



**Federal Emergency
Management Agency**

**PLANNING GUIDE AND CHECKLIST
for
HAZARDOUS MATERIALS
CONTINGENCY PLANS**

PLANNING GUIDE AND CHECKLIST

FOR

HAZARDOUS MATERIALS

CONTINGENCY PLANS

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DISCLAIMER

This report has been reviewed by the Federal Emergency Management Agency and the U.S. Environmental Protection Agency and approved for publication. Approval does not signify that the contents necessarily reflect the views and policies of these Agencies nor does any mention of trade names or commercial products constitute endorsement or recommendation for use.

FOREWORD

This Planning Guide is designed to assist State and local officials develop a plan to respond to hazardous chemical spills--from the smallest to the most complex. It is the product of the thinking, suggestions, questions, and comments of over 300 people in State and local government, Federal agencies, and trade, professional, labor service, and environmental organizations.

I have reviewed the document and found it to be a very comprehensive guide to hazardous materials emergency planning. It not only identifies the positive steps to be taken in the actual planning process but also points out the common pitfalls to be avoided.

I personally feel the heads of all emergency service organizations will want to review this Guide and mutually develop a plan to respond to the threat of hazardous material incidents common to their communities.

A handwritten signature in black ink, appearing to read "J. J. Gifford". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

Director
Federal Emergency Management Agency

A WORD OR TWO OF EXPLANATION ...

This document is probably like no other you have ever read before.

The style is informal, even casual at points, with teasers and questionnaires--complete with slightly sarcastic answers--sprinkled throughout. The idea behind this is to keep the reader interested, rather than burdening him with a more formal approach. Not that we don't like formal reports; they have their place. But we want to reach as many readers as possible with this planning guide, and we know some people just won't stay with it if there's too much formality.

Those readers are supposed to be people in state or local government agencies who need to plan for responding to hazardous chemical spills. We hope they are, because we cover all kinds of plans, from the simplest to the most complex, so this guide should be useful to a lot of those people. And we hope you are one of them.

We based this guide on what works. To find out what that is, we got current plans, comments, suggestions, and an occasional bit of flack from over 300 people in state and local government, federal agencies, and trade, professional, labor, service, and environmental organizations. Then we had 50 more review the first draft, and some people use it to make plans. What you're reading is the result.

We think this will work for you. If it doesn't, let us know why. Or even if it does, but you have some ideas for improving on it, we'd like to know that, too. Write to:

Federal Emergency Management Agency
1725 I Street, N. W.
Washington, D.C. 20472

This guide will be followed by a training course on contingency planning, available through both the U.S. EPA and FEMA. Detailed announcements of the availability of such a course should be appearing shortly.

HEY!! ... WHO NEEDS IT?

YOU DO!

WHAT GOOD IS IT?

WELL, LET ME TELL YOU...

- MR. GOVERNOR --
- MR. MAYOR --
- MR. AGENCY DIRECTOR --

This guide, put in the hands of the right people, will assure that proper planning for hazardous materials emergencies has been carried out for the region under your jurisdiction. It will even tell you how to select those "right people," and what to expect from them.

- MR. PLANNER --

This guide gives you everything you need to get over the planning hurdle. Not just what ought to be in your plan, but how to go about the actual planning process, the common pitfalls of planning, and what type of plan you really ought to be working on.

- MR. MAN WITH A PLAN --

This guide will provide you the basis for deciding if what you have is really any good, and even if it is, how to make it better.

WHAT MORE COULD YOU ASK FOR?

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1.0 PRELIMINARIES

1.1 PURPOSE OF THIS GUIDE

THIS GUIDE WILL HELP YOU PREPARE A PLAN TO RESPOND PROPERLY TO SPILLS OF DANGEROUS SUBSTANCES. There are an increasingly large number of chemicals, oils, radioactive materials, and other hazardous substances spilled as the result of highway, rail, and waterway accidents, storage tank leakage, pipeline break, or other "unscheduled events." On occasion, these events reach major (disaster) proportions: huge explosions (BLEVEs*) as tank cars of liquid petroleum gas rupture, clouds of chlorine gas force evacuation of homes, and miles of beach are mired in oil. While these occasions are rare, they do occur; it's wise to know how to cope. Better safe than sorry.

While major spills are rare, spills in general are not, and in some areas there are daily occurrences in which tanks, drums, bags, bottles, pails, boxes, puddles, streams, piles, and clouds of materials of varying degrees of hazard are encountered dispersed in a manner that no one ever intended. These messes can be further complicated by such factors as terrain, population, location, weather, and human elements.

