TECHNICAL
FIELD GUIDANCE

EMERGENCY RESPONSE

NOTES

1.3 Emergency Response

This section of the guidance manual presents guidance on emergency response actions that BSPR and other on-scene emergency response agencies take at incidents involving petroleum or hazardous substance spills. We cover not only the actions for which BSPR personnel are responsible, but the actions for which other response agencies are responsible as well. BSPR personnel should be knowledgeable about *all* aspects of emergency spill response so that they can provide technical advice and recommendations to the Incident Commander and contractors and point out needed or inappropriate actions.

Part 1, Section 3 is divided into three subsections. Subsection 1.3.1 covers emergency response to fire and safety hazards; subsection 1.3.2 addresses the confinement and containment of releases; and subsection 1.3.3 discusses emergency communications. Section 1.3 includes several exhibits and guidance summaries to assist BSPR personnel in understanding the concepts presented in the text. These exhibits and summaries should also be useful in the field as quick-reference guides.

Section 1.3 is not a stand-alone manual for emergency response guidance. It serves only as an introduction to the topic and presents general guidance that includes key concepts and considerations. The information is meant to supplement the more detailed guidance presented in other sections of the manual, most notably:

- Part 1, Section 1, Spill Reporting and Initial Notifications;
- Part 1, Section 6, Corrective Action;
- Part 2, Section 1, Personal Health and Safety Protection;
- Part 2, Section 2, Equipment Training, Calibration, and Maintenance; and
- Part 3, Section 2, Transport and Storage Vessels.

TECHNICAL

FIELD GUIDANCE

EMERGENCY RESPONSE - FIRE AND SAFETY HAZARDS

NOTES

Emergency Response - Fire and Safety Hazards

GUIDANCE-SUMMARY-AT-A-GLANCE

- # It is not your responsibility nor are you equipped to perform hands-on emergency response activities. You do respond to spill emergencies, however.

- # *Do not* place yourself in a hazardous situation. Stay upwind and upgrade of the accident site. Do not walk in or near the spill, leak, or fire until this can be done safely.

- # Treat any unknown substance as a hazardous material until the identity of the substance becomes known.

- # Identify yourself to the on-scene commander or his or her representative.

- # Coordinate your response activities with other response agencies.

- # Defer to the authority of other response agencies who have the responsibility and resources for taking actions at the emergency scene. If you are the first to arrive at a spill incident scene, however, and immediate action (e.g., evacuation of the immediate incident scene, traffic/crowd control until arrival of the police, etc.) is warranted, take actions you deem appropriate (i.e., actions based upon sound judgment, logic, practicality, and safety).

- # You may confer with these other emergency response agencies on such issues as the need for an evacuation, but such decisions are, ultimately, theirs to make.

Evacuation and Permanent Resident Relocation

- # Temporary evacuation is required in known emergency situations or when the likelihood of an emergency situation is great. Examples of known or likely emergency situations include transportation accidents involving spills in proximity to residences, or the presence of explosive vapors inside residences caused by a nearby spill.

- # *You do not have the authority to authorize an evacuation action*. If you have detected an emergency condition requiring an immediate evacuation and there is no time for contacting the appropriate agencies, you should provide advice consistent with your training and experience. Your usual role when you detect an emergency situation that may warrant an evacuation is limited to: (a) notifying the agencies who have the authority to evacuate residents, and (b) providing technical support and advice to these agencies, as requested, consistent with BSPR authority.

NOTES

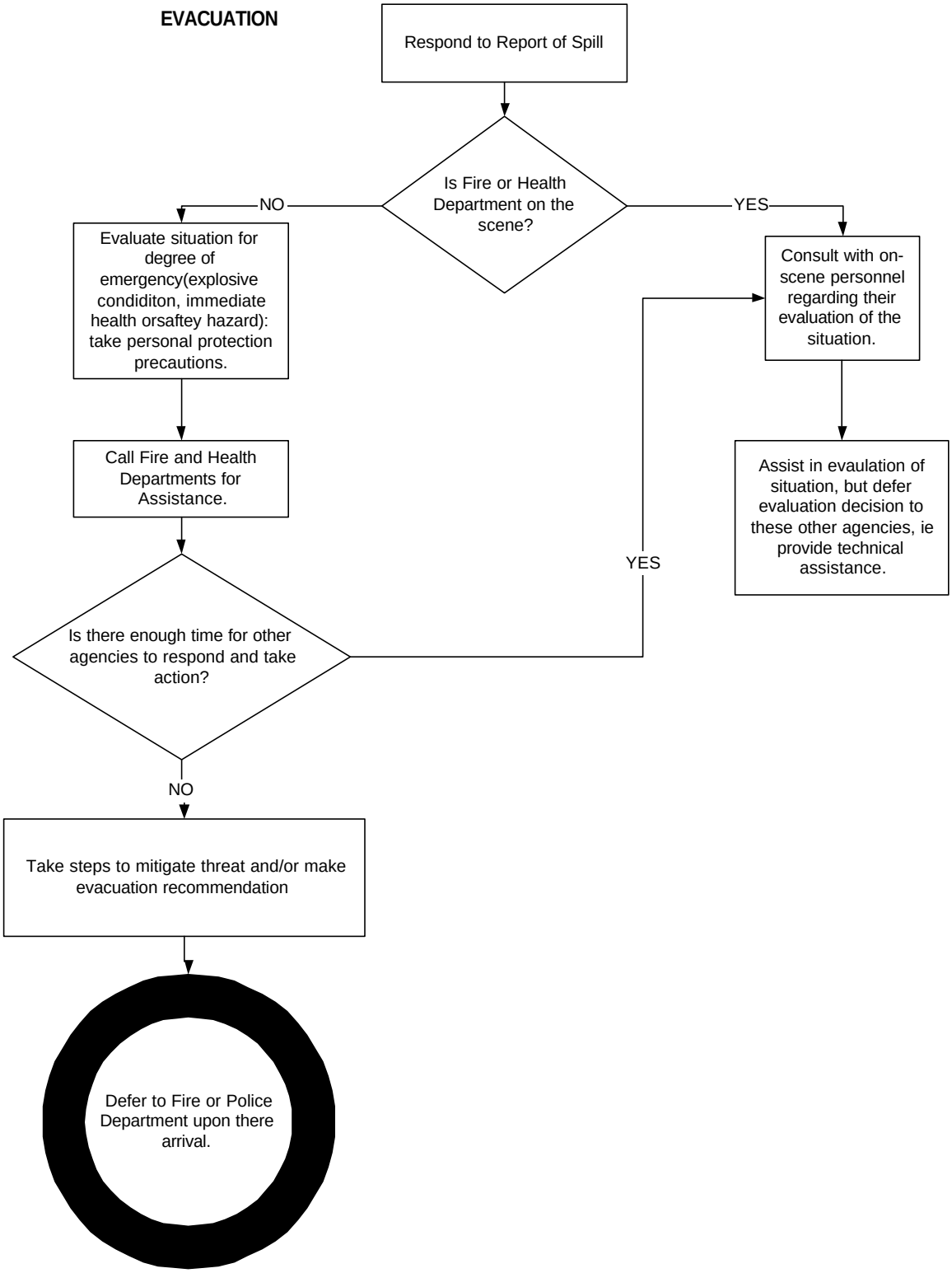
GUIDANCE-SUMMARY-AT-A-GLANCE
(continued)

- **#** Become familiar with the responsibilities of other state and local agencies in authorizing and/or supporting actions to evacuate residents temporarily. Your region should have established formal understandings concerning these matters with these other agencies through the Regional Contingency Plan.

- **#** A decision in favor of permanent resident relocation is based on the technical infeasibility and costliness of various other long-term corrective action measures. Whether to relocate residents permanently is a matter mostly for local authorities to decide, but the state and the federal government may become involved in the decision when the spill is very large or extremely hazardous.

- **#** Your technical analysis of the nature of the spill and the extent of contamination should be provided to local authorities as they ponder a decision to relocate residents. You may also provide them with your analysis of the cost-effectiveness of alternative long-term corrective action measures for cleanup of the spill.

GUIDANCE SUMMARY-AT-A-GLANCE
(continued)



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1.3.1 Emergency Response to Fire and Safety Hazards

Your emergency response role in a petroleum or hazardous materials incident is actually quite limited. BSPR personnel are present at a spill emergency mainly to coordinate and confer with other response agencies to ensure that they take appropriate response actions, that is, actions that protect the public and the environment and that will not hinder future efforts to clean up the spill. You assume a more primary role once the emergency has ended, conditions have been declared safe, and the clean-up effort begins.

As such, there are six key guidelines to govern your participation in an emergency spill response incident:

1. *It is not your responsibility nor are you equipped to perform hands-on emergency response activities* (e.g., closing off a valve on a leaking tanker truck).

2. *Do not place yourself in a hazardous situation. Stay upwind and upgrade of the spill site. Do not walk in or near the leak or spill.*

3. *Treat any unknown spill as a hazardous material spill until the identity of the substance becomes known.*

4. *Coordinate your response with other response agencies.*

5. *Defer to the authority of other response agencies who have the responsibility and resources for responding to emergencies*. For example, local fire departments have the responsibility to check for explosive and other hazardous conditions and to determine whether protective actions (i.e., evacuation or in-place sheltering) should be ordered on these grounds. The local or state health department has the authority to order an evacuation when conditions pose an immediate health hazard.

6. *You may confer with and express your opinions to these other response agencies on such issues as the need for an evacuation, but you should stress to them that such decisions are theirs to make, and that you do not have the authority to make these decisions.*

Other sections of the manual that touch upon your responsibilities and authority in an emergency spill response situation include:

- Part 1, Section 3.2, Confining and Containing Releases.

- Part 1, Section 6, Corrective Action, Subsections:

  -- 6.2 Free Product in Structures, Sewers, and Underground Utility Lines

  -- 6.3 Vapors in Structures, Sewers, and Underground Utility Lines

NOTES

-- 6.4 Free Product on Soil Surface

-- 6.5 Free Product on Water Surface

The remainder of this subsection discusses interagency relationships for emergency spill response, technical assistance resources, and the importance of the Regional Contingency Plan. Also provided is an exhibit at the end of this subsection that contains summary information about the conduct of emergency response activities in cases of fire, safety hazards, and petroleum and other hazardous substance spills. Recommended response procedures for petroleum and hazardous substance incidents are provided; however, appropriate responses to any one specific incident will vary and should be developed in coordination with other response agencies on the scene.

1. Interagency Relationships, Coordination, and Resources

Our program policies for emergency spill response are such that most of the responsibility in an emergency situation falls upon other response agencies at the scene. Fostering close ties with representatives of these other agencies in your region, therefore, is an important on-going objective.

a. Local and State Agencies

The desired division of these "first-response" responsibilities is summarized in Exhibit 1.3-1. Your role is best limited to consulting with these agencies as they execute their first-response activities. Upon arrival at the incident scene, identify yourself to the on-scene commander (usually the fire chief or ranking police officer). Help establish the incident scene command post and remain available for consultation. You become more involved in the actual spill cleanup (or in getting the spiller to clean up the spill) once the emergency situation has been controlled.

The fire department's primary role is to control fires; monitor for explosive conditions; vent structures to remove gases, smoke, and explosive vapors[1]; provide emergency medical care (in some cases); provide for temporary spill containment; and make decisions about whether to evacuate personnel in response to fire and/or safety hazards. Local or state police assist in evacuations (in some situations they may make the evacuation decision) and are responsible for crowd and traffic control. Local and state health department personnel are available for consultation on evacuation (and permanent relocation) decisions and are important sources of information on the health hazards of different chemicals and on personal protection equipment needs. Public works and local utility personnel may assist in venting vapors or removing free product from sewers and utility conduits, shutting off or restoring power, gas, telephone, and

[1] *In some cases, NYSDEC contractors may become involved in venting structures of explosive vapors.*

Exhibit 1.3-1

Division of Emergency Response Responsibilities

Response Agency	Primary Responsibility
Fire Department	Fights fires or prevents fires and/or explosions; assesses explosive conditions; makes evacuation decisions in response to explosive conditions or fires; vents structures; assists in limited spill containment; often acts as lead agency at spill scene.
Local/State Police	Assists in evacuations; responsible for crowd and traffic control at spill scene.
Local/State Health Departments	Provides information on health hazards of different chemicals; makes evacuation and permanent relocation decisions in response to perceived health hazards.
Public Works/Local Utilities	Shuts off power or natural gas to possible ignition sources; provides and uses air monitoring equipment; vents vapors and/or removes free product from sewers and utility conduits; provides heavy equipment to construct containment structures.
Bureau of Spill Prevention and Response	Provides consultation and technical assistance on environmental impacts; takes action to contain and remediate spills consistent with policy and advises other responders on same; performs health and safety air monitoring and indoor air sampling for petroleum vapors.
Federal Agencies	Provides technical information, assistance, and specialized equipment; develops contingency plans and coordinates activities of responding agencies if funds are provided; assistance is available through the National Response Team (NRT); Regional Response Team (RRT) serving, in part, New York State; and the U.S. Environmental Protection Agency's Environmental Response Team.
Responsible Party	Notification, spill control, cleanup.

NOTES

water service to an area, or supplying materials and equipment (e.g., sand, backhoes, etc.). Employees or representatives of the spiller may also be available for consultation or may assist in response actions. Some incidents may occur in areas where response personnel from another state or country (e.g., Pennsylvania, Canada) may become involved.

BSPR policy is that BSPR personnel should defer to the expertise and authority of these other response agencies in emergency situations; when personnel from these agencies are present, BSPR spill responders may make response recommendations regarding cleanup (area BSPR function). However, because spill responders are viewed as technical experts, they are often asked for their opinions on such issues as whether to evacuate residents of a home or area. BSPR neither encourages nor discourages you to offer your professional opinion on such matters. Advice may be offered during emergency response if you have technical expertise. Be aware, however, that actions taken or not taken in direct response to BSPR input exposes the state to potential liability[2]. Exercise caution in providing your opinions, and always try to provide your input in such a way that you make it clear that you are not making decisions for which others are responsible.

When you are the first to arrive at the scene, BSPR prefers, if at all possible, that you wait for the arrival of other response agencies before initiating emergency response actions. However, if, in your judgment, the on-scene situation is such that action such as passive containment is required and possible before other agencies arrive, you may take the actions you deem appropriate.

b. Federal and Private Sector Organizations

There are other public and private organizations that can provide response personnel with assistance and technical data during an incident. Several of these are listed in Exhibit 1.3-2 and are discussed below.

On the federal level, there exists a hazardous materials planning and response coordination group known as the **National Response Team (NRT)**. Their responsibility is to coordinate national planning and response efforts under provisions set forth in the National Oil and Hazardous Substances Pollution Contingency Plan, required by Section 105 of CERCLA and Section 311(c)(2) of the Clean Water Act, as amended. The NRT consists of representatives of the following federal agencies:

- Environmental Protection Agency (co-chair)
- U.S. Cost Guard (co-chair)

[2] *The actions of BSPR personnel will, however, be supported by NYSDEC, provided proper procedures are followed.*

Exhibit 1.3-2

Emergency Response Assistance Agencies and Organizations

Agency/Organization	Phone Number	Available Expertise and Assistance
U.S. Coast Guard and Department of Transportation National Response Center	**800-424-8802** or **202-426-2675**	Receives reports of hazmat releases. Can assist with identification, technical information, and initial response actions.
Regional Response Team	**201-548-8730** or **800-424-8802**	Provides technical information on environmental issues related to spill containment, cleanup, and damage assessment.
U.S. Coast Guard	COTP New York **212-668-7936**. MSO Buffalo **716-846-4168.** COTP Long Island Sound 203-773-2464 USCG National Response Center 800-424-8802	Provides communication support, clean-up equipment, and trained personnel for assistance and advice on spill removal on waterways, ship salvage, and diving. Responds to discharges into or threatening coastal zone (i.e., tidal waters including the Hudson River as far north as Troy) and Great Lakes. May undertake cleanup activities.
U.S. EPA Environmental Response Team (Edison, NJ)	**201-321-6660** or **201-548-8730** or **800-424-8802**	Provides expertise in the biology, chemistry, and engineering disciplines for environmental emergencies, as well as special equipment to control and clean up chemical discharges. May undertake cleanup activities.
U.S. Department of Transportation	**202-426-2075**	Handles questions on the interpretation of USDOT regulations, and may also give advice on the handling of highway spills.
U.S. EPA Toxic Substances Control	**800-424-9605**	Provides regulatory guidance on the handling of PCB spills.

Exhibit 1.3-2

Emergency Response Assistance Agencies and Organizations (continued)

Agency/Organization	Phone Number	Available Expertise and Assistance
Centers for Disease Control (Agency for Toxic Substances and Disease Registry)	**404-633-5313**	Provides assistance in handling infectious disease-related incidents.
Chemical Transportation Emergency Center (CHEMTREC)	**800-424-9300**	Helps callers with information on the possible hazards associated with spills and/or fires involving a particular chemical. Also serves as liaison between the on-scene personnel and the chemical shipper and/or manufacturer who can provide further guidance on the spilled product and its properties. "Hazard Information Transmission (HIT) System" can be accessed by telecommunications link.
Chlorine Emergency Plan (CHLOREP)	**800-424-9300** or **212-682-4323**	Handles chlorine releases through the exchange of technical information or the mobilization of a technical assistance team to respond to the scene.
Hazardous Materials Systems (formerly the Bureau of Explosives), Association of American Railroads	**202-639-2222** or **202-639-2100**	Handles calls requesting assistance with hazardous material spills involving railcars.
Texas Tech University Pesticide Hotline (National Pesticide Telecommunications Network)	**800-858-7378**	Provides health, toxicity, and clean-up information regarding pesticide incidents.

NOTES

- Federal Emergency Management Agency
- Department of Transportation
- Department of Energy
- Department of Defense
- Department of Commerce
- Department of Agriculture
- Department of Health and Human Services
- Department of the Interior
- Department of Justice
- Department of Labor
- Department of State
- Nuclear Regulatory Commission

In major emergency incidents, the NRT may provide a pre-designated federal On-Scene Coordinator (OSC), either from the U.S. Coast Guard (USCG) or the Environmental Protection Agency (EPA), to coordinate the federal response. The only exception to this procedure is when Department of Defense (DOD) facilities or vessels are involved and DOD provides the OSC. The OSC may or may not coordinate operations from the incident scene. The spill then becomes federal and is managed by federal authorities from USEPA or USCG. DEC's role is secondary.

Regarding EPA/USCG involvement in a major NYS incident, EPA is responsible for overseeing the federal response to inland spills and, therefore, provides the federal OSC for these type of incidents. The USCG is responsible for overseeing the federal response to discharges into or threatening coastal waters (including the Hudson River as far north as Troy) and the Great Lakes, and therefore, provides the federal OSC for incidents of this type. Your NYSDEC Regional Contingency Plan should outline EPA and USCG involvement and responsibilities for geographical areas within your region.

The OSC is responsible for quickly assessing each situation and ensuring prompt, appropriate mitigation and clean-up action. When the spiller does not undertake suitable clean-up measures or cannot readily be identified, the OSC secures contractors and mobilizes response equipment, resources, and personnel to do the job. If the responsible party is not known, the OSC will make money and equipment available for cleanup.

NOTES

The OSC's efforts are supplemented by a Regional Response Team (RRT) that is available to provide advice, support (technical and resource) and assistance to both the OSC and state and local emergency responders. The RRT that covers the region in which New York State is located (Region II) is composed of a representative of New York State, a representative of New Jersey (the other state within Region II), and representatives of the NRT.

Federal response (i.e., NRT, RRT, EPA, USCG, etc.) is triggered by a report to the **National Response Center (NRC)** from local or state emergency responders or from industry representatives. The NRC is the designated national communications center for receiving reports of hazardous releases that exceed the federally-designated reportable quantities for specific substances. The NRC can be contacted by dialing **1-800-424-8802**. After receiving a report of an incident, the NRC immediately relays the information to the responsible federal OSC and to the agencies comprising the NRT. The NRC has several computer data bases that can provide information on chemicals, spill trajectory modeling, and pollution impact. Data bases include the following:

- **#** Chemical Hazards Response Information System (CHRIS)
- **#** Hazard Assessment Computer System (HACS)
- **#** Pollution Spill Trajectory Forecast System (PSTFS)
- **#** Oil and Hazardous Materials Technical Assistance Data System (OHMTADS)
- **#** Structure and Nomenclature Search System (SANSS)
- **#** Marine Safety Information System

The U.S. EPA **Emergency Response Division (ERD)** is responsible for emergency actions taken in response to federally reportable landborne spills (see subsection on Notification Requirements), and for coordination and technical assistance during such actions. The ERD will most probably be the initial federal agency representative to respond to such an incident. The ERD can provide response personnel, monitoring equipment, and technical information on environmental issues related to spill monitoring, containment, and cleanup. In some situations, the ERD may accept the role of lead agency and fund the response effort. For many incidents, however, ERD will become involved only at the request of BSPR staff. For spills in New York State, the ERD may be contacted through the U.S. EPA Response and Prevention Branch office in Edison, New Jersey, through their 24-hour emergency line: **201-548-8730**. The ERD can also be reached through the National Response Center's hotline: **800-424-8802**. (See Exhibit 1.3-2 for Emergency Response Assistance Agencies and Organizations).

