and requires the coordination of the efforts of several organizations

- *Exercise Format*
  - Controller/Player/Simulators/Evaluators
  - On-scene actions and decisions
  - Simulated victims
  - Search and rescue requirements
  - Equipment deployment
  - Communication devices
  - Actual resource and personnel allocation
- *Participant Roles* - Participants respond in real time, adding an element of stress to the exercise. Communications equipment, displays, and other enhancements can be used to add to the realism
- *Designing a Full-Scale Exercise* - After the first four design steps, the following special considerations apply to the design process
  - Major and minor events are often presented visually and must be carefully planned
  - Expected actions must be specifically identified
  - Both visual and pre-scripted messages are used
- *Site Selection* - Adequate space and realistic without interfering with normal traffic or safety
- *Scene Management* – Includes:
  - Logistics at the scene
  - Creation of a believable emergency scene
  - Number of victims
  - Management of props and materials
  - Number of controllers
- *Other Special Considerations* – Other special considerations for a full scale exercise include - safety issue/legal liability/plan for emergency call off/managing personnel and resources/working with media

CONDUCT EXERCISE: Prepare facility, assemble props and enhancements, brief participants and conduct exercise

- Sustain action/foster realism/establish timelines/review emergency call-off procedures
- Track progress, implement exercise enhancements (injects), manage personnel and resources

EVALUATE EXERCISE:

- Decide on evaluation methodology that would be appropriate for your exercise
  - Determine evaluation criteria/observation strategies/document actions
  - Identify whether exercise achieved its exercise/needed improvement in plans/procedures/guidelines/ equipments needs/need for additional exercise/personnel training/overcoming staffing deficiencies

CONDUCT POST EXERCISE MEETING – Include player debriefing/meeting of evaluation team to prepare after action report/assess achievement of objectives/prepare evaluation report

WRITE AFTER ACTION REPORT/IMPROVEMENT PLAN – After Action Report (AAR) captures observations and recommendations based on the exercise objectives as associated with the capabilities and tasks. The Improvement Plan (IP) identifies specific corrective actions, assigns them to responsible parties, and establishes targets for their completion. Counties should use KDEM AAR template to report outcome of a hazmat exercise

CONDUCT FOLLOW UP ACTIVITIES – The county would track and implement corrective actions identified in the AAR/IP. They would also identify an individual to be responsible for this corrective action program

Appendix E

Appendix E

PLANNING: Examples of Unallowable Activities
Fixed Facilities / Shelter-in-Place without correlation to transportation
Salaries for LEPC members
Micro shredder
Town-wide alert system
Development and distribution of a Hazardous Materials Calendar
FERRAT Kits
Hospital Drills
Cruise Ship Exercises
Earthquake Exercises
Wildfire Exercises
All-Hazards Warning System Drills
Emergency Operating Center (EOC) Leadership Exercises
Urban Avalanche Exercises
National Incident Management System (NIMS) courses
Pandemic Flu Exercises
Joint Terrorism Task Force (JTTK) Exercises
Geographic Information System
Purchase of Hazardous Materials Publications, such as: Emergency Response Guidebook (ERG) (unless used while conducting a specified training course)
WebEOC (EOC-Emergency Operations Center) mapping.
Optional equipment not necessary for a specific training or drill exercise
Public Officials Conference without sufficient tie-in to Hazmat Incidents Transportation
Fixed-facility hazmat preparedness - according to 49 CFR 110.40, transportation should be the emphasis of the planning activity
Exhibitors for Outreach and Preparedness Booths
Data collection site visits
Community Emergency Response Teams (CERT), Neighborhood Watch and other community planning organizations
Local Emergency Planning Committee (LEPC) meeting expenses not related to hazmat transportation planning activities
Expenses counted as match funds toward another Federal grant program or cooperative agreement
Entertainment costs

Request for multi-year funding
Foreign travel
Purchase of cell telephone(s) – allowable at the State level for administration of the HMEP grant
Any costs disallowable or stated as ineligible in 49 Code of Federal Regulations (CFR) Part 110 Final Rule

TRAINING: Examples of Unallowable Activities
All-Hazards Training
Cardiopulmonary Resuscitation (CPR) classes
Rope Rescue Training
Emergency Medical Technician (EMT) Training
Red Cross Shelter Training
Employee Readiness Training
Hazmat decontamination in a hospital setting
Courses not training for personnel not directly involved in providing hazmat emergency response services (e.g., hospital personnel who may have indirect contact with persons needing medical treatment due to an emergency involving hazmat) related to responding to hazmat emergencies
Full-Scale School Violence Prevention
Emergency Preparedness Presentation to Child Care Providers
Full-Scale School Violence Prevention
Weapons of Mass Destruction (WMD) Terrorism courses
Weapons of Mass Destruction (WMD) terrorism conferences
Weapons of Mass Destruction (WMD) Radiological Training
Creation and maintenance of training websites (equipment)
Purchase of hazardous materials operations equipment, such as the following:
Self-Contained Underwater Breathing Apparatus (SCUBA)
PPE (Personal Protective Gear)
Monitoring Equipment
Operational equipment not necessary for a specific training or drill exercise
Local Hazmat training conferences
Smaller-scale training conferences put on by different contractors or organizations.
Conference without sufficient tie-in to hazmat incidents in transportation
Upgrades to simulation software for as-needed training courses
Other costs (must be i n accordance with amounts allowable under applicable governmental regulations)

Salary (including overtime) of trainees and any other employees who “backfill” positions of trainees during the period of training
Expenses counted as match funds toward another Federal grant program or cooperative agreement
Purchase of food or other refreshments
Entertainment costs
Request for multi-year funding
Foreign travel
Personnel costs (salary) of the trainees may not be paid from HMEP grant funds (although the value of the trainees’ time while attending the training may be applied as an in-kind (soft-match) contribution toward the 20 percent contribution required by the recipient agency.)
Purchase of cell telephone(s)
Any costs disallowable or stated as ineligible in 49 Code of Federal Regulations (CFR) Part 110 Final Rule

Appendix F

Appendix F

HMEP Quarterly Progress Report

LEPC County: _____

Project Title: _____

Please Summarize Your HMEP Project Accomplishment During the Previous Quarter (Qtr-1):

Total Expenses Incurred During the Previous Quarter:_____

Current Balance:_____

Expected Date of Completion of the Project:_____

_____ _____

Authorized Applicant Agent (LEPC Chair): **Date:**

_____ _____

Project Manager: **Date:**