THIS GUIDE WILL:

- Allow you to decide whether you need a contingency (preparedness) plan to deal with spills
- Help you select the type of plan you want
- Work out procedures for preparing a plan consistent with your capabilities
- Help you select what should be in your plan
- Provide a method for rating your plan when finished

THIS GUIDE WILL NOT (REPEAT, "NOT"):

- Give you a "fill-in-the-blanks" model plan
- Provide all details of response techniques (it will show you where they are, how to get them, and how to assure their proper use, however)

* Boiling-Liquid Expanding-Vapor Explosion.

- Train personnel to respond to spills (it will make suggestions on training, however)

YOUR FINISHED PLAN, BY ITSELF, DOES NOT
ASSURE YOU THAT YOU CAN COPE WITH SPILLS.

People cope with spills, using techniques and equipment that are suitable for the job. Planning is only one step in the process; it defines what should be done, but it does not assure that it will be done.

When your plan is finished, it can become functional only if there exists a lead agency, a group, a section, or an individual whose job it is to apply the plan and see to it that:

Personnel are available

Personnel are trained

Everyone knows their role

Equipment is available

Equipment is maintained

Coordination/mutual aid truly exists

New developments/equipment are added

New hazards are identified

Phone numbers, etc., are kept up to date

Exercises are conducted

USEFUL RESPONSE ACTUALLY TAKES PLACE!

If you are thinking of making a plan "so we can have it in our files in case we need it," STOP NOW! You are wasting valuable time that you can spend doing something else.

1.2 SOME NOTES ON SEMANTICS

In State, County, and Local Governments throughout this nation, there are almost as many different names of agencies as there are political entities, and the division of responsibilities among those agencies that have identical names will vary from entity to entity. For simplicity, we are using the following throughout this guide:

Environmental Protection Agency -- that agency that has the assignment of control of environmental conditions and/or protection of the environment from pollution. It might be called, among others:

Department of Environmental Resources

Department of Fish & Game

Department of Water Resources

Air Pollution Control District

AND MANY MORE.

(Note: The Federal Agency is specifically identified as the U.S. EPA.)

Civil Defense -- that group which has the responsibility for minimizing the effects of attack or disaster upon the civilian population. Activities may include pre-disaster readiness (mitigation, preparedness), and activities during and after disaster (response, recovery). It might be called:

Office of Emergency Services

Civil Preparedness Office

State Emergency Office

(Note: The Federal Agency is specifically identified as the DCPA or FEMA (Defense Civil Preparedness Agency or Federal Emergency Management Agency). The former is found in documents and references prior to the 1979 reorganization in the Federal Government. The responsibilities and capability of DCPA are now found in and augmented by FEMA.)

Department of Transportation -- that agency or agencies that has jurisdiction over problems on highways, railroads, and waterways. It might be called:

Highway Commission

Railway Commission

Port Authority

Public Works

(Note: The Federal Agency is specifically identified as the U.S. DOT.)

Finally, you need to understand that there are many terms used interchangeably with the one we prefer: Hazardous Materials. These are substances which, if released in an uncontrolled manner (i.e., spilled), can be harmful to people, animals, property, and/or the environment. Other terms used are:

Hazmat

Hazardous Substances

Toxic Substances

Dangerous Substances

Special Materials

Hazardous Chemicals

Etc.

Sometimes, particular classes of hazardous materials are mentioned:

Etiological (disease-carrying) agents

Radiological (nuclear) materials

Corrosives

Flammables

Carcinogens

Poisons

Oil spills

Etc.

1.3 HOW TO USE THIS GUIDE

1.3.1 Decision Points

In order to allow the user of this guide to apply it in the most appropriate fashion for his particular planning requirement, a number of DECISION POINTS have been included in the body of this guide. DECISION POINTS allow the user to decide what parts of this guide he needs or wants to use, as well as clarify and organize his own assignment, goals, and objectives within the planning framework.

DECISION POINTS are found at the end of each of the next four major sections of this guide:

- AWARENESS, p. 2-19
- PLANNING PROCESS, p. 3-25
- PLAN DEVELOPMENT & CONTENT, p.4-33
- PLAN APPRAISAL, p. 5-12

The following approach is recommended for getting the most benefit from the DECISION POINTS.

IF THIS IS YOUR FIRST PLAN, OR IF YOU WANT TO DO A COMPLETELY NEW PLAN, read the text that precedes DECISION POINTS first, then go through the decision process to test yourself on what you have learned and what you want to do next.

IF YOU ARE ALREADY EXPERIENCED IN PLANNING, REVISING, OR ARE ASSESSING AN EXISTING PLAN:

Go through the DECISION POINTS first, using them to locate those parts of the text that you may want to use to refresh yourself or to establish criteria for reworking your present plan.