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The **U.S. Coast Guard (USCG)** will, upon request of the federal OSC or NRC, provide clean-up equipment and trained personnel for discharges into or threatening the coastal zone (i.e., tidal waters including the Hudson River as far north as Troy) or the Great Lakes. The USCG National Strike Force (NSF), Atlantic Area Strike Team (based in Mobile, Alabama), is well-equipped and capable of responding to a major spill incident in New York State; however, their response will take several hours or days depending on their mode of travel (i.e., air, land, or sea). The Atlantic Area Strike Team can provide communications support and assistance/advice on spill confinement, spill removal, and shipboard salvage and damage control. The NSF Dive Team has capabilities in the areas of damage assessment and underwater surveying and limited capabilities to carry out these operations in contaminated waters. In addition, the USCG has three stations in New York State and Connecticut, reachable through the following 24-hour telephone numbers:

COTP New York: **212-668-7936**
MSO Buffalo: **716-846-4168**
COTP Long Island Sound: **203-773-2464**

Resources from these stations may be used instead of, or in addition to, the resources provided by the better-equipped Atlantic Area Strike Team.

The **U.S. EPA's Environmental Response Team (ERT)**, based in Edison, New Jersey, provides expertise in the biology, chemistry, and engineering disciplines for environmental emergencies as well as special equipment to control and clean up chemical discharges. Services and equipment available through ERT include state-of-the-art spill control equipment (e.g., mobile physical/chemical treatment systems) and laboratory analytical services. Usually, requests for ERT's assistance are made through the RRT, but the ERT does have its own 24-hour hotline **(201-321-6660)**, which BSPR personnel may use to contact them.

The **U.S. Department of Transportation (USDOT)** also has a hotline (**202-426-2075**) to handle questions on the interpretation of USDOT regulations. The USDOT hotline may also provide advice on the handling of highway spills. The **U.S. EPA's Toxic Substances Control Act** hotline (**800-424-9065**) can provide regulatory guidance on the handling of PCB spills.

The **Chemical Transportation Emergency Center (CHEMTREC)** has a 24-hour hotline (**800-424-9300**) for calls concerning transportation-related chemical emergencies as well as non-transportation chemical emergencies. CHEMTREC operators can give emergency responders information on the possible hazards associated with releases and/or fires involving a particular chemical. CHEMTREC also serves as liaison between on-scene response personnel and the chemical shipper and/or manufacturer, who can provide further guidance on the spilled product and its properties.

Other private organizations include the **Chlorine Emergency Plan** network (CHLOREP), **National Pesticide Telecommunications Network (NPTN)**,

NOTES

and the **Hazardous Materials Systems Division** (formerly the Bureau of Explosives) of the Association of American Railroads (AAR). CHLOREP handles chlorine releases by providing technical information or mobilizing a technical assistance team to respond to the scene. CHLOREP can be reached through CHEMTREC or through the Chlorine Institute (**212-682-4323**). NPTN provides health, toxicity, and clean-up information regarding pesticide incidents. NPTN can be reached through the Texas Tech University Pesticide Hotline (**800-858-7378**). The AAR's Hazardous Materials Systems Division has a 24-hour emergency number (**202-639-2222**), at which they receive calls requesting assistance with hazardous material incidents involving railcars.

2. The Regional Contingency Plan

BSPR personnel should consult their Regional Contingency Plan and several state-wide emergency plans for information that pertains to a petroleum or hazardous materials spill incident. BSPR personnel should also consult any supplemental plans, guides, or reference manuals that may have been prepared by the regional office to which they are assigned.

The statewide hazmat plans include the following:

- Hazardous Materials Emergency Contingency Plan, 1986 (Annex to the New York State Disaster Preparedness Plan).

The Hazardous Materials Emergency Contingency Plan Annex, prepared by the State Disaster Preparedness Commission, contains emergency responsibilities for the various state agencies involved in hazmat response. Pages III-3 and III-4 contain specific responsibilities for NYSDEC, and page II-7 presents the situations in which NYSDEC serves as the lead State agency at an incident.

Each of the nine NYSDEC Regions has its own Regional Contingency Plan (RCP) that is applicable to petroleum or hazardous substance spill incidents. Each RCP is required to be prepared in accordance with NYSDEC "Policies and Procedures Manual, Title 1800, Chapter 1820, Part 1820.9, Regional Response Plans/Procedures." Preparation and updating of the RCP is the responsibility of each Regional Director, although the Spill Response Engineer or Regional Water Engineer normally oversees the effort.

NOTES

As a minimum, Chapter 1820.9 of the "Policies and Procedures Manual" requires that the RCP contain the following components:

- # Names, titles, and telephone numbers of primary individual and alternate designated to manage and coordinate the Regional Response process.
- # Names, titles, and telephone numbers of primary and secondary response personnel.
- # Names, titles, and telephone numbers of Regional Support staff.
- # A flow chart or charts depicting the regional notification and response processes.
- # A standardized form for recording pertinent information.

In addition, the RCP must include at least the following information in appendices:

- # Names and telephone numbers of:
  - -- County Emergency Managers/Coordinators
  - -- Appropriate Law Enforcement Agencies
  - -- County Fire Coordinators or OFPC Field Representatives
  - -- Local County Health/New York State Regional or District Health Department offices
  - -- Industrial or academic contacts.
- # Listing of available reference materials.
- # An inventory of type and location of safety and sampling equipment.
- # An inventory of training courses (with descriptions) pertaining to types of spill responses that BSPR personnel are responsible for and capable of handling.

Each RCP may have optional sections, as well, which may be added at the discretion of the Regional Director. Each Regional Director determines how many copies of the RCP are published, who receives copies, and where they are kept.

As mentioned earlier, NYSDEC Regional Offices may have also prepared supplemental plans, guides, and reference manuals to be used during incidents. References of this nature are used in conjunction with the RCP. Region II, for example, has prepared and uses the following reference documents:

- # Regional Water Quality Accident Contingency Plan, 1985
- # Regional Response Plan for Hazardous Material Emergencies, 1987
- # Field Reference Manual for Region II.

The latter document is a three-ring binder containing a variety of general technical references and Region II-specific local agency listings. A sampling of the manual's contents are as follows:

- # Organizational charts

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- # Telephone rosters
- # Charts, guides, checklists, diagrams, etc.
- # CHRIS manual data
- # List of clean-up contractors
- # List of chemical and petroleum companies and terminals
- # List of professional tank testers
- # List of area hospitals
- # Technical data on PCB spills
- # Technical data on neutralization.

It is critical that the RCP and any supplemental plans, guides, and reference manuals be updated on a continuous basis. It is particularly important to keep telephone rosters and other contact lists up to date.

3. Emergency Response to Releases and Fires

Four separate components of emergency response to petroleum and hazardous substance incidents are discussed below: (1) initial response tasks; (2) response to fires; (3) response to situations involving flammable and/or toxic vapors; and (4) response to spills. Some incidents may involve more than one type of response. Each of the four types of response are discussed below in terms of BSPR responsibilities and potential actions.

Basic contractor call-out and solicitation procedures are included in Part 1, Section 2. In addition, four criteria have been established that permit the Regional Water Engineer or his designee to secure whatever services are necessary without approval from the Central Office during hazardous material emergencies. Neither BSPR nor the Division of Hazardous Waste Remediation has ever set an expense limit for securing services or contracts to alleviate emergency conditions (however, there is a $20,000 limit on disposal) as long as the services are directed only to abatement of the emergency aspects of the incident, including emergency cleanup, and are not for long-term or fnal cleanup or remediation. Emergency contract procedures for hazardous materials go into effect when the spilled materials: (1) are hazardous or there is probable cause to believe they are hazardous; and (2) present a significant threat to the public health and/or environment; and (3) the responsible party is unknown or refuses to take appropriate remedial actions; and (4) local government or the Federal government will not take appropriate remedial actions.

a. Initial Response Tasks

Initial response tasks are those that BSPR personnel perform during any incident response, between the time they receive the spill notification and the time when they begin on-scene actions. These initial tasks can be broken down according to when they occur: (1) tasks performed at the DEC regional office in preparation for reporting to the scene of a spill incident; (2) tasks performed en route to the incident scene; and (3) tasks performed prior to beginning on-scene actions.

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Upon notification of a release or fire, BSPR personnel must quickly gather items and equipment that may be required or be useful during response to the incident scene and during performance of on-scene duties. Prior to boarding response vehicles, a call back to the notifying party is often appropriate. The spill responder gets first hand information and advises the notifier that a DEC response has been initiated. Also, BSPR personnel should collect the following items and information:

- An accurate description of the incident, including location, nature (i.e., release vs. fire), substance(s) involved, quantity released, release potential, number of casualties (if applicable), best direction to approach from, and any other pertinent information;
- Area maps from which to determine the best route of travel;
- A traffic report, if available, that can be used in choosing the quickest route of travel;
- A report of weather conditions along the route of travel and at the incident scene;
- Business cards and/or other forms of identification;
- Equipment and references (e.g., Regional Contingency Plan) that are not already on-board the response vehicle;
- Adequate fuel for the trip to the incident scene; and
- Names of BSPR personnel responding to the incident (if more than one vehicle is going to respond).

Personnel should not waste time waiting for weather reports or traffic reports. If such reports are not immediately available, leave without them, as they are not vital (although useful). Weather and traffic reports may be available by radio channels.

While en route to the incident, drivers must remember to operate their vehicles in a safe manner. Keep in mind that although BSPR vehicles are considered "environmental emergency response vehicles" under state law, your vehicle's warning light (whether red, red and white, or amber) does not give you the right to speed, run stop signs or traffic lights at will, or drive through traffic in an unsafe manner. BSPR drivers must always operate their vehicles in accordance with state laws governing emergency vehicles. Drivers must use extreme caution when approaching and passing through intersections and when traveling past other vehicles and pedestrians. For specific guidelines on the use of emergency warning devices, see Attachment 1.3-1 which contains guidelines for Region 2 personnel. The Vehicle and Traffic Law provides specific requirements.

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Upon your arrival at the incident scene, look for the command post or ask police officers manning roadblocks to direct you to the command post. If a vehicle staging area has been established, park your vehicle there, and then send a senior BSPR responder to the command post to be briefed by the Incident Commander. The senior BSPR representative should advise the Incident Commander that DEC is on-scene and of DEC's role to ensure proper cleanup and to assess environmental damage. The BSPR representative should request clearance to initiate these activities once the emergency has been stabilized, as well. The BSPR representative should also attempt to establish a common radio frequency with the command post using BSPR-supplied portable radios or loaner radios from the command post.

Following the meeting with the Incident Commander, the senior BSPR representative will return to the area where the remainder of the BSPR personnel are located and explain response actions that will be taken. BSPR personnel will then retrieve needed equipment from their vehicles and perform necessary operational checks and calibration procedures (see Part 2, Section 2). They will also don appropriate protective clothing and strap-on their escape air pack. Response operations will not begin until all personnel are properly equipped, instruments are in proper working order, and tasks are fully understood. BSPR personnel should also contact other response agencies, by radio or phone, for their assistance in responding to the spill. Communications procedures are covered in Section 1.3.3.

On occasion, BSPR personnel may come upon a petroleum or hazardous materials incident while in the field. When this occurs, BSPR personnel should immediately notify the DEC Spill Hotline and local fire, police, and emergency medical agencies as necessary. Phone numbers for local response agencies should be contained within your Regional Contingency Plan. If not, dial "0" and ask the operator for assistance. Notification requirements are covered in Part 1, Section 1, Subsection 1; refer to that section for details. While awaiting the arrival of local emergency responders, refrain from taking actions which may be unsafe and move to a safe location that is upwind and upgrade, if possible, from the release or fire. Use your own discretion concerning taking passive response action (such as building dikes to prevent spillage into streams) if the area is safe and the need to protect nearby people that are in immediate danger. Your decision to take any immediate action that you feel is warranted should be based upon sound judgment, logic, practicality, and safety. If you decide to enter private property prior to the arrival of local emergency responders, follow the guidance contained in Part 1, Section 1, Subsection 3, Access and Right-of-Entry.

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b. Response to Fires

Local fire departments have the resources and responsibility for controlling fires. You should stay upwind, and, if possible, upgrade of the fire scene (be prepared to relocate quickly) and remain available for consultation. The fire department will control the fire, as well as determine whether any materials on or near the site pose an explosion or flammability hazard and then take appropriate control measures. The Fire Protection Guide on Hazardous Materials is an excellent reference source on the fire hazards of some 1,300 chemicals and contains appropriate fire-fighting guidance. Another good reference is the National Fire Protection Association's NFPA 325M-1984, Fire Hazard Properties of Flammable Liquids, Gases, and Volatile Solids.

Your attention should be focused on lessening the impacts of health and environmental hazards of the secondary effects from fighting the fire. Information of this nature may prompt the fire department to choose a mitigation tactic that will have a lesser impact on the environment. As another example, if the fire involves a pesticide, you should discuss with the fire department the response option of allowing the fire to consume the pesticide rather than creating a contaminated runoff problem as a result of suppressing the fire with water. Also, assist in on-scene contingency planning in case additional protective actions (i.e., evacuation or in-place sheltering) become necessary. Watch the smoke plume to see if additional protective actions downwind of the fire scene are warranted; however, decisions regarding protective actions are the fire department's responsibility. Make use of your air monitoring equipment as soon as possible to detect the off-site migration of explosive and/or toxic vapors that may necessitate additional protective actions for yourself and/or surrounding populations. Air monitoring equipment necessary for this task includes an explosimeter and an organic vapor analyzer or photoionization detector. (See Part 2, Section 2, Equipment Training, Calibration, and Maintenance.)

Prior to initiating air monitoring, determine what data you need to gather; then, if still necessary, BSPR personnel must strap on their air escape packs should they be needed. When ready to monitor, take background readings from the perimeter, and be prepared to move quickly in the event that the spill area increases in size or the leak intensifies. Enter the area from upwind and proceed downwind. **If the instrument(s) register(s) a dangerous level (e.g., vapor levels approaching the Lower Explosive Limit or concentrations significantly above background readings), back away from the area. At no time should you enter flammable or potentially flammable environments.** Report readings to the Incident Commander (most likely the senior officer of the fire department or police department) and other response personnel who need the data. Remember, it is the responsibility of other responding agencies to utilize monitoring data to formulate response strategies and protective actions. Defer to their expertise.

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Assist in the control of fire suppression runoff (i.e., contaminated water and/or foam) to prevent its entry into sewers or surface waters near the scene, but do not interfere with fire suppression operations. Request that berms or other confinement structures along drainage paths to hold the runoff until it can be tested for contaminants. Monitor these confinement areas for the buildup of explosive and/or toxic vapor levels and to make sure the contained water does not overflow the confinement structure. The liquid may need to be pumped out of the confinement structures so that they do not overflow. Pumping equipment must be compatible with the confined material and may need to be corrosion-resistant and/or explosion-proof, depending on the material. For more information on spill/runoff confinement, refer to:

- # Exhibits 1.3-3 and 1.3-4 (at the end of this subsection);
- # Part 1, Section 3.2, Confining and Containing Releases;
- # Part 1, Section 6, Corrective Action, Subsections:
  - -- 6.2 Free Product in Structures, Sewers, and Underground Utility Lines,
  - -- 6.4 Free Product on Soil Surface,
  - -- 6.5 Free Product on Water Surface;
- # Part 3, Section 1, Synopsis of Spill Assessment and Clean-up Technologies.

c. Response to Situations Involving Flammable and/or Toxic Vapors

Vapors can accumulate in low-lying areas or within enclosed or poorly ventilated structures (e.g., basements) and reach explosive levels. Oxygen levels within these areas and structures can also be depleted to a concentration insufficient to sustain life without the aid of self-contained breathing apparatus. **BSPR responders must not enter an enclosed or poorly ventilated area which has not been monitored for explosive conditions and for the percent oxygen in the atmosphere. Monitoring is not a BSPR responsibility.** Remember that local emergency service personnel must wear appropriate protective gear when conducting monitoring operations.

Combustible gas levels are measured with a combustible gas indicator (CGI), also known as an explosimeter. Oxygen levels are measured with an oxygen meter that may or may not be incorporated into a CGI (see also sections on Equipment Training, Calibration, and Maintenance; Personal Health and Safety Protection; and Vapors in Structures, Sewers, and Underground Utility Lines). The flammable range (i.e., range between the upper and lower explosive limits) for some of the common petroleum products are provided below:

- # Gasoline: 1.2 percent to 7.6 percent (depending on grade);

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- **#** Fuel oils: 0.6 percent to 7.5 percent for fuel oils no. 1 through no. 5)[3];
- **#** Jet fuel #4 (JP #4): 1.3-8 percent.

A CGI reading within the flammable range indicates a potential for an explosion. A reading below or above this range does not indicate an explosion, but a reading above the range may be indicative of an oxygen-deficient atmosphere (less than 21 percent oxygen constitutes an oxygen-deficient environment). In addition, a reading approaching the flammable range indicates impending danger and should be a matter for concern. Any volatile chemical can create an oxygen-deficient atmosphere within an enclosed or poorly ventilated area. Examples of asphyxiants are nitrogen, hydrogen, methane, aniline, hydrogen cyanide, and carbon monoxide.

Although you possess the necessary monitoring equipment in your standard equipment inventory (see Part 2, Section 2, Equipment Training, Calibration, and Maintenance), **you do not have the necessary body or respiratory protective equipment for entering a structure or hazardous area to obtain an initial reading.** If an initial reading cannot be obtained without entering the structure or hazardous area, it is preferable that other response personnel on the scene (e.g., fire department, sewer authority, spill contractor) who have the required body and respiratory protective equipment enter the structure to obtain a reading. **Entry into a potentially explosive atmosphere must not be attempted.** The migration of flammable vapors towards ignition sources should also be prevented and will be handled by the fire department. Remember that the vapors of many materials (e.g., petroleum products) are heavier than air; a reading should be taken near the floor as well as in the breathing zone.

If the structure or hazardous area is deemed safe for entry, emergency response personnel should continue to monitor conditions to ensure that safe levels are not exceeded. The fire department should remain on the scene for as long as an explosion potential exists. For additional information on vapor mitigation, refer to Part 1, Section 6.3, Vapors in Structures, Sewers, and Underground Utility Lines.

d. Response to Spills

Spills present a variety of potential safety hazards, depending on the particular product spilled, the amount released, and the area affected by the spill. For example, petroleum products are flammable or combustible and

[3] *Types of fuel oil include fuel oil no. 1 (kerosene, range oil, JP-1, coal oil); fuel oil no. 2 (home heating oil, diesel oil); fuel oil no. 4 (residual fuel oil no. 4); fuel oil no. 5 (residual fuel oil no. 5, Navy special fuel oil); fuel oil no. 6 (residual fuel oil no. 6, Bunker C oil); fuel oil 1-D (diesel oil, light); and fuel oil 2-D (diesel oil, medium).*

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can cause highly explosive and/or oxygen-deficient atmospheres. Whether the spilled material is flammable or toxic, caution should be taken to eliminate any potential ignition sources and to prevent the migration of harmful vapors. For most spills, isolating/evacuating the area, air monitoring, and spill confinement/containment are the primary emergency response priorities.

Air Monitoring

As soon as possible, emergency service response personnel should conduct an air monitoring survey of the spill area with a photoionization detector or an organic vapor analyzer and explosimeter. Direct-reading colorimetric indicator tubes can also be used to quickly measure the concentration of a specific vapor constituent or gas in the air; however, you should be aware of other chemicals that may give a false reading. Instructions, provided by the manufacturer, for proper use of the tubes should be read and followed carefully. Monitoring should be directed to detect explosive conditions and to detect concentrations of volatile compounds that exceed toxic levels. The NIOSH Pocket Guide to Chemical Hazards contains information on toxic levels for a variety of compounds. For additional information on air monitoring, refer to Part 1, Section 6.3, Vapors in Structures, Sewers, and Underground Utility Lines.

Confinement

Spills on land are relatively easier to confine than a similar spill on a water body. Confinement equipment and materials should be placed at the closest accessible, safe point in the drainage pathway towards a water body or sewer and at other strategic locations along the drainage pathway. Confinement of a spill on water using booms and sorbents is possible, but tides, currents, and wind conditions can complicate and even defeat an attempt to confine the spill.

Regarding confinement and cleanup of gasoline spills on water, it is the U.S. Coast Guard's policy to refrain from this practice. New York State, however, has the responsibility to confine and clean up waterborne gasoline spills and may overrule the USCG on this matter. In these cases, the state will hire a contractor to confine and clean up the spill.

For detailed information on emergency spill confinement, refer to Part 1, Section 3.2, Confining and Containing Releases and Section 6, Corrective Action.

Containment

Containment of the leak source, or stopping the leakage, is critical, but must be performed by personnel with the skills and equipment needed to do the job safely and effectively. There are several leak containment techniques that must be considered. These include closing valves; plugging or

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patching holes, tears, cracks, punctures, and the like; capping leaks; off-loading product; and uprighting containers. Some of these techniques may be utilized in combination. For more detailed information on leak containment, refer to Part 1, Section 3.2, Confining and Containing Releases.

4. Emergency Response Actions to Incidents Involving Petroleum or Hazardous Substances

Despite BSPR's limited responsibilities in the emergency response phase of a petroleum or hazardous material (hazmat) incident, BSPR personnel must be knowledgeable about the overall response actions that take place during all phases of the response effort (i.e., emergency response, initial cleanup, and long-term cleanup). The purpose of the following tabular material is to present a general overview of the response actions that occur during the emergency phase of a petroleum or hazmat incident. A discussion on this topic could be quite extensive and lengthy; therefore, a concise, yet comprehensive, discussion is presented for the purpose of this guidance manual. BSPR personnel may also wish to read a book entitled Hazardous Materials: Managing the Incident, written by experienced hazmat emergency responders from Prince Georges County, Maryland (see list of recommended references at the end of this subsection). This book presents a detailed discussion of emergency hazmat response operations and includes many informative charts, diagrams, and other graphic illustrations that should be extremely useful for training purposes as well as a response procedure reference.

Two exhibits (located at the end of Section 3.1) summarize emergency response actions, presenting information in a manner and format that is conducive to easy reference during an actual incident. Exhibit 1.3-3 contains emergency response actions applicable to transportation incidents involving petroleum and hazardous materials. Exhibit 1.3-4 contains emergency response actions applicable to incidents involving petroleum and hazardous materials at or within fixed facilities, structures, underground storage tanks, and sewers. The listed actions in the exhibits cover incident management as well as mitigation actions and also address the issue of intervention versus non-intervention by emergency responders.

Exhibits 1.3-3 and 1.3-4 are formatted alike: general actions are listed in the left column; detailed descriptions of the specific steps involved in each action, for both petroleum and hazmat incidents, appear in the columns to the right. The general response actions are listed in approximate chronological order; however, several actions are likely to be taken simultaneously. Spill responders should keep in mind, however, that each particular incident will dictate the type of response actions to be taken and in what order they should be taken. Exhibit 1.3-5 illustrates the approximate concurrence of these response actions and their interrelationships. Refer to this exhibit when using Exhibits 1.3-3 and 1.3-4.

Exhibits 1.3-3 and 1.3-4 should not be used as your only guidance reference. They are meant to be used, for example, in combination with more detailed guidance presented in Part 1, Section 6, Corrective Action. BSPR personnel

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should consult the exhibits for general information on key actions and then refer to Section 6 for more detailed actions specific to the particular incident. For example, if the incident involves a spill on land from an overturned truck, BSPR personnel should follow the actions described in Exhibit 1.3-3 and refer to Part 1, Section 6.4, Free Product on Soil Surface, and/or other applicable Section 6 topics. Other sections of the guidance manual that BSPR personnel should refer to while using Exhibit 1.3-3 and 1.3-4 include:

- Part 1, Section 1.1, Spill Reporting and Initial Notification Requirements;
- Part 1, Section 3.2, Confining and Containing Releases;
- Part 2, Section 1, Personal Health and Safety Protection; and
- Part 3, Section 2, Transport and Storage Vessels.

Exhibits 1.3-3 and 1.3-4 have four main points: safety, incident management, thoroughness, and careful decision-making. Unless you incorporate these four components into your emergency response actions, you may end up with an ineffective response effort and injured people. Remember, the purpose of emergency response is to protect people and to minimize, when possible, the amount and severity of property and environmental damage. Don't create more of a problem, and, more importantly, don't become part of the problem.

5. Evacuations

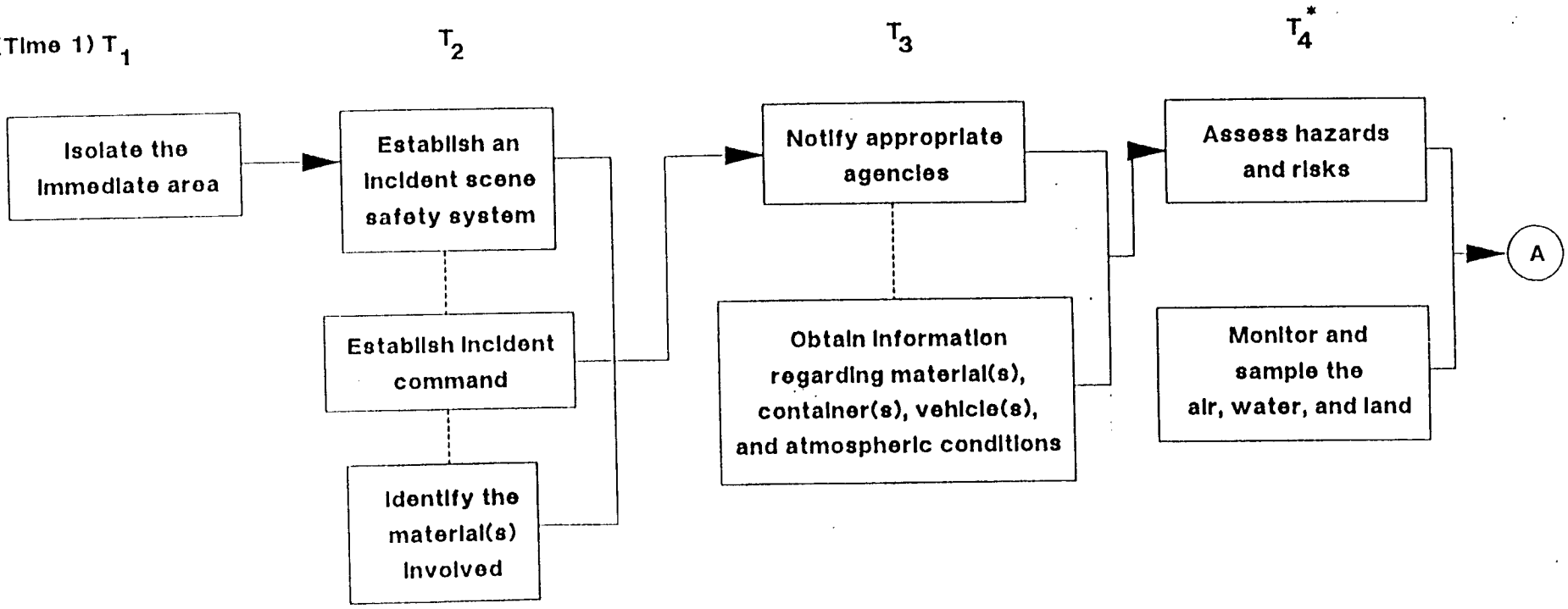
Protection of public health and safety during a spill or fire response may require evacuating residents and other personnel from the area temporarily. An evacuation may be as limited in scope as temporarily relocating the residents of a single home to as significant as evacuating all residents within several miles of the incident or in the downwind path of a migrating cloud of toxic vapors, gases, and/or smoke. The length of time evacuees must remain away from the affected area can range from a few hours to several days or weeks. Evacuations often demand, therefore, the greatest degree of coordination among response agencies.

A decision to evacuate is usually prompted by the discovery that an imminent health and/or safety threat exists. Common examples are when explosive conditions are detected in a structure, when the spilled material is inherently toxic or releases toxic vapors, or toxic

Exhibit 1.3-5

EMERGENCY RESPONSE ACTIONS TIMELINE

(Illustrating Concurrency of Response Actions
and Their Interrelationships)

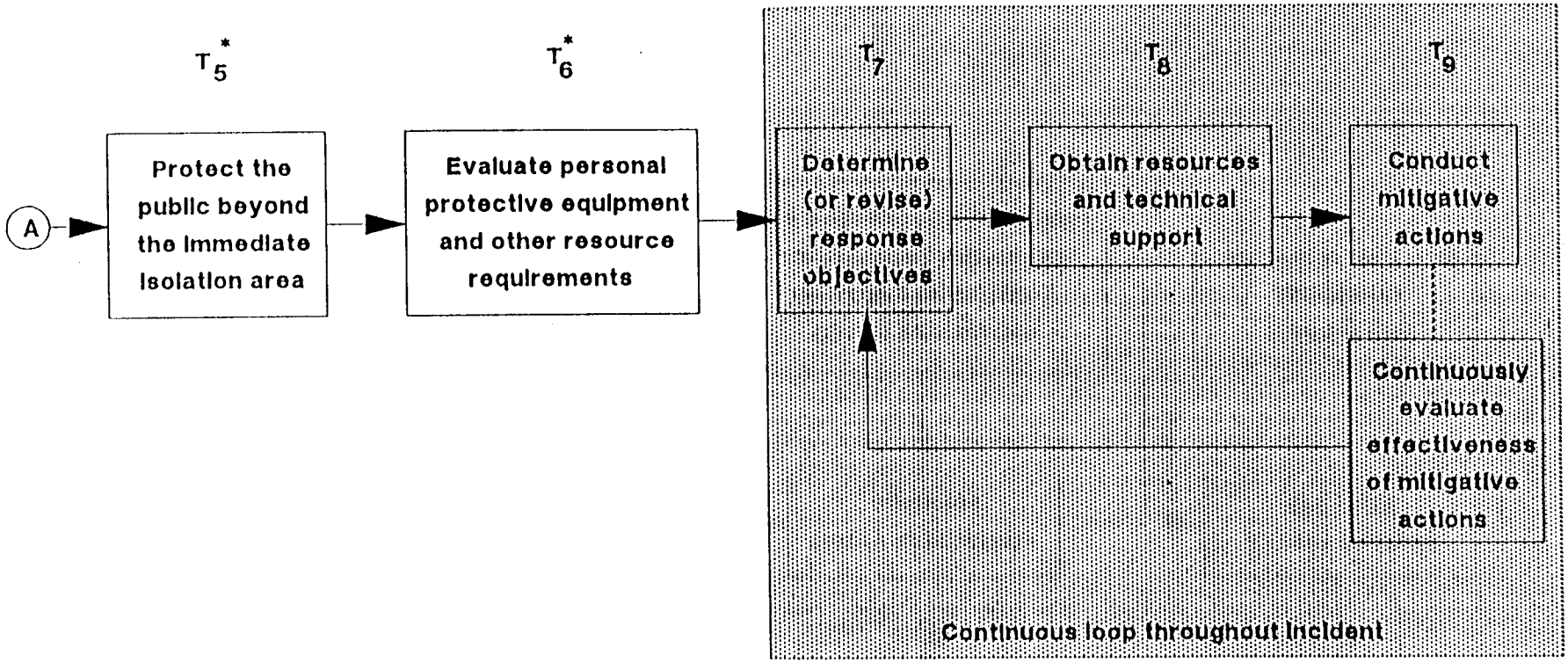


* Not a one time action.
Requires continuous attention
throughout the incident.

Exhibit 1.3-5 (continued)

EMERGENCY RESPONSE ACTIONS TIMELINE

(Illustrating Concurrency of Response Actions
and Their Interrelationships)



* Not a one time action.
Requires continuous attention
throughout the incident.

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gases have been or will be released by virtue of fighting a fire associated with the spill. Evacuations are also ordered in situations where responders are not sure of the hazards they are dealing with and, as a precaution, residents are removed from the area until the situation can be evaluated. **Even though evacuations are disruptive, the general rule is that it is better to err on the side of safety.**

An evacuation is suggested when a spill or fire leads to short-term conditions that threaten the safety and health of nearby residents, but these conditions will dissipate or can be remedied to the satisfaction of safety and health officials. The timing of an evacuation order in a spill or fire situation can vary. With many petroleum and hazardous material incidents, an evacuation of the immediate area may be the very first order of business even before a thorough evaluation of the situation is completed. In other cases, an evacuation may not appear necessary at first, but a later change in conditions (e.g., winds increase or decrease in speed or change direction) may prompt the decision to remove residents and even response personnel from a particular area. **All except the most minor spill situations, therefore, require that atmospheric conditions (i.e., wind speed and direction, temperature differentials between lower and upper air current levels, humidity) be monitored and evaluated continuously in case an evacuation becomes necessary or must be expanded.**

a. BSPR Policy on Evacuations

BSPR personnel are not to make evacuation decisions. Other emergency response agencies, such as the fire department, police department, or health department, have this authority, whereas BSPR personnel do not. There are no exceptions to this policy. Only when the following three conditions are met may you make a recommendation for evacuation: (a) you are the first to arrive on the scene, (b) you determine, or there is sufficient reason to believe, there is an imminent health and/or safety threat posed by the release or fire, **and** (c) in your judgment, other response agencies are unable to respond and take action in time. If you are the first to arrive at the incident scene and you discover a situation requiring an immediate evacuation, contact the appropriate local authorities and take action to warn those at risk. Once fire, police, and health agencies arrive on the scene, defer to their judgment concerning any further decisions about the need for additional evacuations or whether residents may return.

If the above circumstances do not apply:

If there is time, your first priority is to contact the proper authorities and support them in an investigation of the spill, site conditions, and the safety and health hazards. This may include ambient and indoor air sampling, water sampling, and other testing. BSPR personnel should leave evacuation decisions to other response agencies at the spill scene or defer to these agencies' judgment once they arrive on the scene. Fire or explosion concerns come under the purview of the

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fire department, and decisions concerning spills that present imminent health hazards are the responsibility of the health department.

BSPR personnel are encouraged to limit their role to consulting with and providing technical assistance to these other response agencies. Refer to your Regional Contingency Plan for a description of the roles and responsibilities of the various response agencies in your region. Do not make the evacuation decision in lieu of the local authorities, even if they ask you to make a decision. Use your discretion in deciding whether to express agreement or disagreement with their decision. Do not commit state funds to support resident relocation unless certain conditions are met and authorization is given.

It is recognized, however, that other response agency personnel may view BSPR personnel as technical experts and may ask for your assistance in evaluating a hazardous situation. You may be asked direct questions like "should we evacuate residents?" It is sometimes difficult to balance your desire to be helpful and non-evasive in these situations with the need to not overstep your authority with respect to these delicate decisions and thereby expose the state and yourself to potential liability. Rest assured, however, that NYSDEC will support your actions, if you have followed proper procedures. BSPR policy is that these other first-response agencies (i.e., fire department, police, health department) make evacuation decisions whenever possible. If you are asked a direct question, DEC would prefer that you review the situation with the Incident Commander (IC). Find out what he or she thinks the situation warrants based upon the information. Preferably, you should help the IC review the information collected in terms of the accepted criteria, standards, limits, or rules-of-thumb that may exist. You may express an opinion if you're asked to, but make it clear that it is only an opinion and that the final decision is to be made by the agency or individual (i.e., Incident Commander) with the responsibility for doing so.

In the unlikely event that the responsible agency or individual fails to order an evacuation when you believe the situation warrants an evacuation, you should try first to review the information again with incident command personnel to explain your assessment. Again, your aim is to have these other agencies revise their earlier decision based upon their reassessment of the situation, not just your's.

There will be cases where the affected parties will expect the Oil Spill Fund to reimburse them for their costs of temporary housing. These monies are available for funding all clean-up and removal costs and all costs associated with repairing or mitigating direct and indirect damages only if the responsible party refuses to accept liability for the spill. Reasonable costs incurred by a damaged party electing to accept temporary housing are, therefore, reimbursable from the Oil Spill Fund by filing a third-party claim with the Fund Administrator (refer to Article 12 of the NYS Navigation Law). **You do not have the authority to commit funds for this purpose.**

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If you receive any inquiries regarding reimbursement of costs for an evacuation (or more permanent relocation), you should refer those parties making the inquiries to BSPR staff in Albany. You can recommend to the Albany office that affected parties be reimbursed by the Oil Spill Fund for their relocation costs (the Oil Spill Fund is not to be used when the spill involves a hazardous material).

b. Response Agency Roles in Evacuations

The roles of different local, state, and, in some cases, federal and private agencies in an evacuation may vary from region to region of the state. Emergency response decision authority and cooperative agreements between NYSDEC and other government response agencies should be covered in your office's Regional Contingency Plan. Familiarize yourself with the Regional Contingency Plan's section on evacuation.

Typical roles that other agencies perform in an evacuation situation include the following:

Fire Department - The fire department has trained personnel and the equipment to assess real and potential safety and/or property hazards associated with leaking or spilled flammable gases, liquids, and solids. The fire department will evaluate a spill situation for fire and explosive hazards and order an evacuation on these grounds. Fire department personnel may then assist police officers in notifying citizens of the evacuation.

State or local health officials - State and local health department personnel can order an evacuation in situations where an imminent health threat is believed to exist. Such a situation would exist, for example, when the concentration of a toxic material in the air was high enough to cause serious health impacts but might not be high enough to present an explosive condition (if the material was flammable at all).

State and local police - State and local police will lead the effort to keep persons and traffic away from the danger area and inform residents that they must evacuate the area. They will also help in making arrangements for transporting the elderly, handicapped, and others who cannot leave the area without assistance.

State and local emergency management agencies - These agencies will assist in coordinating evacuation efforts in situations where significant numbers of citizens are endangered. In this regard, they will work in close cooperation with the police and fire departments. A prime responsibility of these emergency management agencies is to identify locations of persons who will require special evacuation assistance (i.e., elderly, handicapped, infirm, patients, prisoners, etc.) and to make arrangements for transporting these individuals to appropriate sheltering facilities. State and local emergency management agencies will also be involved in selecting and establishing emergency shelters for all evacuees, as well, although a

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disaster assistance organization (e.g., American Red Cross) or a local agency (e.g., social services) will likely operate the shelters.

Private disaster assistance agencies - Private disaster assistance organizations like the American Red Cross often are involved in evacuations, especially in finding temporary shelters for and feeding or clothing displaced citizens.

Federal Emergency Management Agency (FEMA) - FEMA will assist State and local emergency management agencies in coordinating large-scale evacuations involving thousands of evacuees.

6. Re-entry into Evacuated Areas

Following an evacuation, people that were evacuated will be keenly interested in learning when they can return to their residences and places of business. Re-entry cannot take place until all health and safety hazards have been eliminated or mitigated to acceptable levels. Therefore, the re-entry decision is the responsibility of the fire and/or health department, depending on the nature of the hazards. BSPR personnel should provide monitoring data to these other agencies from which re-entry decisions can be partially based. **BSPR personnel make recommendations regarding re-entry, but should not advise any evacuees that it is permissible to re-enter an evacuated area.**

When fire and/or health department officials decide that re-entry is safe, they will coordinate re-entry operations with the appropriate local and State law enforcement and emergency management agencies. BSPR personnel have no responsibilities in these operations.

7. Temporary Resident Relocation (Petroleum Spills Only)

Section 177-a of Article 12 of the Navigation Law (Chapter 712 of the Laws of 1989) established an Emergency Oil Spill Relocation Network headed by the Commissioner of Health. Under this section, DOH has the authority to temporarily relocate persons who are exposed to health risks as a result of an oil spill. You should notify the local Department of Health or, if you have difficulty, the Department of Health in Albany of any request for relocation and of any petroleum spill which may affect a residence.[4] The impacted party may also request relocation assistance directly from DOH. You may have to provide details concerning the spill to DOH, but detailed indoor sampling will usually be a DOH responsibility after you provide DOH with basic information. When relocation may be warranted, DOH field staff will inspect and assess the health risks. If relocation is necessary, it is for a period of 30 days, but can be extended for successive 30 day periods after further assessment of the health risks by DOH.

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[4] Notify BSPR of any problems. The procedures related to the notification network are still being drafted so many persons who may eventually be involved in the process may not be up-to-date on the procedures. In addition, the procedures may change as they are completed.

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If an RP/PRP is notified of his responsibility for a spill and the need to relocate affected parties, and the RP refuses to undertake relocation required by DOH, the RP is liable to the Oil Spill Fund for an amount equal to two times the actual relocation costs incurred by the fund. If it is finally determined that a PRP was not responsible for the spill, any actual and necessary costs, including relocation, will be reimbursed by the fund.

When the RP/PRP is unknown, unable or unwilling to accept relocation responsibility, DOH will make arrangements for relocation. Relocation payment packages will eventually be forwarded to the Regional Spill Engineer so that appropriate coding (Spill Number, Project ID Number) and certification as an expense resulting from a valid petroleum spill can be added. The Spill Engineer should not review the details of the payment package; an outside auditor will review them. After providing the appropriate coding and certification, the DEC regional office forwards it to the DEC Central Office which processes the relocation package and sends it to the Spill Fund Administrator.

8. Permanent Resident Relocation

As noted earlier, an evacuation is advisable when households are threatened by a petroleum or hazardous substance spill to such an extent that residents are at immediate risk by remaining in their houses or in the general vicinity. Both safety and health risks figure in this assessment. If the threat is expected to be fairly short-term in its duration (a few hours or days), residents may need to be evacuated only temporarily until conditions are judged safe for their return. Relocating residents on a more permanent basis, however, may be prudent and less costly in situations where the health threat is judged to be long-term, when remedial measures are ineffective, too expensive, or likely to take a long time to be effective, and when the risk to human health and safety in the interim is judged unacceptable.