1.3.2 Parts of the Guide

This guide is divided into five parts:

1.0 PRELIMINARIES (which you are reading now)

2.0 AWARENESS

3.0 THE PLANNING PROCESS

4.0 PLAN DEVELOPMENT/CONTENT

5.0 PLAN APPRAISAL & CONTINUING PLANNING

You may need all of them, or none of them, depending on who you are, what organization you represent, and whether your situation calls for a contingency plan or not. This guide will allow you to decide whether you should be developing a plan or not, how to go about it, what to put in, and whether it is really what you want when you're done with it.

1.3.2.1 Awareness, p. 2-1

This section is designed to help you answer first the question:

DO I NEED A CONTINGENCY PLAN OR NOT?

If you know the answer, for sure, you may want to skip this section and go on to the next. If, however, there is some degree of uncertainty in your answer (yes, but...), or if you are about to embark on your first contingency plan, then you will want to read through this section just to assure yourself of your orientation in your planning mission. Start at the beginning, and make sure you know: WHO SHOULD BE PLANNING? (pp. 2-2 to 2-4), WHY PLAN? (pp. 2-5 to 2-6).

If you are absolutely sure that you need a plan, and it's your job to get it underway, then this section will help you answer a second question:

AM I READY TO START PLANNING?

Again, if you're sure you're ready, go on to the next section. But if you have to analyze your answer ("I think so..."), you may want to at least review parts of the AWARENESS section as follows:

APPROACHES TO PLANNING (pp. 2-7 to 2-10)

WHAT KIND OF PLAN? (pp. 2-11 to 2-16)

HAZARDS ANALYSIS, DISASTERS (pp. 2-17 and 2-18)

1.3.2.2 Planning Process

This section is designed to answer the question:

HOW DO I GO ABOUT PREPARING THE PLAN?

The answer to this question again assumes that the people involved are new to the concept of the contingency plan, and that their usual duties in their organizations are other than the preparation of contingency plans. On the other hand, professional planners may well want to skip this section of the guide, and apply their own planning techniques and approaches, based on their own particular systems and prior successful efforts.

Between these extremes, there will be people with varying levels of skill and experience in planning, and the general typical areas from which they may select are as follows:

- THE PLANNER(S): WHO, AND HOW TO SELECT THEM (pp. 3-1 to 3-8)
- DUTIES AND RESPONSIBILITIES OF PLANNERS (pp. 3-8 to 3-17)
- EXISTING PLANS: INTERFACES, COORDINATING AND USE (pp. 3-17 to 3-21)
- WRITING AND SCHEDULING (pp. 3-21 to 3-22)
- PROBLEM AREAS AND SUGGESTED APPROACHES (pp. 3-22 to 3-24)

1.3.2.3 Plan Development and Content

This section of the guide is designed to answer a series of questions:

WHAT TYPE OF PLAN DO I WANT? (pp. 4-1 to 4-2)

This question will have been given a general answer earlier; the decision will now be confirmed.

WHAT SECTIONS WILL THE PLAN CONTAIN? (pp. 4-2 to 4-7)

Contingency plans may be broken down into a series of plan sections. You will be able to outline a plan based on recommended sections along with optional

sections to fit your own particular needs and circumstances.

WHAT WILL BE DETAILED IN EACH SECTION? (pp. 4-7 to 4-33)

Within each section, a plan must present certain useful information, establish a mechanism for contacts with other people/plans, describe or assign an action or response, or otherwise tell what should be done. Depending upon whether the plan is prepared for local, regional, or state-level action, whether it is playing an administrative or coordinative role, or whether it is describing the response role of an action agency, the content of each section will vary. Where appropriate, suggested cutoff levels are given, as follows:

- MINIMUM PLAN CONTENT
- MAJOR PLAN
- COMPREHENSIVE PLAN

Criteria for using the cutoff levels are provided within the Checklist (p. C-1).

1.3.2.4 Plan Appraisal and Continuing Planning

After a plan is in hand and complete, the question to be asked is:

IS THE PLAN ANY GOOD? (pp. 5-1 to 5-4)

This can be asked of a plan that has just been written, or a plan that has been around for years (i.e., "IS MY PRESENT PLAN SATISFACTORY?"). A checklist is provided for this purpose, but a checklist is a very elementary diagnostic tool only. The real answer to the first question invariably is:

HOW DO I UPDATE, CORRECT, OR IMPROVE THE PLAN? (pp. 5-4 to 5-9)

Planning should never stop. Each experience with a plan, real or simulated, will generate items that should be reviewed, discussed, and perhaps result in plan additions, amendments, or changes. Mechanisms are suggested for critical review and continuing planning to keep plans useful and updated.

HOW ABOUT EXERCISES AND TRAINING? (pp. 5-9 to 5-12)

Unless you are frequently responding to actual spills, the only way to keep response skills sharp and get the bugs out of a plan is through exercises and training courses. Techniques for getting the most out of exercises are given, and some top-notch training courses are listed.