Very few, if any, petroleum or hazardous substance spills are expected to require permanent resident relocation, but it is possible in cases of very serious spills. Permanent resident relocation is associated more with hazardous waste disposal sites such as the much publicized Love Canal (NY) and Times Beach (Missouri) sites.

The administration of resident relocation due to a hazardous substance release is addressed in 44 CFR Part 220. The regulation prescribes the policies to be followed by the Federal Emergency Management Agency (FEMA) or any state or local government when implementing temporary relocation assistance under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980, as amended. Under the regulation, the U.S. Environmental Protection Agency determines the need for temporary relocation of threatened individuals and FEMA is then responsible for coordinating relocation activities.

It is FEMA's policy to encourage states to administer all or part of the temporary relocation activities under CERCLA to the extent they are capable and willing. When it is agreed that a state (e.g., New York State) will administer all or part of a resident relocation program, the state must negotiate a cooperative agreement with FEMA.

9. Limitations on Use of Oil Spill Funds for "Self Spillers" and Site Restoration

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Although the spill fund is used to protect the environment and public health and safety, there are some limitations to using spill funds for restoring RP/PRP's water supplies and third party property after a spill. If you determine there is, or may be, an impact from contamination on the environment or third parties beyond the property of the RP/PRP, cleanup or remediation may initiated on the property of third parties. Tell the RP/PRP about actions you intend to take at a site and give the RP/PRP the opportunity to perform any tests, remove tanks, or perform any other remediation activities. When it is necessary to use cleanup contractors for site activities, the following program policies are applicable.

"Self Spillers" - Oil spill funds are only to be use on RP/PRP properties for activities needed to protect the environment and/or third parties. Spill response personnel may initiate cleanup or remediation, including remediation and correction of damages to third parties, where it is determined there is a threat that contamination will affect other parties, whether short or long term, by contaminating ground water or through vapor migration. It is program policy that the oil spill fund is not a source for financial aid to individuals affected by their own action or lack of action.

Therefore, we do not provide filters or alternative water supplies for the RP "self-spiller". Also, you should explain to the RP/PRP that you will take care to minimize the impact of any investigation or cleanup work, but that you intend to restore the spill site to an environmentally **safe condition only**. For example, tanks will not be replaced, installed, or hooked up. There will be no repaving, rebuilding of islands, replacing of floor slabs, etc..

Third Parties - In those situations where a third party's property is damaged and the spill fund is being used, only restore the site to a condition as close as possible to the original. You are not authorized to do additional work or provide improvements.

For example, you should replace a gravel driveway that you remove with a gravel, not a black-top, driveway.

For replacement wells and water supplies, the policy is the same as that for site work. We do not intentionally provide water supplies superior to the ones which exist prior to spills. In other words, if the earlier well had sulfur or hardness in the water, we do not correct this condition in the new well unless it can be done without additional costs. It is important to establish the characteristics of the well prior to drilling. Both the quality and quantity of water that the well produced should be determined.

10. Natural Resource and Fish and Wildlife Assessment

Regional spill response personnel are often the only DEC representative at a spill site. If you determine the spill has caused or may cause damage to natural

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resources or wildlife, contact the regional supervisor of natural resources. If there is a fish kill, immediately notify the regional Fish Kill Coordinator, especially in large fish kills, so they can organize follow-up investigations to determine the extent of fishery resource damage.[5]

Contaminated birds and other wildlife should be rescued and rehabilitated by trained personnel. Contact the regional supervisor of natural resources or the special licenses unit in the Central

Office when there are birds or wildlife to be rehabilitated. These organizations can obtain the services of DEC-licensed rehabilitators.

After you have notified the supervisor of natural resources, others will determine whether to hire a contractor to perform natural resource damage assessment (NRDA). Although NRDAs may be performed under agreements other than standby spill contacts, NRDA contractors working under the standby agreements use the method of payment for oil spill projects as described in the standby agreements. The 1991-1993 standby agreements for spill response include provisions for assessing damage to natural resources. The assessments may include mapping, sediment/soil/plant sampling, surface water analysis, chemical analysis and biological sampling (invertebrate, fish and wildlife).

[5] *Additional information on basic procedures and technical information concerning fish mortality investigations can be obtained from Investigating Fish Mortalities In New York State (DEC Technical Report 83-2 (Revised), April 1990). The report contains information on fish mortality causes and sampling; fish pathology; supplies and equipment needed for investigations, and; a list of the environmental disturbance and investigation unit's personnel and phone numbers.*

RECOMMENDED SOURCES OF INFORMATION CONCERNING HAZMAT PREPAREDNESS AND RESPONSE*

Guidebooks/Guides

1. *Emergency Action Guides*, Association of American Railroads.

2. *Guide for Hazardous Materials in Surface Transportation*, Association of American Railroads.

3. *EPA Chemical Profiles*, Environmental Protection Agency.

4. *1987 Emergency Response Guidebook*, Department of Transportation.

5. *CHRIS (Chemical Hazards Response Information System) Manual*, U.S. Coast Guard.

6. *Fire Protection Guide on Hazardous Materials*, National Fire Protection Association.

7. *NIOSH/OSHA Pocket Guide to Chemical Hazards*, Department of Labor.

8. *Manual for Spills of Hazardous Materials*, Environment Canada.

9. *Fire Hazard Properties of Flammable Liquids*, Gases, and Volatile Solids, (NFPA 325M), National Fire Protection Association.

10. *Handbook of Reactive Chemical Hazards*, L. Bretherick, 1985.

11. *Hazardous Materials Injuries: A Handbook for Pre-Hospital Care*, Bradford Communications Corp., Greenbelt, Maryland.

Textbooks/Reports

1. *Hazardous Materials: Managing the Incident*, Noll, Hildebrand, and Yvorra, Fire Protection Publications, Oklahoma State University, Stillwater, OK, 1988.

2. *A Survey of Chemical Spill Countermeasures*, Report EPS 9/SP/2, Environment Canada, December 1986.

Chemical Information References

1. *Condensed Chemical Dictionary*, 11th edition.

2. *Merck Index*, 10th edition.

3. *Dangerous Properties of Industrial Materials*, 6th edition, Sax.

* This list includes those references that are most highly recommended to spill responders. Your regional office may have several other useful references in addition to these.

Exhibit 1.3-3

Emergency Response Actions for Transportation Incidents Involving Petroleum and Hazardous Materials

(NOTE: The response actions listed below are listed in an approximate chronological order; however, it should be understood that several actions will likely occur simultaneously and that each particular incident will dictate the order and type of response actions taken. In addition, Actions 1-10 will normally be initiated within the first 15-30 minutes of the incident, whereas Actions 11-14 may take up to several hours or days).

Actions	Petroleum Incident	Haz. Mat. Incident
1. Isolate the area where the release or fire is/has taken place. Note: Actions 1 and 2 will likely occur simultaneously.	1. Consult available information sources for recommendations regarding safe perimeter zones and initial evacuation distances. The perimeter zone and initial evacuation distance will be based on the product's flammability hazards, which far outweigh the less significant health hazards. When the petroleum container is involved in fire, personnel should be withdrawn from at least a 1/2-mile radius. 2. Establish a safe perimeter around the incident scene with barricades, barrier tape, rope, etc. 3. Evacuate all persons from inside the safe perimeter. (Police or Fire Department responsibility) 4. Establish provisions for traffic and crowd control.	1. Consult available information sources for recommendations regarding safe perimeter zones and initial evacuation distances. The perimeter zone and initial evacuation distance will be based upon the materials' health, flammability, and reactivity hazards. When the container is involved in fire, personnel should be withdrawn from at least a 1/2-mile radius. 2. Establish a safe perimeter around the incident scene with barricades, barrier tape, rope, etc. 3. Evacuate all persons from inside the safe perimeter. (Police or Fire Department responsibility) 4. Establish provisions for traffic and crowd control.

Exhibit 1.3-3

Emergency Response Actions for Transportation Incidents Involving Petroleum and Hazardous Materials (continued)

Actions	Petroleum Incident	Haz. Mat. Incident
2. Identify the material(s) involved in the incident.	1. From a safe distance, attempt to identify the petroleum product(s) involved through one or more of the following: **#** Placards, labels, signs, markings, etc., on container(s) or vehicle **#** Visual clues or odors **#** Questioning drivers, engineers, transporters, etc. **#** Shipping papers. 2. Check several sources to verify the specific petroleum products involved.	1. From a safe distance, attempt to identify the hazardous material(s) involved through one or more of the following: **#** Placards, labels, signs, markings, etc. on container(s) or vehicle. **#** Visual clues and odors (if odors are accidentally detected). **WARNING: Materials may be colorless and/or odorless and still be harmful**. **#** Questioning drivers, engineers, transporters, etc. **#** Shipping papers. **#** Technical assistance from a hotline or database. **#** Monitoring and sampling. 2. Check several sources to verify the specific hazardous material(s) involved.
3. Notify appropriate local, State, and federal agencies in accordance with applicable laws.	1. Refer to Part 1, Section 1.1, for Notification Requirements.	1. Refer to Part 1, Section 1.1, Notification Requirements.

Exhibit 1.3-3

Emergency Response Actions for Transportation Incidents Involving Petroleum and Hazardous Materials (continued)

Actions	Petroleum Incident	Haz. Mat. Incident
4. Obtain information regarding: # Material(s) and container(s) involved. # Vehicle(s) involved. # Atmospheric conditions (i.e., temperature, wind velocity, humidity, etc.) affecting the incident.	1. Material information will include physical and chemical properties (e.g., flashpoint, flammable range, specific gravity, solubility, etc.), health hazards, quantity released, potential quantity to be released, etc. NOTE: Experienced BSPR personnel may be able to omit this step if they are thoroughly familiar with the petroleum product involved. 2. Container information will include type, capacity, type and locations of valves, load and unload features, safety features, locations of seams, special controls, etc. 3. Vehicle information includes type vehicle, location of cargo container controls, safety features, name of company owning the vehicle, etc. 4. Information can be obtained from the following sources: # Emergency guidebooks (see p. 39) # Technical assistance hotlines (see Exhibit 1.3-2) # Computer databases # Petroleum manufacturers # Shipper # Carrier # American Petroleum Institute # U.S. Dept. of Transportation 5. When evaluating information provided by different sources, compare information to ensure accuracy. If none of the sources are in agreement, select the most conservative values and recommendations.	1. Material information will include health hazards (e.g., routes of entry into the body, exposure levels, acute vs. chronic health effects), physical and chemical properties (e.g., flammability, reactivity, corrosivity, state of matter, etc.), quantity released, potential quantity to be released, etc. 2. Container information will include type, capacity, type and locations of valves, load and unload features, safety features, locations of seams, special controls, etc. 3. Vehicle information includes type vehicle, location of cargo container controls, safety features, name of company owning the vehicle, etc. 4. Information can be obtained from the following sources: # Emergency guidebooks (see p. 34) # Technical assistance hotlines (see Exhibit 1.3-2) # Computer databases # Chemical manufacturers # Material Safety Data Sheets # Shipper # Carrier # U.S. Dept. of Transportation 5. When evaluating information provided by different sources, compare information to ensure accuracy. If none of the sources are in agreement, select the most conservative values and recommendations.

Exhibit 1.3-3

Emergency Response Actions for Transportation Incidents Involving Petroleum and Hazardous Materials (continued)

Actions	Petroleum Incident	Haz. Mat. Incident
5. Monitor the air, water, and land at and around the incident scene, and collect samples for analysis and investigative purposes.	1. Establish monitoring and sampling teams and instruct them regarding locations to check. 2. Check and calibrate instruments prior to use. 3. Do not allow monitoring and sampling teams to enter contaminated areas without appropriate protective gear. 4. Do not allow monitoring and sampling teams to go near burning petroleum, heated or stressed containers, or flammable environments. If petroleum enters a sewer system, conduct vapor monitoring in accordance with procedures contained in Part 1, Section 6.2, Free Product in Structures, Sewers, and Underground Utility Lines. 5. Samples should be collected, stored, and secured in accordance with "chain of custody" procedures. 6. Record and evaluate data.	1. Establish monitoring and sampling teams and instruct them regarding locations to check. 2. Check and calibrate instruments prior to use. Several types of monitoring devices may be required to help identify unknown materials (i.e., materials that could not be identified in Action 2). 3. Do not allow monitoring and sampling teams to enter contaminated areas without appropriate protective gear. **WARNING: Materials may be colorless and/or odorless and still be harmful**. 4. Do not allow monitoring and sampling teams to go near burning product, heated or stressed containers, high pressure leaks, or flammable environments. If chemical enters a sewer system, conduct vapor monitoring in accordance with procedures contained in Part 1, Section 6.2, Free Product in Structures, Sewers, and Electric Utility Lines. 5. Samples should be collected, stored, and secured in accordance with chain of custody procedures to ensure their usefulness to analyzers and investigators. 6. Record and evaluate data.
6. Assess and analyze hazards and risks that the release or fire poses to humans, animals, property, and the environment.	1. Assess and analyze the flammability, health, and environmental contamination hazards associated with the petroleum product involved in the incident. Information for this assessment and analysis was to have been generated in Actions 4 and 5.	1. Assess and analyze the flammability, health, reactivity and environmental contamination hazards associated with the chemical(s) involved in the incident. Information for this assessment and analysis was to have been generated in Actions 4 and 5. **WARNING: Materials may be colorless and/or odorless and still be harmful**.

Exhibit 1.3-3

Emergency Response Actions for Transportation Incidents Involving Petroleum and Hazardous Materials (continued)

Actions	Petroleum Incident	Haz. Mat. Incident
6. Assess and analyze hazards and risks that the release or fire poses to humans, animals, property, and the environment. (continued)	2. Obtain assistance from the following sources, as appropriate: # Emergency guidebooks (see p. 34) # Technical assistance hotlines (see Exhibit 1.3-2) # Technical assistance specialists (e.g., product specialists, fire protection specialists, environmental scientists) # American Petroleum Institute # Computer databases. 3. Assess and analyze incident scene conditions and hazards and their impact on the surrounding area: # Type, size, and condition of container(s); # Type of stress being applied to the container(s) (i.e., mechanical, thermal, chemical); # Quantity of product released versus quantity remaining in damaged container(s); # Rate of release; # Dispersion pattern and rate; # Atmospheric conditions; # Topography; # Availability of required resources; # Type and level of potential harm; # Type and number of exposures (i.e., humans, animals, property, environment) potentially impacted by the petroleum product; # Time required to evacuate people and animals from nearby areas. 4. Based on steps 1-3, assess the risks that the release or fire poses to humans, animals, property, and the environment.	2. Obtain assistance from the following sources, as appropriate: # Emergency guidebooks (see p. 34) # Technical assistance hotlines (see Exhibit 1.3-2) # Technical assistance specialists (e.g., product specialists, chemists, toxicologists, environmental scientists, chemical manufacturers) # Computer databases. 3. Assess and analyze incident scene conditions and hazards and their impact on the surrounding area: # Type, size, and condition of container(s); # Type of stress being applied to the container(s) (i.e., mechanical, thermal, chemical); # Quantity of product released versus quantity remaining in damaged container(s); # Type of release (liquid, gas, and/or fire); # Rate of release; # Dispersion pattern and rate; # Concentration levels; # Atmospheric conditions; # Topography; # Availability of required resources; # Type and level of potential harm; # Type and number of exposures (i.e., humans, animals, property, environment) potentially impacted by the hazardous materials; # Time required to evacuate people and animals from nearby areas. 4. Based on steps 1-3, assess the risks that the release or fire poses to humans, animals, property, and the environment.

Exhibit 1.3-3

Emergency Response Actions for Transportation Incidents Involving Petroleum and Hazardous Materials (continued)

Actions	Petroleum Incident	Haz. Mat. Incident
7. Take appropriate actions to protect the public (i.e., evacuation and/or in-place sheltering), traffic control, rescue from hazardous areas, etc.). Note: Action 7 is the responsibility of the Police Department, Fire Department, emergency management office, and the chief executive of the local government.	1. Based upon the hazard and risk analysis (i.e., Action #6), determine appropriate actions to best ensure the safety of the general public. 2. Traffic control measures, which were initiated in Action #1, may have to be expanded. 3. If in-place sheltering is chosen as a protective action, the general public must be informed of the action and told what to do to safeguard themselves. In-place sheltering would be an unlikely action during a petroleum incident. 4. If evacuation is chosen as a protective action, the following tasks must be performed: # Notify the public; # Inform them where to go, what to take along, and how to travel to the designated area of safety; # Assist evacuees with special needs (i.e., handicapped, elderly, school children, etc.); # Arrange transportation for those in need; # Establish traffic control measures and deploy police and resources to expedite traffic movement; # Establish sheltering and mass care for evacuees; 5. If persons are trapped in an area or building and are being exposed to flammable vapors or contaminants, rescue operations will be required. 6. Refer to Part 1, Section 3.1, for additional information.	1. Based upon the hazard and risk analysis (i.e., Action #6), determine appropriate actions to best ensure the safety of the general public. 2. Traffic control measures, which were initiated in Action #1, may have to be expanded. Traffic control officers may require protective gear to ensure their safety. 3. If in-place sheltering is chosen as a protective action, the general public must be informed of the action and told what to do to safeguard themselves. The precautions and safeguards that the public must take are of extreme importance and must be provided and explained to everyone affected, in order for in-place sheltering to be effective. 4. If evacuation is chosen as a protective action, the following tasks must be performed: # Notify the public. (Emergency personnel entering potentially hazardous areas to notify the public will likely require appropriate protective gear.) # Inform them where to go, what to take along, and how to travel to the designated area of safety; # Assist evacuees with special needs (i.e., handicapped, elderly, school children, etc.); # Arrange transportation for those in need; # Establish traffic control measures and deploy police and resources to expedite traffic movement. (Police officers may require special protective gear to ensure their safety); # Establish sheltering and mass care for evacuees.

Exhibit 1.3-3

Emergency Response Actions for Transportation Incidents Involving Petroleum and Hazardous Materials (continued)

Actions	Petroleum Incident	Haz. Mat. Incident
7. Take appropriate actions to protect the public. (continued)		5. If persons are trapped in an area or building and are being exposed to flammable vapors, contaminants, or other hazards, rescue operations will be required. (Fire dept. responsibility) 6. Refer to Part 1, Section 3.1, for additional information.
8. Establish an incident scene safety system for emergency responders.	1. Designate a safety officer or safety team whose responsibility it is to establish an incident scene safety system to protect emergency responders. 2. Establish and visually designate hazard control zones: # "Hot Zone" - Area of maximum hazard surrounding the damaged containers or fire area; only entry team allowed within. # "Warm Zone" - Area of moderate hazard, beyond the Hot Zone, where backup crews stand by and decontamination takes place. # "Cold Zone" - Area beyond the Warm Zone that poses minimal or no hazards to emergency responders. The command post, deployed apparatus, and the resource staging area are located in the Cold Zone.	1. Designate a safety officer or safety team whose responsibility it is to establish an incident scene safety system to protect emergency responders. 2. Establish and visually designate hazard control zones: # "Hot Zone" - Area of maximum hazard surrounding the damaged containers or fire area; only entry team allowed within. # "Warm Zone" - Area of moderate hazard, beyond the Hot Zone, where backup crews stand by and decontamination takes place. # "Cold Zone" - Area beyond the Warm Zone that poses minimal or no hazards to emergency responders. The command post, deployed apparatus, and the resource staging area are located in the Cold Zone.
8. Establish an incident scene safety system for emergency responders. (continued)	3. Establish safety procedures for all on-scene personnel, with special emphasis on procedures to be followed by personnel operating in the Hot Zone and Warm Zone.	3. Establish safety procedures for all on-scene personnel, with special emphasis on procedures to be followed by personnel operating in the Hot Zone and Warm Zone.

Exhibit 1.3-3

Emergency Response Actions for Transportation Incidents Involving Petroleum and Hazardous Materials (continued)

Actions	Petroleum Incident	Haz. Mat. Incident
	4. Determine appropriate protective gear for each respective hazard control zone. 5. Establish a decontamination area in the Warm Zone. 6. Establish a medical monitoring area and a general rest area in the Cold Zone. 7. Do not allow exposed persons who have not undergone thorough decontamination to drink or eat, even in the Cold zone. Smoking should be prohibited during incidents involving flammable or combustible materials. 8. Refer to Part 2, Section 1, for additional health and safety considerations.	4. Determine appropriate protective gear for each respective hazard control zone. 5. Establish a decontamination area in the Warm Zone. 6. Establish a medical monitoring area and a general rest area in the Cold Zone. 7. Do not allow exposed persons who have not undergone thorough decontamination to drink or eat, even in the Cold zone. Smoking should be prohibited during incidents involving flammable or combustible materials. 8. Refer to Part 2, Section 1, for additional health and safety considerations.

Exhibit 1.3-3

Emergency Response Actions for Transportation Incidents Involving Petroleum and Hazardous Materials (continued)

Actions	Petroleum Incident	Haz. Mat. Incident
9. Establish incident command in accordance with local and state procedures.	1. Establish <u>one</u> Incident Commander to have command control over all operations. The incident commander for each type of petroleum incident (i.e., fire or spill) should be identified in local and state response plans. 2. There should be a chain of command whereby the initial Incident Commander (e.g., highest ranking officer of the first arriving fire department or police units) transfers command to higher ranking individuals upon their arrival. 3. The Incident Commander (IC) should establish an incident command/management system to effectively manage the numerous emergency response functions involved. The IC should establish sectors (e.g., hazard control sector, safety sector, communications sector, resource sector, etc.) and sector officers to manage the sectors. 4. Establish <u>one</u> incident command post (in a safe location) from which the IC and sector officers will operate. 5. Establish a resource staging area in a safe location. 6. Establish communications between the various on-scene agencies.	1. Establish <u>one</u> Incident Commander to have command control over all operations. The incident commander for each type of chemical incident (i.e., fire, leak, or spill) should be identified in local and state response plans. 2. There should be a chain of command whereby the initial Incident Commander (e.g., highest ranking officer of the first arriving fire department or police units) transfers command to higher ranking individuals upon their arrival. 3. The Incident commander (IC) should establish an incident command/management system to effectively manage the numerous emergency response functions involved. The IC should establish sectors (e.g., hazard control sector, safety sector, communications sector, resource sector, etc.) and sector officers to manage the sectors. 4. Establish <u>one</u> incident command post (in a safe location) from which the IC and sector officers will operate. 5. Establish a resource staging area in a safe location. 6. Establish communications between the various on-scene agencies.

Exhibit 1.3-3

Emergency Response Actions for Transportation Incidents Involving Petroleum and Hazardous Materials (continued)

Actions	Petroleum Incident	Haz. Mat. Incident
10. Evaluate personal protective gear and other resource requirements.	1. Based upon the hazard and risk analysis (i.e., Action 6), evaluate the adequacy of on-scene personal protection equipment and determine whether more-specialized or additional protective equipment is required. 2. Evaluate the quantity and type of resources (e.g., trained personnel, equipment, materials, etc.) that are at the scene or en route, and determine whether more-specialized or additional resources are required. 3. For additional information on protective gear, see Part 2, Section 1, Personal Health and Safety Protection.	1. Based upon the hazard and risk analysis (i.e., Action 6), evaluate the adequacy of on-scene personal protection equipment and determine whether more-specialized or additional protective equipment is required. 2. Utilize the following sources to determine appropriate protective gear: # Manufacturers' protective clothing compatibility charts # Emergency guidebooks (see p. 34) # Technical assistance hotlines (see Exhibit 1.3-2) # Computer databases # Material Safety Data Sheets # Chemical manufacturers. 3. Evaluate the quantity and type of resources (e.g., trained personnel, equipment, materials, etc.) that are at the scene or en route, and determine whether more-specialized or additional resources are required. 4. For additional information on protective gear, see Part 2, Section 1, Personal Health and Safety Protection.
11. Determine response objectives and plan remedial strategy.	1. Based upon the hazard and risk analysis (i.e,. Action #6) and on information from Actions 4, 5, 7, and 10, determine a realistic overall response objective. The objective will be defensive- or offensive-oriented.	1. Based upon the hazard and risk analysis (i.e,. Action #6) and on information from Actions 4, 5, 7, and 10, determine a realistic overall response objective. The objective will be defensive- or offensive-oriented.

Exhibit 1.3-3

Emergency Response Actions for Transportation Incidents Involving Petroleum and Hazardous Materials (continued)

Actions	Petroleum Incident	Haz. Mat. Incident
11. Determine response objectives and plan remedial strategy. (continued)	A defensive objective is based upon the premise that offensive intervention will not favorably affect the outcome of the incident and will likely place emergency response personnel in extreme danger. A defensive objective allows responders to work away from the immediate hazardous release area or requires no intervention at all. An offensive objective is based upon the premise that offensive intervention will favorably affect the outcome of the incident without endangering the lives of emergency response personnel. An offensive objective requires responders to work in and around the hazardous release area. 2. Identify and evaluate control, containment, and confinement techniques. # Control techniques are used to physically or chemically control a release or fire. Examples: - Vapor dispersion - Vapor suppression - Fire suppression - Dilution # Containment techniques are used to stop leaks and keep petroleum within its container. Examples: - Patching - Plugging - Overpacking of drums	A defensive objective is based upon the premise that offensive intervention will not favorably affect the outcome of the incident and will likely place emergency response personnel in extreme danger. A defensive objective allows responders to work away from the immediate hazardous release area or requires no intervention at all. An offensive objective is based upon the premise that offensive intervention will favorably affect the outcome of the incident without endangering the lives of emergency response personnel. An offensive objective requires responders to work in and around the hazardous release area. 2. Identify and evaluate control, containment, and confinement techniques. # Control techniques are used to physically or chemically control a release or fire. Examples: - Vapor dispersion - Vapor suppression - Fire suppression - Dilution - Neutralization - Gelation. # Containment techniques are used to stop leaks and keep the chemical within its container. Examples: - Patching - Plugging - Overpacking of drums - Capping.

Exhibit 1.3-3

Emergency Response Actions for Transportation Incidents Involving Petroleum and Hazardous Materials (continued)

Actions	Petroleum Incident	Haz. Mat. Incident
11. Determine response objectives and plan remedial strategy. (continued)	# Confinement techniques are used to capture and hold spilled petroleum. Examples: - Diking - Damming - Placing booms. NOTE: For assistance in evaluating mitigation techniques, see Exhibit 1.3-5 in Part 1, Section 3.2, Confining and Containing Releases. 3. Determine and select the most effective and achievable response techniques. 4. Formulate an incident action plan, incorporating the selected response techniques. 5. The Incident Commander should review the plan with all sector officers and individuals that will implement the plan.	# Confinement techniques are used to capture and hold spilled chemical(s). Examples: - Diking - Damming - Placing booms. NOTE: For assistance in evaluating mitigation techniques, see Exhibit 1.3-5 in Part 1, Section 3.2, Confining and Containing Releases. 3. Determine and select the most effective and achievable response techniques. 4. Formulate an incident action plan, incorporating the selected response techniques. 5. The Incident Commander should review the plan with all sector officers and individuals that will implement the plan.

Exhibit 1.3-3

Emergency Response Actions for Transportation Incidents Involving Petroleum and Hazardous Materials (continued)

Actions	Petroleum Incident	Haz. Mat. Incident
12. Obtain resources and technical support needed to implement the chosen response actions.	1. Based upon Actions 10 and 11, determine the type and quantity of resources (i.e., specially-trained personnel, apparatus, equipment, materials, and protective gear) that need to be obtained. 2. Based upon Action 11, determine required technical support. The support may come from the following sources: # Technical assistance hotlines (see Exhibit 1.3-2) # Technical assistance specialists (e.g., product specialists, fire protection specialists, environmental scientists) # American Petroleum Institute # Shipper and/or carrier # Computer databases # Emergency guidebooks (see p. 34) 3. Utilize resource directories to identify sources of needed resources. 4. Make arrangements with resource suppliers to have resources brought to the incident scene. 5. When resources arrive, direct them into the resource staging area, log them in, and notify the Incident Commander of their availability.	1. Based upon Actions 10 and 11, determine the type and quantity of resources (i.e., specially-trained personnel, apparatus, equipment, materials, and protective gear) that need to be obtained. 2. Based upon Action 11, determine required technical support. The support may come from the following sources: # Technical assistance hotlines (see Exhibit 1.3-2) # Technical assistance specialists (e.g., product specialists, fire protection specialists, environmental scientists, chemists, toxicologists, and chemical manufacturers) # Shipper and/or carrier # Computer databases # Emergency guidebooks (see p. 34) 3. Utilize resource directories to identify sources of needed resources. 4. Make arrangements with resource suppliers to have resources brought to the incident scene. 5. When resources arrive, direct them into the resource staging area, log them in, and notify the Incident Commander of their availability.

Exhibit 1.3-3

Emergency Response Actions for Transportation Incidents Involving Petroleum and Hazardous Materials (continued)

Actions	Petroleum Incident	Haz. Mat. Incident
13. Take actions (i.e., control, containment, and/or confinement) to mitigate the release or fire, in accordance with response objectives. Note: Fire suppression and most spill containment operations will be handled by the fire department.	1. Based upon Action 11 and available resources, initiate response actions to mitigate the release or fire. 2. If the incident involves a fire and no intervention by the fire department, withdraw all persons from within at least a 1/2-mile radius of any petroleum containers that are being heated or stressed. 3. If the incident involves a fire and fire department intervention is going to occur: # Apply sufficient water to containers in order to cool them and their contents to a temperature that will lessen the chance of an explosion. # Utilize unmanned monitor nozzles whenever possible, and withdraw personnel to a safe distance. # If there is spilled petroleum burning, apply foam or dry chemical to extinguish the flames and then apply a blanket of foam to keep the petroleum from reigniting. # Only personnel directly involved in fire suppression operations should be allowed near burning petroleum. # If safe to attempt, the petroleum and fire suppression runoff should be confined in order to protect the environment.	1. Based upon Action 11 and available resources, initiate response actions to mitigate the release or fire. 2. If the incident involves a fire and no intervention by the fire department, withdraw all persons from within at least a 1/2-mile radius of any chemical containers that are being heated or stressed. 3. If the incident involves a fire and fire department intervention is going to occur: # Apply sufficient water to containers in order to cool them and their contents to a temperature that will lessen the chance of an explosion. # Utilize unmanned monitor nozzles whenever possible, and withdraw personnel to a safe distance. # If there is spilled chemical burning, apply a compatible suppression agent to extinguish flames. If the spill is a liquid and foam is compatible, apply a blanket of foam to keep the liquid from reigniting. # Only personnel directly involved in fire suppression operations should be allowed near burning chemical(s). # If safe to attempt, the chemical and fire suppression runoff should be confined in order to protect the environment.

Exhibit 1.3-3

Emergency Response Actions for Transportation Incidents Involving Petroleum and Hazardous Materials (continued)

Actions	Petroleum Incident	Haz. Mat. Incident
13. Take actions to mitigate the release or fire, in accordance with response objectives. (continued)	4. If the incident involves a spill but no fire: # Take actions to confine the spill and to keep it from entering structures, storm drains, waterways, and bodies of water. # Eliminate all ignition sources. # Apply foam to suppress vapors and to reduce the possibility of ignition. # Do not allow personnel to walk in the spilled petroleum. # If practicable, attempt to contain the leak(s). # Continuously monitor vapor concentrations in all affected areas. # Withdraw all personnel from areas with vapor concentrations in or near the product's flammability range (i.e., range between lower and upper explosive limits). # Throughout containment/confinement operations, have charged hoselines standing by in case a fire develops and personnel need rescuing. 5. For additional information on mitigating petroleum spills, refer to the following: # Part 1, Section 3.2, Confining and Containing Releases. # Part 1, Section 6, Corrective Action.	4. If the incident involves a spill but no fire: # Take actions to confine the spill and to keep it from entering structures, storm drains, waterways, and bodies of water. # Eliminate all ignition sources if the chemical is flammable or combustible. # If available, apply a compatible foam to suppress vapors. # Do not allow personnel to walk in the spilled chemical(s). # If practicable, attempt to contain the leak(s). # Continuously monitor vapor concentrations in all affected areas. # If chemical is flammable, withdraw all personnel from areas with vapor concentrations in or near the product's flammability range (i.e., range between lower and upper explosive limits). # Throughout containment/confinement operations, have charged hoselines standing by in case a fire develops and personnel need rescuing. 5. If leaking chemical is in gaseous form and it or its container is involved in fire and no fire department intervention is to occur: # Withdraw all persons from within at least a 1/2-mile radius of the container. # Observe the container, with binoculars if available, to monitor its status.

Exhibit 1.3-3

Emergency Response Actions for Transportation Incidents Involving Petroleum and Hazardous Materials (continued)

Actions	Petroleum Incident	Haz. Mat. Incident
13. Take actions to mitigate the release or fire, in accordance with response objectives. (continued)		6. If leaking chemical is in gaseous form and it or its container is involved in fire and <u>fire suppression efforts are to be initiated</u>: **#** Apply sufficient water to the container to cool it and its contents to a temperature that will lessen the chance of an explosion. **#** Utilize unmanned monitor nozzles whenever possible, and withdraw personnel to a safe distance. **#** Only personnel directly involved in fire suppression/container cooling operations should be allowed near the container(s). **#** If safe to attempt, fire suppression runoff should be confined in order to protect the environment. **#** When upward escaping gas is burning but the container itself is not being impinged by flames, the best alternative may be to allow the entire contents of the container to burnoff while cooling the container with water. 7. If leaking chemical is in gaseous form and <u>no fire is present</u>: **#** Apply water (if compatible) in a spray pattern to disperse or divert the vapors, and take actions to confine the associated runoff. **#** Continuously monitor vapor concentrations in the affected area for toxicity levels and, if applicable, flammable levels. **#** Withdraw all personnel from areas with dangerous toxicity levels and/or areas with vapor concentrations in or near the product's flammability range (i.e., range between lower and upper explosive limits).

Exhibit 1.3-3

Emergency Response Actions for Transportation Incidents Involving Petroleum and Hazardous Materials (continued)

Actions	Petroleum Incident	Haz. Mat. Incident
13. Take actions to mitigate the release or fire, in accordance with response objectives. (continued)		# If practicable and safe, attempt to contain the leak by capping it or utilizing specialized leak control kits. Containing high-pressure leaks is extremely dangerous and should only be conducted with due caution by trained personnel. The technique is not recommended. # If gas is flammable, have charged hoselines in-place during response operations in case a flash fire occurs. 8. For additional information on mitigating chemical releases, refer to the following: # Part 1, Section 3.2, Confining and Containing Releases. # Part 1, Section 6, Corrective Action.
14. Continuously evaluate mitigation efforts to assure their effectiveness, and, if necessary, revise mitigation operations and/or response objectives.	1. The Incident Commander must continuously evaluate whether mitigation efforts are achieving the response objective. 2. If the response objective is not being accomplished effectively, alternate response actions should be evaluated and implemented, as appropriate. 3. If alternate response actions are not feasible or are found to be ineffective, the Incident Commander may have to develop a revised response objective. 4. Whenever response efforts are failing and hazards are increasing in magnitude and/or intensity, personnel should be withdrawn to a safe distance while revised tactics are being formulated. Personnel should not re-enter the hazardous area until: # Conditions have improved;	1. The Incident Commander must continuously evaluate whether mitigation efforts are achieving the response objective. 2. If the response objective is not being accomplished effectively, alternate response actions should be evaluated and implemented, as appropriate. 3. If alternate response actions are not feasible or are found to be ineffective, the Incident Commander may have to develop a revised response objective. 4. Whenever response efforts are failing and hazards are increasing in magnitude and/or intensity, personnel should be withdrawn to a safe distance while revised tactics are being formulated. Personnel should not re-enter the hazardous area until: # Conditions have improved;

Exhibit 1.3-3

Emergency Response Actions for Transportation Incidents Involving Petroleum and Hazardous Materials (continued)

Actions	Petroleum Incident	Haz. Mat. Incident
	# Revised response actions have been planned; # Appropriate equipment and trained personnel are available to attempt the revised actions.	# Revised response actions have been planned; # Appropriate equipment and trained personnel are available to attempt the revised actions.

Exhibit 1.3-4
Emergency Response Actions for Incidents Involving Petroleum and Hazardous Materials at or within Fixed-Facilities, Structures, Underground Storage Tanks, and Sewers

(NOTE: The response actions listed below are listed in an approximate chronological order; however, it should be understood that several actions will likely occur simultaneously and that each particular incident will dictate the order and type of response actions taken. In addition, Actions 1-10 will normally be initiated within the first 15-30 minutes of the incident, whereas Actions 11-14 may take up to several hours or days).

Actions	Petroleum Incident	Haz. Mat. Incident
1. Isolate the area where the release or fire is/has taken place. Note: Actions 1 and 2 will likely occur simultaneously.	1. Consult available information sources for recommendations regarding safe perimeter zones and initial evacuation distances. The perimeter zone and initial evacuation distance will be based on the product's flammability hazards, which far outweigh the less significant health hazards. When the petroleum container is involved in fire, personnel should be withdrawn from at least a 1/2-mile radius. 2. Establish a safe perimeter around the incident scene with barricades, barrier tape, rope, etc. 3. Evacuate all persons from inside the safe perimeter, with priority going to persons located inside or near structures, facilities, etc. (Police or Fire Department responsibility) 4. Establish provisions for crowd control and, if necessary, traffic control.	1. Consult available information sources for recommendations regarding safe perimeter zones and initial evacuation distances. The perimeter zone and initial evacuation distance will be based upon the materials' health, flammability, and reactivity hazards. When the container is involved in fire, personnel should be withdrawn from at least a 1/2-mile radius. 2. Establish a safe perimeter around the incident scene with barricades, barrier tape, rope, etc. 3. Evacuate all persons from inside the safe perimeter, with priority going to persons located inside or near structures, facilities, etc. (Police or Fire Department responsibility) 4. Establish provisions for crowd control and, if necessary, traffic control.
2. Identify the material(s) involved in the incident.	1. From a safe distance, attempt to identify the petroleum product(s) involved through one or more of the following: # Labels, signs, markings, NFPA 704 hazard labels, etc., on container(s) or in storage areas # Visual clues or odors # Questioning facility personnel # Material Safety Data Sheets, inventory records, fire department pre-plans, etc. 2. Check several sources to verify the specific petroleum products involved.	1. From a safe distance, attempt to identify the hazardous material(s) involved through one or more of the following: # Labels, signs, markings, NFPA 704 hazard labels, etc. on container(s) or in storage areas. # Visual clues and odors (if odors are accidentally detected). **WARNING: Materials may be colorless and/or odorless and still be harmful**. # Questioning facility personnel. # Material Safety Data Sheets, inventory records, fire department pre-plans, etc. # Technical assistance from a hotline or database. # Monitoring and sampling. 2. Check several sources to verify the specific hazardous material(s) involved.

Exhibit 1.3-4
Emergency Response Actions for Incidents Involving Petroleum and Hazardous Materials at or within Fixed-Facilities, Structures, Underground Storage Tanks, and Sewers (continued)

Actions	Petroleum Incident	Haz. Mat. Incident
3. Notify appropriate local, state, and federal agencies in accordance with applicable laws.	1. Refer to Part 1, Section 1.1, Notification Requirements.	1. Refer to Part 1, Section 1.1, Notification Requirements.
4. Obtain information regarding: # Material(s) and container(s) involved. # Facilities, structure(s), sewer(s), and/or underground storage tanks (UST) involved. # Atmospheric conditions (i.e., temperature, wind velocity, humidity, etc.) affecting the incident.	1. Material information will include physical and chemical properties (e.g., flashpoint, flammable range, specific gravity, solubility, etc.), health hazards, quantity released, potential quantity to be released, etc. NOTE: Experienced BSPR personnel may be able to omit this step if they are thoroughly familiar with the petroleum product involved. 2. Container information will include type, capacity, type and locations of valves, load and unload features, safety features, locations of seams, special controls, etc. 3. Information on affected facilities, structure(s), sewer(s), and/or USTs will include features, equipment, systems, layout, area where the source of the fire or release is located, utility shut-off controls, emergency systems, etc. 4. Information can be obtained from the following sources: # Emergency guidebooks (see p. 34) # Technical assistance hotlines (see Exhibit 1.3-2) # Computer databases # Petroleum manufacturers # Material Safety Data Sheets, inventory records, fire department pre-plans, etc. # American Petroleum Institute 5. When evaluating information provided by different sources, compare information to ensure accuracy. If none of the sources are in agreement, select the most conservative values and recommendations.	1. Material information will include health hazards (e.g., routes of entry into the body, exposure levels, acute vs. chronic health effects), physical and chemical properties (e.g., flammability, reactivity, corrosivity, state of matter, etc.), quantity released, potential quantity to be released, etc. 2. Container information will include type, capacity, type and locations of valves, load and unload features, safety features, locations of seams, special controls, etc. 3. Information on affected facilities, structure(s), sewer(s), and/or USTs will include features, equipment, systems, layout, area where the source of the fire or release is located, utility shut-off controls, emergency systems, etc. 4. Information can be obtained from the following sources: # Emergency guidebooks (see p. 34) # Technical assistance hotlines (see Exhibit 1.3-2) # Computer databases # Chemical manufacturers # Material Safety Data Sheets, inventory records, and fire department pre-plans, etc. 5. When evaluating information provided by different sources, compare information to ensure accuracy. If none of the sources are in agreement, select the most conservative values and recommendations.

Exhibit 1.3-4

Emergency Response Actions for Incidents Involving Petroleum and Hazardous Materials at or within Fixed-Facilities, Structures, Underground Storage Tanks, and Sewers (continued)

	Actions	Petroleum Incident	Haz. Mat. Incident
5.	Monitor the air, water, and land at and around the incident scene, and collect samples for analysis and investigative purposes.	1. Establish monitoring and sampling teams and instruct them regarding locations to check. 2. Check and calibrate instruments prior to use. 3. Do not allow monitoring and sampling teams to enter contaminated areas without appropriate protective gear. 4. Do not allow monitoring and sampling teams to go in or near burning petroleum, heated or stressed containers, or flammable environments, or into sewer systems. **WARNING: Vapors will collect in enclosed structures, rooms, sewer systems, etc.,and in low-lying areas**. 5. Samples should be collected, stored, and secured in accordance with chain-of-custody procedures to ensure their usefulness to analyzers and investigators. 6. Record and evaluate data.	1. Establish monitoring and sampling teams and instruct them regarding locations to check. 2. Check and calibrate instruments prior to use. Several types of monitoring devices may be required to help identify unknown materials (i.e., materials that could not be identified in Action 2). 3. Do not allow monitoring and sampling teams to enter contaminated areas without appropriate protective gear. **WARNING: Materials may be colorless and/or odorless and still be harmful**. 4. Do not allow monitoring and sampling teams to go in or near burning product, heated or stressed containers, high-pressure leaks, or flammable environments, or into sewer systems. **WARNING: Vapors will collect in enclosed structures, rooms, sewer systems, etc., and in low-lying areas**. 5. Samples should be collected, stored, and secured in accordance with chain-of-custody procedures to ensure their usefulness to analyzers and investigators. 6. Record and evaluate data.
6.	Assess and analyze hazards and risks that the release or fire poses to humans, animals, property, and the environment.	1. Assess and analyze the flammability, health, and environmental contamination hazards associated with the petroleum product involved in the incident. Information for this assessment and analysis was to have been generated in Actions 4 and 5.	1. Assess and analyze the flammability, health, reactivity and environmental contamination hazards associated with the chemical(s) involved in the incident. Information for this assessment and analysis was to have been generated in Actions 4 and 5. **WARNING: Materials may be colorless and/or odorless and still be harmful**.

Exhibit 1.3-4

Emergency Response Actions for Incidents Involving Petroleum and Hazardous Materials at or within Fixed-Facilities, Structures, Underground Storage Tanks, and Sewers (continued)

Actions	Petroleum Incident	Haz. Mat. Incident
6. Assess and analyze hazards and risks that the release or fire poses to humans, animals, property, and the environment. (continued)	2. Obtain assistance from the following sources, as appropriate: # Emergency guidebooks (see p. 39) # Technical assistance hotlines (see Exhibit 1.3-2) # Technical assistance specialists (e.g., product specialists, fire protection specialists, environmental scientists) # American Petroleum Institute # Computer databases. 3. Assess and analyze incident scene conditions and hazards and their impact on the surrounding area: # Type, size, and condition of container(s); # Type of stress being applied to the container(s) (i.e., mechanical, thermal, chemical); # Quantity of product released versus quantity remaining in damaged container(s); # Rate of release; # Dispersion pattern and rate; # Atmospheric conditions; # Topography; # Availability of required resources; # Type and level of potential harm; # Type and number of exposures (i.e., humans, animals, property, environment) potentially impacted by the petroleum product; # Time required to evacuate people and animals from nearby areas. 4. Based on steps 1-3, assess the risks that the release or fire poses to humans, animals, property, and the environment.	2. Obtain assistance from the following sources, as appropriate: # Emergency guidebooks (see p. 39) # Technical assistance hotlines (see Exhibit 1.3-2) # Technical assistance specialists (e.g., product specialists, chemists, toxicologists, environmental scientists, chemical manufacturers) # Computer databases. 3. Assess and analyze incident scene conditions and hazards and their impact on the surrounding area: # Type, size, and condition of container(s); # Type of stress being applied to the container(s) (i.e., mechanical, thermal, chemical); # Quantity of product released versus quantity remaining in damaged container(s); # Type of release (liquid, gas, and/or fire); # Rate of release; # Dispersion pattern and rate; # Concentration levels; # Atmospheric conditions; # Topography; # Availability of required resources; # Type and level of potential harm; # Type and number of exposures (i.e., humans, animals, property, environment) potentially impacted by the hazardous materials; # Time required to evacuate people and animals from nearby areas. 4. Based on steps 1-3, assess the risks that the release or fire poses to humans, animals, property, and the environment.

Exhibit 1.3-4

Emergency Response Actions for Incidents Involving Petroleum and Hazardous Materials at or within Fixed-Facilities, Structures, Underground Storage Tanks, and Sewers (continued)

Actions	Petroleum Incident	Haz. Mat. Incident
7. Take appropriate actions to protect the public (i.e., evacuation and/or in-place sheltering), traffic control, rescue from hazardous areas, etc.). Note: Action 7 is the responsibility of the Police Department, Fire Department, emergency management office, and the chief executive of the local government.	1. Based upon the hazard and risk analysis (i.e., Action #6), determine appropriate actions to best ensure the safety of the general public. 2. Traffic control measures, which may have been initiated in Action #1, may have to be expanded. 3. If in-place sheltering is chosen as a protective action, the general public must be informed of the action and told what to do to safeguard themselves. In-place sheltering would be an unlikely action during a petroleum incident. 4. If evacuation is chosen as a protective action, the following tasks must be performed: # Notify the public; # Inform them where to go, what to take along, and how to travel to the designated area of safety; # Assist evacuees with special needs (i.e., handicapped, elderly, school children, etc.); # Arrange transportation for those in need; #Establish traffic control measures and deploy police and resources to expedite traffic movement; # Establish sheltering and mass care for evacuees; 5. If persons are trapped in an area, building, or facility and are being exposed to flammable vapors or contaminants, rescue operations will be required. 6. Refer to Part 1, Section 3.1, for additional information.	1. Based upon the hazard and risk analysis (i.e., Action #6), determine appropriate actions to best ensure the safety of the general public. 2. Traffic control measures, which may have been initiated in Action #1, may have to be expanded. Traffic control officers may require protective gear to ensure their safety. 3. If in-place sheltering is chosen as a protective action, the general public must be informed of the action and told what to do to safeguard themselves. The precautions and safeguards that the public must take are of extreme importance and must be provided and explained to everyone affected, in order for in-place sheltering to be effective. 4. If evacuation is chosen as a protective action, the following tasks must be performed: # Notify the public. (Emergency personnel entering potentially hazardous areas to notify the public will likely require appropriate protective gear.) # Inform them where to go, what to take along, and how to travel to the designated area of safety; # Assist evacuees with special needs (i.e., handicapped, elderly, school children, etc.); # Arrange transportation for those in need; # Establish traffic control measures and deploy police and resources to expedite traffic movement. (Police officers may require special protective gear to ensure their safety); # Establish sheltering and mass care for evacuees.

Exhibit 1.3-4

Emergency Response Actions for Incidents Involving Petroleum and Hazardous Materials at or within Fixed-Facilities, Structures, Underground Storage Tanks, and Sewers (continued)

Actions		Petroleum Incident	Haz. Mat. Incident
7.	Take appropriate actions to protect the public. (continued)		5. If persons are trapped in an area, facility, or building and are being exposed to flammable vapors, contaminants, or other hazards, rescue operations will be required. (Fire dept. responsibility). 6. Refer to Part 1, Section 3.1, for additional information.
8.	Establish an incident scene safety system for emergency responders.	1. Designate a safety officer or safety team whose responsibility it is to establish an incident scene safety system to protect emergency responders. 2. Establish and visually designate hazard control zones: # "Hot Zone" - Area of maximum hazard surrounding the damaged containers or fire area; only entry team allowed within. # "Warm Zone" - Area of moderate hazard, beyond the Hot Zone, where backup crews stand by and decontamination takes place. # "Cold Zone" - Area beyond the Warm Zone that poses minimal or no hazards to emergency responders. The command post, deployed apparatus, and the resource staging area are located in the Cold Zone.	1. Designate a safety officer or safety team whose responsibility it is to establish an incident scene safety system to protect emergency responders. 2. Establish and visually designate hazard control zones: # "Hot Zone" - Area of maximum hazard surrounding the damaged containers or fire area; only entry team allowed within. # "Warm Zone" - Area of moderate hazard, beyond the Hot Zone, where backup crews stand by and decontamination takes place. # "Cold Zone" - Area beyond the Warm Zone that poses minimal or no hazards to emergency responders. The command post, deployed apparatus, and the resource staging area are located in the Cold Zone.

Exhibit 1.3-4

Emergency Response Actions for Incidents Involving Petroleum and Hazardous Materials at or within Fixed-Facilities, Structures, Underground Storage Tanks, and Sewers (continued)

	Actions	Petroleum Incident	Haz. Mat. Incident
8.	Establish an incident scene safety system for emergency responders. (continued)	3. Establish safety procedures for all on-scene personnel, with special emphasis on procedures to be followed by personnel operating in the Hot Zone and Warm Zone. 4. Determine appropriate protective gear for each respective hazard control zone. 5. Establish a decontamination area in the Warm Zone. 6. Establish a medical monitoring area and a general rest area in the Cold Zone. 7. Do not allow exposed persons who have not undergone thorough decontamination to drink or eat, even in the Cold zone. Smoking should be prohibited during incidents involving flammable or combustible materials. 8. Do not allow personnel to enter sewers, tanks, or other tight-spaced enclosures, except when a rescue is required, due to the explosion or flash fire potential. 9. Refer to Part 2, Section 1, for additional health and safety considerations.	3. Establish safety procedures for all on-scene personnel, with special emphasis on procedures to be followed by personnel operating in the Hot Zone and Warm Zone. 4. Determine appropriate protective gear for each respective hazard control zone. 5. Establish a decontamination area in the Warm Zone. 6. Establish a medical monitoring area and a general rest area in the Cold Zone. 7. Do not allow exposed persons who have not undergone thorough decontamination to drink or eat, even in the Cold zone. Smoking should be prohibited during incidents involving flammable or combustible materials. 8. Do not allow personnel to enter sewers, tanks, or other tight-spaced enclosures, except when a rescue is required, due to hazardous vapors and/or explosion/fire potential (if chemical is flammable or combustible). 9. Refer to Part 2, Section 1, for additional health and safety considerations.

Exhibit 1.3-4

Emergency Response Actions for Incidents Involving Petroleum and Hazardous Materials at or within Fixed-Facilities, Structures, Underground Storage Tanks, and Sewers (continued)

Actions		Petroleum Incident	Haz. Mat. Incident
9.	Establish incident command in accordance with local and state procedures.	1. Establish <u>one</u> Incident Commander to have command and control over all operations. The incident commander for each type of petroleum incident (i.e., fire or spill) should be identified in local and state response plans. 2. There should be a chain of command whereby the initial Incident Commander (e.g., highest ranking officer of the first arriving fire department or police units) transfers command to higher ranking individuals upon their arrival. 3. The Incident Commander (IC) should establish an incident command/management system to effectively manage the numerous emergency response functions involved. The IC should establish sectors (e.g., hazard control sector, safety sector, communications sector, resource sector, etc.) and sector officers to manage the sectors. 4. Establish <u>one</u> incident command post (in a safe location) from which the IC and sector officers will operate. 5. Establish a resource staging area in a safe location. 6. Establish communications between the various on-scene agencies.	1. Establish <u>one</u> Incident Commander to have command and control over all operations. The incident commander for each type of chemical incident (i.e., fire, leak, or spill) should be identified in local and state response plans. 2. There should be a chain of command whereby the initial Incident Commander (e.g., highest ranking officer of the first arriving fire department or police units) transfers command to higher ranking individuals upon their arrival. 3. The Incident Commander (IC) should establish an incident command/management system to effectively manage the numerous emergency response functions involved. The IC should establish sectors (e.g., hazard control sector, safety sector, communications sector, resource sector, etc.) and sector officers to manage the sectors. 4. Establish <u>one</u> incident command post (in a safe location) from which the IC and sector officers will operate. 5. Establish a resource staging area in a safe location. 6. Establish communications between the various on-scene agencies.
10.	Evaluate personal protective gear and other resource requirements. NOTE: If the incident involves a structure or facility, protective gear and other resources may be stored on-site and made available by the owners.	1. Based upon the hazard and risk analysis (i.e., Action 6), evaluate the adequacy of on-scene personal protection equipment and determine whether more-specialized or additional protective equipment is required.	1. Based upon the hazard and risk analysis (i.e., Action 6), evaluate the adequacy of on-scene personal protection equipment and determine whether more-specialized or additional protective equipment is required.

Exhibit 1.3-4

Emergency Response Actions for Incidents Involving Petroleum and Hazardous Materials at or within Fixed-Facilities, Structures, Underground Storage Tanks, and Sewers (continued)

Actions	Petroleum Incident	Haz. Mat. Incident
	2. Evaluate the quantity and type of resources (e.g., trained personnel, equipment, materials, etc.) that are at the scene or en route, and determine whether more-specialized or additional resources are required. 3. For additional information on protective gear, see Part 2, Section 1, Personal Health and Safety Protection.	2. Utilize the following sources to determine appropriate protective gear: # Manufacturers' protective clothing compatibility charts # Emergency guidebooks (see p. 34) # Technical assistance hotlines (see Exhibit 1.3-2) # Computer databases # Material Safety Data Sheets # Chemical manufacturers. 3. Evaluate the quantity and type of resources (e.g., trained personnel, equipment, materials, etc.) that are at the scene or en route, and determine whether more-specialized or additional resources are required. 4. For additional information on protective gear, see Part 2, Section 1, Personal Health and Safety Protection.

Exhibit 1.3-4

Emergency Response Actions for Incidents Involving Petroleum and Hazardous Materials at or within Fixed-Facilities, Structures, Underground Storage Tanks, and Sewers (continued)

Actions	Petroleum Incident	Haz. Mat. Incident
11. Determine response objectives and plan remedial strategy.	1. Based upon the hazard and risk analysis (i.e,. Action #6) and on information from Actions 4, 5, 7, and 10, determine a realistic overall response objective. The objective will be defensive- or offensive-oriented. A defensive objective is based upon the premise that offensive intervention will <u>not</u> favorably affect the outcome of the incident and will likely place emergency response personnel in extreme danger. A defensive objective allows responders to work away from the immediate hazardous release area or requires no intervention at all. An offensive objective is based upon the premise that offensive intervention <u>will</u> favorably affect the outcome of the incident without endangering the lives of emergency response personnel. An offensive objective requires responders to work in and around the hazardous release area. 2. Identify and evaluate control, containment, and confinement techniques. **#** Control techniques are used to physically or chemically control a release or fire. Examples: - Vapor dispersion - Vapor suppression - Fire suppression - Dilution	1. Based upon the hazard and risk analysis (i.e,. Action #6) and on information from Actions 4, 5, 7, and 10, determine a realistic overall response objective. The objective will be defensive- or offensive-oriented. A defensive objective is based upon the premise that offensive intervention will <u>not</u> favorably affect the outcome of the incident and will likely place emergency response personnel in extreme danger. A defensive objective allows responders to work away from the immediate hazardous release area or requires no intervention at all. An offensive objective is based upon the premise that offensive intervention <u>will</u> favorably affect the outcome of the incident without endangering the lives of emergency response personnel. An offensive objective requires responders to work in and around the hazardous release area. 2. Identify and evaluate control, containment, and confinement techniques. **#** Control techniques are used to physically or chemically control a release or fire. Examples: - Vapor dispersion - Vapor suppression - Fire suppression - Dilution - Neutralization - Gelation.

Exhibit 1.3-4

Emergency Response Actions for Incidents Involving Petroleum and Hazardous Materials at or within Fixed-Facilities, Structures, Underground Storage Tanks, and Sewers (continued)

Actions	Petroleum Incident	Haz. Mat. Incident
11. Determine response objectives and plan remedial strategy. (continued)	# Containment techniques are used to stop leaks and keep petroleum within its container. Examples: - Patching - Plugging - Overpacking of drums. # Confinement techniques are used to capture and hold spilled petroleum. Examples: - Diking - Damming - Placing booms. NOTE: For assistance in evaluating mitigation techniques, see Exhibit 1.3-5 in Part 1, Section 3.2, Confining and Containing Releases. 3. Determine and select the most effective and achievable response techniques. If incident involves a structure or facility, be sure to take into consideration the utilization of any in-place control, confinement, and containment systems and equipment. 4. Formulate an incident action plan, incorporating the selected response techniques. 5. The Incident Commander should review the plan with all sector officers and individuals that will implement the plan.	# Containment techniques are used to stop leaks and keep the chemical within its container. Examples: - Patching - Plugging - Overpacking of drums - Capping. # Confinement techniques are used to capture and hold spilled chemical(s). Examples: - Diking - Damming - Placing booms. NOTE: For assistance in evaluating mitigation techniques, see Exhibit 1.3-5 in Part 1, Section 3.2, Confining and Containing Releases. 3. Determine and select the most effective and achievable response techniques. If incident involves a structure or facility, be sure to take into consideration the utilization of any in-place control, confinement, and containment systems and equipment. 4. Formulate an incident action plan, incorporating the selected response techniques. 5. The Incident Commander should review the plan with all sector officers and individuals that will implement the plan.

Exhibit 1.3-4

Emergency Response Actions for Incidents Involving Petroleum and Hazardous Materials at or within Fixed-Facilities, Structures, Underground Storage Tanks, and Sewers (continued)

Actions	Petroleum Incident	Haz. Mat. Incident
12. Obtain resources and technical support needed to implement the chosen response actions.	1. Based upon Actions 10 and 11, determine the type and quantity of resources (i.e., specially-trained personnel, apparatus, equipment, materials, and protective gear) that need to be obtained. 2. Based upon Action 11, determine required technical support. The support may come from the following sources: # Technical assistance hotlines (see Exhibit 1.3-2) # Technical assistance specialists (e.g., product specialists, fire protection specialists, environmental scientists) # American Petroleum Institute # Computer databases # Emergency guidebooks (see p. 34) 3. Utilize resource directories to identify sources of needed resources. If the incident involves a structure or facility, needed resources may be stored on site and made available by the owners. 4. Make arrangements with resource suppliers to have resources brought to the incident scene. 5. When resources arrive, direct them into the resource staging area, log them in, and notify the Incident Commander of their availability.	1. Based upon Actions 10 and 11, determine the type and quantity of resources (i.e., specially-trained personnel, apparatus, equipment, materials, and protective gear) that need to be obtained. 2. Based upon Action 11, determine required technical support. The support may come from the following sources: # Technical assistance hotlines (see Exhibit 1.3-2) # Technical assistance specialists (e.g., product specialists, fire protection specialists, environmental scientists, chemists, toxicologists, and chemical manufacturers) # Computer databases # Emergency guidebooks (see p. 34) 3. Utilize resource directories to identify sources of needed resources. If the incident involves a structure or facility, needed resources may be stored on site and made available by the owners. 4. Make arrangements with resource suppliers to have resources brought to the incident scene. 5. When resources arrive, direct them into the resource staging area, log them in, and notify the Incident Commander of their availability.

Exhibit 1.3-4

Emergency Response Actions for Incidents Involving Petroleum and Hazardous Materials at or within Fixed-Facilities, Structures, Underground Storage Tanks, and Sewers (continued)

Actions	Petroleum Incident	Haz. Mat. Incident
13. Take actions (i.e., control, containment, and/or confinement) to mitigate the release or fire, in accordance with response objectives. NOTE: Fire suppression and most spill containment operations will be handled by the fire department.	1. Based upon Action 11 and available resources, initiate response actions to mitigate the release or fire. 2. If the incident involves a fire and no intervention by the fire department: # Withdraw all persons from within at least a 1/2-mile radius of any petroleum containers that are being heated or stressed. If containers are located within an enclosed structure, a shorter radius may be appropriate. # If burning product is in a sewer system, withdraw personnel from the areas served by the affected sewer lines. 3. If the incident involves a fire and fire department intervention is going to occur: # Utilize any in-place fire suppression and air exhaust systems to the greatest extent possible. # Apply sufficient water to containers in order to cool them and their contents to a temperature that will lessen the chance of an explosion. # Utilize unmanned monitor nozzles whenever possible, and withdraw personnel to a safe distance. # If there is spilled petroleum burning, apply foam or dry chemical to extinguish the flames and then apply a blanket of foam to keep the petroleum from reigniting. # Only personnel directly involved in fire suppression operations should be allowed near burning petroleum.	1. Based upon Action 11 and available resources, initiate response actions to mitigate the release or fire. 2. If the incident involves a fire and no intervention by the fire department: # Withdraw all persons from within at least a 1/2-mile radius of any chemical containers that are being heated or stressed. # If burning product is in a sewer system, withdraw personnel from the areas served by the affected sewer lines. 3. If the incident involves a fire and fire department intervention is going to occur: # Utilize any in-place fire suppression and air exhaust systems to the greatest extent possible. # Apply sufficient water to containers in order to cool them and their contents to a temperature that will lessen the chance of an explosion. # Utilize unmanned monitor nozzles whenever possible, and withdraw personnel to a safe distance. # If there is spilled chemical burning, apply a compatible suppression agent to extinguish flames. If the spill is a liquid and foam is compatible, apply a blanket of foam to keep the liquid from reigniting. # Only personnel directly involved in fire suppression operations should be allowed near burning chemical(s). # If safe to attempt, the chemical and fire suppression runoff should be confined in order to protect other areas of the facility or structure and the environment.

Exhibit 1.3-4

Emergency Response Actions for Incidents Involving Petroleum and Hazardous Materials at or within Fixed-Facilities, Structures, Underground Storage Tanks, and Sewers (continued)

Actions	Petroleum Incident	Haz. Mat. Incident
13. Take actions to mitigate the release or fire, in accordance with response objectives. (continued)	# If safe to attempt, the petroleum and fire suppression runoff should be confined in order to protect other areas of the facility or structure and the environment. NOTE: If an interior fire attack is involved (applies to structures only), runoff will enter floor drains, collect in low areas, and/or flow out of the structure. If fire suppression operations are underway from outdoors, runoff will enter any in-place confinement structures (e.g., dikes, sumps, etc.) or flow unrestricted following ground contours. 4. If the incident involves <u>a spill but no fire and it involves a structure or facility</u>: # Take actions to confine the spill and to keep it from entering other areas of the facility or structure, storm drains, waterways, and bodies of water. If present, in-place confinement structures (e.g., dikes, sumps, retention basins, holding ponds, etc.) will assist in the confinement effort. # Eliminate all ignition sources. # Apply foam to suppress vapors and to reduce the possibility of ignition. # <u>Do not</u> allow personnel to walk in the spilled petroleum. # If practicable, attempt to contain the leak(s). # Continuously monitor vapor concentrations in all affected areas. # Withdraw all personnel from areas with vapor concentrations in or near the product's flammability range (i.e., range between lower and upper explosive limits).	NOTE: If an interior fire attack is involved (applies to structures only), runoff will enter floor drains, collect in low areas, and/or flow out of the structure. If fire suppression operations are underway from outdoors, runoff will enter any in-place confinement structures (e.g., dikes, sumps, etc.) or flow unrestricted following ground contours. 4. If the incident involves <u>a spill but no fire and it involves a structure or facility</u>: # Take actions to confine the spill and to keep it from entering other areas of the facility or structure, storm drains, waterways, and bodies of water. If present, in-place confinement structures (e.g., dikes, sumps, retention basins, holding ponds, etc.) will assist in the confinement effort. # Eliminate all ignition sources if the chemical is flammable or combustible. # If available, apply a compatible foam to suppress vapors. # <u>Do not</u> allow personnel to walk in the spilled chemical(s). # If practicable, attempt to contain the leak(s). # Continuously monitor vapor concentrations in all affected areas. # If chemical is flammable, withdraw all personnel from areas with vapor concentrations in or near the product's flammability range (i.e., range between lower and upper explosive limits).

Exhibit 1.3-4

Emergency Response Actions for Incidents Involving Petroleum and Hazardous Materials at or within Fixed-Facilities, Structures, Underground Storage Tanks, and Sewers (continued)

Actions	Petroleum Incident	Haz. Mat. Incident
13. Take actions to mitigate the release or fire, in accordance with response objectives. (continued)	# Throughout containment/confinement operations, have charged hoselines standing by in case a fire develops and personnel need rescuing. 5. If the incident involves a spill but no fire and it involves a sewer system: # Withdraw all unnecessary personnel from the areas served by the sewer lines. # Eliminate all ignition sources. # Stop the flow of petroleum into the sewer system. # Coordinate mitigation actions (e.g., dilution, neutralization, etc.) with the sewer authority. # Refer to Part 1, Section 6.2, Free Product in Structures and Sewers, for additional considerations and actions. 6. If the incident involves a leaking underground storage tank (UST), refer to Part 1, Section 6.7, Ground-Water Remediation. 7. For additional information on mitigating petroleum spills, refer to the following: # Part 1, Section 3.2, Confining and Containing Releases. # Part 1, Section 6, Corrective Action.	# Throughout containment/confinement operations, have charged hoselines standing by in case a fire develops and personnel need rescuing. 5. If the incident involves a spill but no fire and it involves a sewer system: # Withdraw all unnecessary personnel from the areas served by the sewer lines. # If chemical is flammable or combustible, eliminate all ignition sources. # Stop the flow of chemical into the sewer system. # Coordinate mitigation actions (e.g., dilution, neutralization, etc.) with the sewer authority. # Refer to Part 1, Section 6.2, Free Product in Structures and Sewers, for additional considerations and actions. 6. If the incident involves a leaking underground storage tank (UST), refer to Part 1, Section 6.7, Ground-Water Remediation. 7. If leaking chemical is in gaseous form and it or its container is involved in fire and no fire department intervention is to occur: # Withdraw all persons from within at least a 1/2-mile radius of the container. If containers are located within an enclosed structure, a shorter radius may be appropriate. # If possible, observe the container, (with binoculars if available), to monitor its status.

Exhibit 1.3-4

Emergency Response Actions for Incidents Involving Petroleum and Hazardous Materials at or within Fixed-Facilities, Structures, Underground Storage Tanks, and Sewers (continued)

Actions	Petroleum Incident	Haz. Mat. Incident
13. Take actions to mitigate the release or fire, in accordance with response objectives. (continued)		8. If leaking chemical is in gaseous form and it or its container is involved in fire and <u>fire suppression efforts are to be initiated</u>: # Utilize any in-place fire suppression and air exhaust systems to the greatest extent possible. # Apply sufficient water to the container to cool it and its contents to a temperature that will lessen the chance of an explosion. # Utilize unmanned monitor nozzles whenever possible, and withdraw personnel to a safe distance. # Only personnel directly involved in fire suppression/container cooling operations should be allowed near the container(s). # If safe to attempt, fire suppression runoff should be confined in order to protect other sections of the structure or facility and the environment. # When upward escaping gas is burning but the container itself is not being impinged by flames, the best alternative may be to allow the entire contents of the container to burn off while cooling the container with water. 9. If leaking chemical is in gaseous form and <u>no fire is present</u>: # Apply water (if compatible) in a spray pattern to outdoor containers to disperse or divert the gas, and take actions to confine the associated runoff. # If leaking containers are inside an enclosed structure, utilize any in-place systems (e.g., exhaust fan, sprinkler system, etc.) to expel or suppress the gas. If there are no

Exhibit 1.3-4

Emergency Response Actions for Incidents Involving Petroleum and Hazardous Materials at or within Fixed-Facilities, Structures, Underground Storage Tanks, and Sewers (continued)

Actions	Petroleum Incident	Haz. Mat. Incident
13. Take actions to mitigate the release or fire, in accordance with response objectives. (continued)		in-place systems, consider applying water from hoselines (in a spray pattern) to suppress or divert gases, or consider opening windows and doors to vent the gases from the structure. Response actions that require personnel to enter an en- closed room or structure containing a leaking gas are extremely dangerous and should only be attempted as a last resort. Entering flammable environments is not recommended due to the fire/explosion potential. # Continuously monitor vapor concen- trations in the affected area for toxicity levels and, if applicable, flammable levels. # Withdraw all personnel from areas with dangerous toxicity levels and/ or areas with vapor concentrations in or near the product's flam- mability range (i.e., range between lower and upper explosive limits). # If practicable and safe, attempt to contain the leak by capping it or utilizing specialized leak control kits. Containing high-pressure leaks is extremely dangerous and should only be conducted with due caution by trained personnel. The technique is not recommended. # If gas is flammable, have charged hoselines in-place during response operations in case a flash fire occurs. 10. For additional information on mitigating chemical releases, refer to the following: # Part 1, Section 3.2, Confining and Containing Releases. # Part 1, Section 6, Corrective Action.

Exhibit 1.3-4

Emergency Response Actions for Incidents Involving Petroleum and Hazardous Materials at or within Fixed-Facilities, Structures, Underground Storage Tanks, and Sewers (continued)

	Actions	Petroleum Incident	Haz. Mat. Incident
14.	Continuously evaluate mitigation efforts to assure their effectiveness, and, if necessary, revise mitigation operations and/or response objectives.	1. The Incident Commander must continuously evaluate whether mitigation efforts are achieving the response objective. 2. If the response objective is not being accomplished effectively, alternate response actions should be evaluated and implemented, as appropriate. 3. If alternate response actions are not feasible or are found to be ineffective, the Incident Commander may have to develop a revised response objective. 4. Whenever response efforts are failing and hazards are increasing in magnitude and/or intensity, personnel should be withdrawn to a safe distance while revised tactics are being formulated. Personnel should not re-enter the hazardous area until: # Conditions have improved; # Revised response actions have been planned; # Appropriate equipment and trained personnel are available to attempt the revised actions.	1. The Incident Commander must continuously evaluate whether mitigation efforts are achieving the response objective. 2. If the response objective is not being accomplished effectively, alternate response actions should be evaluated and implemented, as appropriate. 3. If alternate response actions are not feasible or are found to be ineffective, the Incident Commander may have to develop a revised response objective. 4. Whenever response efforts are failing and hazards are increasing in magnitude and/or intensity, personnel should be withdrawn to a safe distance while revised tactics are being formulated. Personnel should not re-enter the hazardous area until: # Conditions have improved; # Revised response actions have been planned; # Appropriate equipment and trained personnel are available to attempt the revised actions.

Exhibit 1.3-5

Emergency Response Actions for Incidents Involving Abandoned with Petroleum or Hazardous Materials

NOTE: The response actions for abandoned drums are similar to those listed In Exhibits 1J-3 and 13-4 with the exception of the actions listed below. The BSPR responds to reports of leaking drums and arranges for appropriate emergency containment and cleanup whether the drums contain petroleum, hazardous or unknown materials. In situations where emergency containment and cleanup of hazardous or unknown materials Is complete or drums were found to not be leaking, but contain hazardous or unknown materials, the case should be referred to the Regional Hazardous Waste Remediation Engineer for appropriate action.

	Actions	Petroleum	Unknown or Haz. Mat.
1.	Emergency response to leaking drums.	1. Refer to Exhibits 1.3-3 and 1.3-4 for emergency response actions. DEC response staff may secure services or contracts to alleviate emergency conditions if appropriate measures are not being implemented by the responsible party or by local or federal government officials, and there Is is the liklihood that continued Inaction will result in an imminent significant threat to public health and the environment.	1. Refer to Exhibits 1.3-3 and 1.3-4 for emergency response actions. DEC response staff may secure services or contracts to alleviate emergency conditions if appropriate measures are not being implemented by the responsible party or by local or federal government officials, and there is is the liklihood that continued inaction will result in an Imminent significant threat to public health and the environment.
2.	Actions after an emergency cleanup is completed or the drums are not leaking.	1. Determine If the drums are in a location that may be hazardous and could pose a threat to public health and/or the environment. Identify the RP/PRP. Determine whether the RP/PRP or local or federal government officials will lake appropriate remedial action. If, after completing this assessment, the Regional Spill Engineer determines that additional remedial action by DEC is necessary, begin appropriate remediation and dispose of the drums in accordance with the requirements of Part 2, Section 3, Spill Residuals Management (Page 2.3-1). The hierarchy of preferred treatment disposal options in order of environmental desirability are: recycling, incineration, and land burial in accordance with 6 NYCRR Part 360.	1. Notify the Regional Hazardous Waste Remedation Engineer, by telephone and in writing, of the completion of the hazardous materials spill emergency response or that abandoned drums containing unknown or hazardous materials have been reported or found. Provide all available background information including: the volume of any waste piles; the number of drums; the exact location; and contact persons. Provide a copy to the Bureau of Construction Services within DHWR. The DHWR will make arrangements for the analysis of the material and for appropriate disposition.
3.	When the drum(s) contain non-petroleum and non-hazardous materials, refer to local officials such as the police or highway superintendent.		

Attachment 1.3-1

Guidelines for Use of Red Warning Lights and Sirens on Vehicles Responding to Environmental Emergencies

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1) Vehicle emergency traffic control light systems (including, but not limited to, rotary beacons, light racks, oscillating lights, alternate flashing grilled and/or roof lights, head light flashers, or other equipment utilizing red and/or clear lenses for emergency response) shall only be used by authorized government personnel in their response to bona fide environmental emergencies. This light equipment shall not be used by authorized government personnel in their response to bona fide environmental emergencies. This light equipment shall not be used for minor environmental incidents, incidents of a non-urgent nature, routine business (inspections, meetings, etc.) and normal transportation needs on both local streets and arterial highways. Since it is hard to define each situation that may require the use of such equipment, the responder should ask himself the following questions:

   -- *Does this involve my immediate presence to help resolve the environmental problem?*

   -- *Are traffic conditions such that control devices such as lights and sirens are needed to improve incident response time?*

   -- *If traffic conditions are impassable (stalled traffic) will such equipment help or exacerbate such bad traffic conditions?*

2) Vehicle emergency traffic control sound systems (including, but not limited to, mechanical sirens, electronic sirens with "yelp," "wail" and "hi-low" sound effects, and any air horns and/or public address amplifiers used in association with these systems for traffic control), are used with the same discretion as the above-described light systems, with the following additional instructions:

   # The responder should operate such equipment, for the most part, in the "manual" mode, i.e., using manual "wail" or "yelp" through operation of a foot switch or a circuit-modified horn ring. This allows the responder to use the sound system only as needed (when traffic unduly impedes response), and by use of these convenient switches, allows him to concentrate on driving, and not become an unnecessary source of "noise pollution."

   # The siren should be operated continuously (in automatic "wail," "yelp" and "hi-low" tones) when traffic is congested enough to require such sounds to alert traffic to yield to an emergency response vehicle. The responder should vary these tones periodically, though manually switching, or, if the siren is set up for it," "yelp" or "air horn" override functions operated through the foot switch/horn ring.

Attachment 1.3-1

Guidelines for Use of Red Warning Lights and Sirens on Vehicles Responding to Environmental Emergencies (continued)

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3) The goal of the operation of such systems is to effect passage through heavy traffic situations to emergency events. It should not be used to increase vehicle speed significantly above the posted limit. The responder should consciously monitor his vehicle speed to ensure that he is not exceeding those limits, and possibly endangering lives. If the responder finds himself in light traffic conditions after travelling through heavy vehicular congestion, he should cease continuous operation of the sound system and allow the light system to suitably warn other drivers of this emergency response.

   The responder shall not use the sound/light systems to take unreasonable risks in his driving performance. Such risks would include driving full speed through red lights, driving the wrong way up a crowded one-way street, driving through school zones and other special pedestrian areas, driving on side walks, etc. A driver may go the wrong way up streets or exist/entrance ramps, if that is the only expeditious means to reach the spill location. Extreme caution is advised!

4) When the responder does have to go through an intersection with a stop or red traffic light, he should do the following:

   - **#** When approaching the intersection the responder shall activate continuous operation of his siren, while slowing his vehicle down in the process. He will bring his vehicle to a full stop before the intersection, and then proceed with extreme caution. He may override his continuous siren with "yelp" or "air horn" functions, if he has those options available. Upon going through the intersection, the responder will switch the siren back to its pre-intersection sound.

5) Lights and sirens should be used to maneuver through very tight or stopped traffic. Care should be taken when driving along the shoulder of roads to bypass traffic, to ensure that you don't strike any hazards (rails, potholes, etc.) or destroy vegetation.

6) The headlight/grill light flasher is to be used when wishing to move traffic ahead of you to the right, allowing you unimpeded passage. The flasher should not be used when stuck in traffic (it becomes an annoyance) or when entering a two-way tunnel (could distract opposing traffic, causing an accident). Since such equipment imposes a heavy amperage drain, it should be used sparingly, and never left on when the engine is turned off. Use only your alternating amber or red flashing light bar lights (not the rotating lights) if you wish to turn off the engine, but have warning lights left on. Turn on your parking light flasher, as well.

7) The public address system should be used primarily for communications at sites (e.g., notifying staff of phone calls for them, giving directions to contractors too far away to reach or communicate with normally, etc.). In traffic situations, the P.A. system is used to give direction and prevent confusion (e.g., directing drivers

to pull to the right and allow you to pass, ensure that traffic running perpendicular to your path stop to allow you through, direct stopped vehicles to move to allow you past them, etc.). At no time are you to be abusive or sarcastic when using the P.A. system for traffic situations. Under no circumstances are you to use profanity over the P.A. System!

8) When parked at a hazardous location on a spill site (e.g., a highway spill, an area of heavy traffic conditions, manhole surveys, etc.), the vehicle should be left with the lightbar and the engine running. If you are at the site for an extended period of time (more than 20 minutes) go back to your truck at a convenient moment and pull it onto a location that is not exposed to traffic hazards, and shut down the lightbar and engine. (Note: Lock up the truck, when leaving it unattended!)

9) It cannot be stressed enough that all vehicle maneuvers - passing, changing lanes, making turns, slowing down, speeding up, backing up, U-turns, etc. - must be done with extreme caution. Be firm but courteous in your use of such systems. Do not "hound" a vehicle moving slowly before you that refuses to yield; merely pass the vehicle after giving it sufficient warning of your presence. Watch for sudden yielding into your passing lane by other vehicles. If you encounter another emergency vehicle responding to the same incident or another emergency, yield to that vehicle. Remember that people react in different ways to these systems so be prepared for anything (drive defensively and BE CAREFUL).

Attachment 1.3-2

State Administration of Temporary Relocation Assistance

4-1. Administration. It is FEMA's policy to encourage states to administer all or part of the temporary relocation activity under Superfund to the extent they are willing and capable. State administration of temporary relocation assistance for a particular site shall be approved by the Regional Director, based on past performance in temporary relocation or other similar programs, management and staff capabilities, and demonstrated understanding of the tasks to be performed. Additionally, the State shall certify that they will follow FEMA's policies and regulations.

4-2. Cooperative Agreement. When it is agreed that the State will administer all or part of the temporary relocation, FEMA and the State must negotiate a cooperative agreement. The cooperative agreement outlines the responsibilities of the State and FEMA. Also the cooperative agrement is the funding document used to pass the funds from FEMA to the State through the letter of credit.

4-3. Superfund Cost Sharing. Cost sharing is the portion of an allowable project cost which is not derived from Federal Assistance. The regulation, 44 CFR Part 222, Superfund Cost Share Eligibility Criteria for Permanent and Temporary Relocation, establishes the policies regarding FEMA's responsibility under EO 12580, for the administration of remedial actions under CERCLA, as amended.

a. Matching Funds. In accordance with 44 CFR Part 222, Superfund Cost Share Eligibility Criteria for Permanent and Temporary Relocation, the State will pay or ensure payment of (1) 10 percentum of the costs of the remedial action or, (2) 50 percentum (or such greater amount as the President may determine appropriate, taking into account the degree of responsibility of the State or political subdivision for the release) of any sums expended in response to a release at a facility that was operated by the State or political subdivision thereof, either directly or through a contractual relationship, or otherwise at the time of any disposal of hazardous substance therein.

4-4. Site Specific Plan. When it is agreed that the State will administer all or part of the relocation activity, the State must submit a site-specific plan for approval by the Regional Director or official designee within 7 days of the signing of the FEMA/State Cooperative Agreement. The Associate Director, SLPS, or the Assistant Associate Director, DAP, assumes Regional Director responsibilities when headquarters is implementing temporary relocation. This plan shall include the following items as appropriate:

a. Budget, estimated outlay schedule; request for allocation advice;

b. Timeframes within which tasks will be completed;

c. Assignment or relocation responsibilities to State and/or local officials or agencies;

d. Method of notifying affected residents and taking applications;

e. Method of developing fair market guidelines;

TECHNICAL

FIELD GUIDANCE

EMERGENCY RESPONSE - CONFINING & CONTAINING RELEASES

NOTES

EMERGENCY RESPONSE - CONFINING AND CONTAINING RELEASES

GUIDANCE SUMMARY-AT-A-GLANCE

- # *Do not* place yourself in a hazardous situation in order to confine or contain a release.

- # Although considered as the initial cleanup phase of an incident, confining and containing releases are often dangerous operations and should be performed cautiously, as if they were emergency response actions.

- # Treat any unknown substance as a hazardous material until the identity of the substance becomes known.

- # Wear appropriate body and respiratory protection when working near released petroleum or hazardous materials.

- # Coordinate your response activities with other response agencies.

- # Utilize the services of other emergency response personnel (e.g., fire department hazmat team) and/or private contractors, when necessary.

- # Your first priority is to confine free product in order to minimize the area of impact. Your second priority is to contain the leak, if applicable, at its source. Confinement and containment actions, however, will often take place simultaneously.

- # Keep in mind that during confinement/containment operations, site conditions may deteriorate -- thus creating new hazards or causing the recurrence of hazards (e.g., fire, intensified leak, etc.) that had been under control -- which, in turn, would trigger the need for emergency response actions.

- # Although quick actions are often needed in order to limit the spread of contaminants, always attempt to evaluate response options and to choose the one(s) that will likely be the most effective, safe, and feasible.

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1.3.2 Confining and Containing Releases

After working with other response personnel to remedy or mitigate any emergency situation, confining and containing the release are your top response priorities. Controlling the source, in combination with confining any released material, helps to minimize the potential for significant environmental damage. Again, BSPR personnel should not place themselves in a hazardous situation in order to confine or contain a release.

The circumstances surrounding each incident and site will affect how you will go about confining and containing the spill. Usually (but not always), you will be concerned first with confining the material already spilled. Take steps to prevent the spill from reaching a nearby water body, sewer, ignition source; in general, keep the spill from affecting a larger area than it already has affected. The size of the spill, the medium into which the spill is moving, site conditions, and weather conditions can make confining the spill difficult, if not impossible. However, in many cases, it may be possible to block or divert the spill mass away from a sensitive area or direct it into a confinement area. If the spill is moving at a fast pace, you may have to make quick use of whatever is on hand at the site; if its progress is slow, however, you may have sufficient time to use special equipment and supplies.

Once you have confined the spill, you must attempt to prevent the spill from accumulating any additional mass. To control the spill source, you must know or be able to identify its source. For some spills, the source is obvious, for example, an overturned tanker truck. For other spills, the source (e.g., a leaking underground storage tank) may not be identified until you have completed your investigation of the site (see Part 1, Section 4, Site Investigation Procedures).

Once the source is identified, actually containing or stopping the release may be as easy as setting a drum upright or placing the leaking drum inside of another larger drum (i.e., overpack drum). On the other hand, it may be very difficult to stop the release, as would be the case if a valve has sheared off or a pressurized line has been broken and specialized equipment is needed to seal the leak.

Remember, also, that, in some cases, it may be best not to attempt to stop the release. You may decide to take no immediate action to contain the release if, for example, the release involves a fire and you and/or other emergency responders deem it best to let the fire consume the material, or if the hazard is too great to permit personnel to approach the source. The fire department or local hazmat team (may be associated with fire department) will make the determination of whether or not to attempt to stop the leak. Exhibits 1.3-3 and 1.3-4 in Part 1, Section 3.1, discuss the importance of determining response objectives, including whether or not to take aggressive actions such as stopping leaks.

Exhibit 1.3-6 lists the uses, advantages, and disadvantages of spill containment and confinement techniques for different kinds of spills. Part 3, Section 1, Synopsis of Spill Assessment and Clean-up Technologies, also provides additional descriptive information on several of these techniques as does Part 1, Section 6, Corrective Action.

Exhibit 1.3-6

Uses, Advantages, and Limitations of Several Containment, Confinement, and Mitigation Techniques

Techniques	Uses	Advantages	Limitations
Dikes, berms and dams	Retention dikes and underflow dams can contain floating insoluble materials. Berms are used to contain slow-moving spills on flat, dry surfaces.	Can be constructed from various materials including on-site soils. Required materials are commonly found.	Retention dikes are confined to near-shore, shallow water areas. Polyurethane foams do not adhere to wet surfaces.
Surface Booms	Contain water spills involving floating substances. If deployed rapidly, can contain any undissolved floating substance.	Booms are readily available and relatively inexpensive. Can be quickly emplaced.	Containment efficiency is affected by current, wind, and wave action. May require boats, winches, or cranes for deployment.
Curtain Booms	Contain hazardous materials that are soluble or sink in water.	Commercially available. Most effective response method for soluble or sinking substances.	Maximum depth is 25 feet. Affected by currents greater than 2 knots.
Soil Sealants	Prevent liquid hazardous substances from percolating into the soil.	Can be applied immediately. Readily available. Eliminates most of the potential soil and ground-water contamination problems.	Effected by extremes in temperatures and precipitation. May be ineffective in soils containing a high gravel content.
Trenches	Contain land spills involving liquids and water spills involving insoluble sinking materials.	Effective and relatively inexpensive. Can utilize natural drainage paths.	On land, soil and subsoil characteristics may limit effectiveness.

Exhibit 1.3-6

Uses, Advantages, and Limitations of Several Containment, Confinement, and Mitigation Techniques (continued)

Techniques	Uses	Advantages	Limitations
Patching and plugging	Stops the release of the hazardous substance.	Prevents further dissemination of the hazardous substance.	Rupture size should be under 5 inches. The hydraulic head in the leaking vessel may prevent application of a patch or plug. The hazardous substance and the containment device must be compatible. Instant foams in pressurized cylinders should not be used. Some mechanical assistance may be required to support the patch. Requires response personnel to be in close proximity to the leaking container.
Containerization	Leaking containers are placed into larger containers or leaking material is directly collected into an open-top container.	Prevents additional release and contamination. Facilitates removal of materials. Easy to transport and use. Can be placed under a leak to catch the substance.	The size of the ruptured containers may present a problem. Must ensure that combustible or explosive gases do not form inside the containers. Leaking containers must be approachable and handleable.

Exhibit 1.3-6

Uses, Advantages, and Limitations of Several Containment, Confinement, and Mitigation Techniques (continued)

Techniques	Uses	Advantages	Limitations
Off-loading	Prevents the leakage of additional product by transferring the product to an undamaged container.	Prevents additional release and contamination. Eliminates the need for further containment efforts.	Requires appropriate equipment and trained personnel. Flammable and combustible liquids require the use of grounding cables, explosion-proof pumps, and non-sparking equipment. Cannot be attempted when the leaking container is involved in fire. Corrosive liquids require the use of corrosion-resistant pumps, hoses, containers, and other related transfer equipment.

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Exhibits 1.3-3 and 1.3-4 in Section 1.3.1 include response actions regarding confining and containing releases (i.e., Action #13). Although listed in these exhibits as emergency response actions, confining and containing releases can also be considered initial clean-up actions. Nonetheless, spill responders should consult Action #13 in Exhibits 1.3-3 and 1.3-4 prior to and during the process of confining and containing releases. BSPR personnel should also consult the following subsections of Part 1, Section 6, Corrective Action:

- 1.6.2 Free Product in Structures, Sewers, and Underground Utility Lines;
- 1.6.4 Free Product on Soil Surface; and
- 1.6.5 Free Product on Water Surface.

Details on how to confine and contain spills are discussed below.

1. Spill Confinement

Confining a spill minimizes the area impacted by the spill and, therefore, the area to be cleaned up. Unfortunately, not all spills can be readily confined, particularly gaseous releases or a release of liquid or solid material that volatilizes quickly. The spread of some vapor releases can be minimized by spraying water to knock down or divert the vapor cloud; however, the use of water can create a large volume of contaminated liquid that must be confined. Exercise caution in the use of these measures as some substances react with water. Information on the reactivity of different substances can be found in various guidebooks (e.g., Handbook of Reactive Chemical Hazards by L. Bretherick). In many instances it will not be possible to confine a vapor release. Either the vapor cloud will dissipate safely and quickly or individuals downwind of the spill site will have to be protected (i.e., evacuated or sheltered in-place) until the danger has passed.

Spills of solid materials are usually, but not always, easier to confine. Some solids are flammable or react upon contact with the air or with water vapor in the air, making confinement difficult and dangerous. Solid material that has spilled directly into a water body or has been mixed with fire suppression water or another spilled material, can also complicate spill confinement operations.

Liquid spills can be either very easy or very difficult to confine. Some liquids congeal when exposed to the air or when they are no longer subjected to heat (e.g., no. 6 fuel oil) and, therefore, will not spread very far. On the other hand, site conditions may be such that the spilled liquid seeps rapidly into the soil. Some spills, especially smaller ones, may be confined through the use of absorbents spread on or around the spill mass. Berms or dikes may be erected around the spill mass or used to divert the spill into a natural depression that is used as a catch basin. Larger spills may require the construction of pits, ponds, or trenches to capture and then hold the spilled material. To prevent spills from entering storm drains and gratings, cover them with commercially available spill mats, tarps, or thick plastic sheets. Spills that enter waterways may be

NOTES

confined through the use of booms, dams, filter fences, and/or floating absorbents.

Which particular spill confinement technique you employ is often dictated by the amount of time you have to respond to the spill situation. If you have determined that a rapid response is required, you may not have time to obtain or use any special confinement materials or equipment.

Effective confinement can sometimes be accomplished with whatever may be on hand at the spill site. For example, spreading a small quantity of soil or sand on or around the spill may be sufficient. Berms and dikes can be built from soil, sand, absorbents, asphalt, or commercial diking materials/equipment, but make sure that the diking material you're considering using is compatible with the material(s) to be confined. When appropriate, use the sorbent boom, pads, and pillows and the containment boom provided as part of your standard equipment inventory (see Part 2, Section 2, Equipment Training, Calibration, and Maintenance). It may also be possible to vacuum or pump the spill mass into a tank or container, if the appropriate equipment, as well as trained personnel, are available. Remember to properly dispose of sorbent materials and recovered product (see Part 2, Section 3, Proper Management of Spill Residuals and Debris).

If you have more time, as well as access to some heavy equipment, it may be possible to construct a large confinement structure and/or area out of earthen materials or other appropriate materials. Synthetic liners, if readily available, may be used to seal the bottom of a confinement area to prevent seepage of the collected material into the soil. Depending on the size of the spill and your success in stopping the leak, you may need to pump product out of this confinement area to prevent overflow. Properly handle and dispose of any collected product (see Part 2, Section 3, Proper Management of Spill Residuals and Debris).

Even if a spill has entered a storm drain or stream channel, there are measures you can take to mitigate any safety hazard or other adverse impact. It is possible to confine and then remove free product from a sewer or water channel, as described in Part 1, Section 6.2, Free Product in Structures, Sewers, and Underground Utility Lines and Section 6.5, Free Product on Water Surface. You can also flush the system with water to dilute the spill, but this procedure should be used as a last resort and done in accordance with state and federal laws.

Preventing the spread and migration of below-ground spills, such as those emanating from leaking underground storage tank systems, is far more difficult and requires the use of very specialized equipment. In addition, you must have considerable knowledge about conditions in the subsurface environment. Containment of an underground spill amounts to recovery of the free and/or dissolved product (see Part 1, Section 6.7, Ground-Water Remediation).

2. Leak Containment

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As noted above, containing or stopping a release can be as simple as turning a drum upright or shutting off a valve or so complex that it requires the use of special sealants, plugs, patches, and tools to cover or repair a hole or leaking seam. In either case, don't attempt to approach the spill source until you can do so safely. It may be best and/or necessary to allow other response personnel (e.g., industrial engineers, hazmat team, etc.) to assume this responsibility.

Spills from fairly small containers may be controlled by placing the leaking container inside a larger container. With this technique, called overpacking, special equipment (e.g., a drum hoist) may be necessary to place the leaking container inside the overpack container, which can hold between 10 and 85 gallons, depending on its size. Make sure the material composing the overpack container is compatible with the spilled product. Absorbent material should be poured or placed around each leaking container inside the overpack container to help absorb the spill and keep the contents of the container from shifting. It may also be possible to place a collection vessel (e.g., bucket, tub) close enough to the leak to capture the spill at the source.

Spills from a drum, tank, or other container may also be controlled by pumping the contents of the vessel below the point of the leak. Use grounding cables, explosion-proof pumps, and non-sparking equipment when pumping flammable or combustible liquids. Make sure the construction materials of the transfer hose, couplings, and receiving vessel are compatible with the product as well.

It may also be possible to plug, patch, or seal leaks. For this technique to be successful, the area of the leak usually must be fairly small and the hydraulic head fairly low. Various types of plugs, patches, and sealing compounds and materials are available for this purpose:

- Plugs - Varieties include tapered dowels or wedges, toggle bolt-type, "plumbers plugs," etc., which are pushed or screwed into place. Plugs may be made of wood, rubber, plastic, or metal.

- Rags - Can be used as plugs.

- Lead wool - Can be used as plugs.

- Air-inflated plugs - Used for plugging pipe openings (e.g., storm drain outlet pipe to stream).

- Patches - May be made of rubber, sheet metal, or plastic and must be held in place by straps, adhesive, or other means.

- Fiberglass and resin - Also may be used as "Patches."

- Sealants - Epoxies, urethanes, polysulfide rubber, putties, etc.

- Tapes - e.g., duct tape (tape should only be considered as a temporary solution).

NOTES

- Leak seal bandages - Pneumatic patches that are strapped around large containers and pressurized with air to hold them in place.

Make sure the plugs, patches, and sealing materials you select are:

- Compatible with the substance to be contained;
- Suitable for the type of opening in the container (i.e., size, shape); and
- Suitable for the amount of force that will be exerted upon them by the contents of the container.

Keep in mind that, in most cases, patching and plugging are only meant to be temporary solutions until the container can be off-loaded or overpacked.

Another containment technique, capping, involves covering a leaking valve with a suitable capping device and then securing the cap with chains, clamps, or other mechanical means. Capping devices are normally designed for specific types of containers and valve assemblies and cannot be used randomly. The most common type of capping devices available commercially are components of leak containment kits for handling chlorine leaks (i.e., Chlorine "A", "B" and "C" Kits available from the Chlorine Institute).

Leak containment is a dangerous operation, as it requires that personnel be in close proximity to a leaking container. Working near a hazardous product and near a container that has undergone stress or is still being stressed is risky. In order to be performed safely and effectively, containment operations should be performed by trained personnel who are wearing appropriate protective gear, using proper equipment, and following comprehensive safety procedures. A rescue crew should be standing by, and it also helps to have favorable weather/atmospheric conditions.

Again, remember that, in some cases, it may be best not to attempt to stop the release if the hazards (e.g., fire, heat, toxic vapors, corrosivity, increasing pressure inside container, etc.) involved in approaching and working near the container are great. For example, **plugging or patching a container containing gaseous product or a substance under high pressure is extremely dangerous and is not recommended**.

TECHNICAL

FIELD GUIDANCE

EMERGENCY RESPONSE - EMERGENCY COMMUNICATIONS

NOTES

EMERGENCY COMMUNICATIONS

GUIDANCE SUMMARY-AT-A-GLANCE

It is vital during emergency response operations to establish and maintain communications between:

-- On-scene DEC/BSPR personnel (i.e., communications among individuals),
-- On-scene DEC/BSPR personnel and other on-scene responders, and
-- On-scene DEC/BSPR personnel and off-scene agencies and organizations (e.g., DEC Headquarters, SEMO, USCG, etc.).

BSPR personnel should familiarize themselves with the operation of the communications equipment available in BSPR vehicles and understand DEC policies and procedures concerning its proper use. Your BSPR response vehicle will be equipped with one or more of the following communications systems: two-way radio, frequency scanner, and cellular telephone.

When utilizing two-way or CB radio:

-- Be serious at all times;
-- Speak in brief, concise, and clear language;
-- Use standard radio terminology such as "affirmative" for "yes," "negative" for "no," "roger" instead of "OK," etc.;
-- Do not use profanity, do not argue, and do not discuss sensitive information that could be overheard by other emergency responders or the general public (i.e., citizen with a frequency scanner).

Minimize the use of your cellular phone while driving, as this distracts your attention from the road and road conditions.

NOTES

1.6.3 Emergency Communications

It is important during emergency response operations to establish and maintain communications among on-scene BSPR personnel (i.e., communications among individuals), between on-scene BSPR personnel and other on-scene responders, and between on-scene BSPR personnel and off-scene agencies and organizations (e.g. DEC Headquarters, Department of Health, SEMO, USCG). Doing so makes it possible for numerous response agencies/organizations to coordinate their response actions and to keep abreast of response strategy, changing conditions, response progress, and the like. BSPR personnel must be familiar with the proper operation of their communications equipment (available in BSPR vehicles) and with DEC policies and procedures concerning proper use of such equipment.

1. Communications Systems and Procedures

Depending upon the DEC Regional Office to which you are assigned, your BSPR response vehicle will be equipped with one or more of the following communication systems:

- Two-way radio: For field communications (away from vehicle) with other responding DEC personnel.

- Frequency scanner: For following response of other agencies by monitoring their two-way broadcasts and receiving continuous weather reports.

- Cellular telephone: For communicating with spiller, other agencies, contractors, other DEC staff, etc.

The proper use of each of the above communications systems is discussed below.

a. Two-Way Radios

BSPR hand-held and mobile radios are used for "person-to-person" communication in the field. These radios are programmable 80-channel transceivers that operate on High-Band VHF frequencies. The units are programmed for DEC/OSP, DEC/Lands and Forests, DEC/ECO frequencies, and may carry local VHF frequencies such as fire department dispatcher frequencies, USCG frequencies, etc. Each radio should come with a complete list of frequencies (which may be stored in the back of the hand-held radio's leather carrying case). Use the ECO frequencies only during emergencies, not for routine communications. Use of repeaters may be required depending upon your location and the location of you are trying to reach.

Protocol for Using Frequencies: The following techniques are to be used when communicating over the Oil Spills Program (OSP) and Environmental Conservation Officer (ECO) frequencies:

NOTES

OSP -- To call to another unit, use the other unit's identifier first, followed by "from," then your identifier. For example:

"2903 from 291" (The Regional Spill Engineer is calling a staff member.)

The unit receiving the call then would respond by stating his/her identifier in reply ("2903") and the "caller" would initiate the conversation. For example,

"John, what's your location?"

"I'm parked underneath the Brooklyn Bridge, on the Brooklyn side."

"Have you found any sheen in the river?"

"Yes. It's very slight, traveling along the shoreline."

"Roger. Is cleanup possible?"

"Negative. We should just allow it to dissipate."

"Roger. Proceed further south along the shoreline, and report to me if you find any recoverable accumulation of product."

"Roger".

Each unit would then end their transmissions by each stating their identifier and "clear". Thus: "293 clear" - "2903 clear".

ECO -- The procedure for communicating over the ECO frequencies is similar to that for communicating over the OSP frequency, with one difference: when calling on the ECO frequencies, you must use your identifier first, then the identifier of the person you are calling ("291 to 2903").

When communicating over either frequency, observe the following rules:

- Be Brief - If your message is too long, phone it in landline.
- Be Concise - Don't ramble on or pause unnecessarily.
- Be Clear - Use "negative" instead of "no", "affirmative" instead of "yes", "Roger" instead of "OK", "read" for "hear", etc.
- Be Level-headed - Do not engage in arguments or use profanity. Refrain from making jokes or discussing sensitive information that

NOTES

could be overheard by other emergency responders or the general public (i.e., citizen with scanner).

No "10" codes are utilized on these frequencies. Press your transmission button, wait two seconds, then talk. After you complete your message, leave the button depressed for one second, so that you don't cut your message off. When other units are communicating on the frequency, wait until both units have "cleared" themselves from the frequency before you initiate your message.

b. Frequency Scanner

The frequency scanner is provided for monitoring access to other agencies' frequencies, so that you can track their progress during an incident. We can obtain information immediately, as opposed to waiting for it to filter back to us, possibly hours later. You may be able to monitor NOAA's weather station frequency to obtain comprehensive weather, tide, and sea condition reports. During serious environmental events, you may be able to monitor the frequencies of local agencies for status reports. In short, this scanner can provide us with information that normally would take much time and effort to obtain, if we could get it at all.

c. Cellular Telephone

Although few BSPR vehicles are equipped with cellular telephones, these phones are often very useful during spill incidents. Cellular phones are fairly simple to operate. Simply pick up the receiver, dial the phone number, then by press the SEND button. At the end of the call, press the END button to terminate, or "hang up". Additional operating instructions can be found in the manual that accompanies these units (should be in the glove compartment).

These units can normally be programmed to dial up to 100 different phone numbers. Once programmed, all you need to do to dial a frequently used number is press RECALL, then the two-digit code for the specified phone number, then SEND.

A word of caution: Minimize phone dialing while driving. This distraction could lead to an accident. Pull over and dial; it's safer and easier. Also, make use of the "hands-free" (conference call) feature if you must talk while driving.

2. Phone Directory

It is often necessary to contact other agencies, organizations, and spill contractors from the incident scene. Many of these contacts may have to be reached by phone as radio contact is difficult or impossible. A telephone credit

NOTES

card has been made available to you. A telephone directory that includes most of the phone numbers you will need has been included at the end of this subsection (Exhibit 1.3-7). The directory is organized under the following headings:

- State Government Offices
- Local/Regional Government Offices
- Federal Government Offices
- Government Offices - Other
- Clean-up Contractors
- Miscellaneous Contractors
- Marine Transporters
- Transportation Agencies
- Airports, Bridges, and Tunnels
- Landfills
- Utilities
- Professional Organizations
- Gasoline Company Contacts
- Chemical Manufacturers
- Miscellaneous.

BSPR personnel are encouraged to modify this directory to suit their needs. Remember that there's a list of key emergency response agencies and organizations provided in Exhibit 1.3-2, Section 1.3.1. Keep in mind that phone directories must be updated periodically as part of the planning/preparedness process.

Exhibit 1.3-7

Telephone Directory

The Phone Directory that was originally part of the Spill Guidance Manual is out of Date Please refer to links below for current phone numbers.

Department of Environmental Conservation Directory Phone Numbers

Important Spill Response and Remediation Phone Numbers

Response and Containment Contractor Phone Numbers

Investigation and Remediation Contractor Phone Numbers

Laboratory Contractor Phone Numbers