The most frequent cause of mismanagement of incidents is insufficient training. Don't get caught in the trap of having a plan, but not really knowing what to do with it.

1.4 YOUR GOVERNMENT: A NOTE ON SOURCES OF INFORMATION

As you progress in this guide, and later as you progress in your planning project, you are going to need information about your local government, county,

state government, federal government, industry, volunteer organizations, volunteer fire departments, and so on.

THE PLANNER'S BEST FRIEND IS HIS TELEPHONE BOOK.

A few minutes spent looking at and browsing through the "State of...", "County of...", "City of...", and "U.S. Government" listings will quickly provide you with places to begin your inquiries and requests. Furthermore, the Federal Government and most states maintain Information Centers or Assistance Centers whose numbers are in bold-face type in your phone book. With these, you can generally find the help you want, even if you aren't sure exactly whose jurisdiction it falls under.

START AT THE TOP, IF YOU HAVE TO.

If you're having trouble orienting yourself with respect to state or interstate problems, and don't know where to turn, you can go to the Federal Regional level. No matter where you are in the United States, and its possessions, you are in

One of 10 U.S. EPA Regions

One of 10 FEMA Regions

One of 12 U.S. Coast Guard (U.S. DOT) Districts.

There are people at this level of the Federal Government who are well acquainted with the problems of spills and disasters, and they are eager to inform you of their role, as well as being acquainted with the state and interstate agencies within their districts/regions so that they can direct you to the appropriate person for further information.

ASK!

Don't be afraid to use that telephone. The people you need to talk to are in agencies or branches/departments/divisions of agencies whose primary mission is assistance, not regulation. Your contact with them is an opportunity for them to see that their job gets done. They want to help.

KEEP RECORDS OF YOUR TELEPHONE CALLS, AND THE INFORMATION THAT THEY PROVIDE. Do this from the very first call you make. We suggest a simple format:

Name: Agency/Organization:

Date:

Telephone No:

Contact Summary:

The summary should contain notes on what you asked for, what's to be sent to you, and when to expect it, references of whom else to contact, and any other pertinent information.

2.0 AWARENESS

Before you can get down to the nuts and bolts of an assembled plan, you need a set of wrenches -- the appropriate planning tools. And before those tools are used, you either have to train yourself or you have to select the proper mechanic (planner) to wield them. AND -- even before that -- you have to make sure that the finished product is going to be something that you want, and need, and really should have. AWARENESS is where this all starts, and this section of the guide will allow you to decide whether you need a plan, and whether you're ready to start work on it. This is essentially an orientation section, and arrives at the answers you need by quickly (not comprehensively) exploring a number of areas:

- Who should be planning?
- Why plan?
- Approaches to planning
- What kind of plan?
- Hazards analyses
- Disaster planning

2.1 WHO SHOULD BE PLANNING?

PEOPLE

- . Directors
- . Agency Heads
- . Branch Heads
- . Section Leaders
- . City Managers
- . Supervisors
- . Chiefs
 - Fire
 - Police
- . Lieutenants
- . Sergeants
- . Councilpersons
- . Mayors
- . Coordinators

People need plans. Individuals who are in positions of response and responsibility at any level in any organization and who may become involved in an environmental emergency -- a spill or release of a hazardous material -- should be prepared to act in the most appropriate fashion. Advance planning is the first step, and the key to a rapid response that may save lives, property damage, and both public and private funds. When it finally comes down to it, people take action in emergencies. Plans make the difference between rational action and haphazard reactions.

AND

- . Their delegated planners and representatives:
 - . Your boss?
 - . Your co-worker?
 - . YOU?

AGENCIES

- . Federal
- . State
- . County/Parish
- . Local
- . Municipal
- . Volunteer

- . Administration
- . Environmental Protection
- . Military/National Guard
- . Natural Resources
- . Fire Department
- . Police Department
- . Fish & Game
- . Highways/Transportation
- . Flood Control
- . Harbor Commission/
Port Authority
- . Public Health
- . Rescue Squad
- . Civil Defense
- . Conservation
- . Forestry
- . Water Resources
- . Public Safety
- . Public Works

Agencies are those identifiable organizations within the government structure -- regardless of the government level -- that have the legal responsibility, the jurisdictional authority, the charter, or in some manner have been identified as having a role of coordination and/or response in an environmental crisis. That agency needs to define its response in a contingency plan. Agencies are groups of people, and the key to a good plan is assuring that each person knows his role and what to expect of other people with whom he must interact. This advance knowledge requires a plan, and familiarization with that plan by everyone who must act under it.

An agency may have been defined as the Lead Agency, that agency which is in charge when responses take place under a comprehensive plan for a region or a political subdivision.

YOUR AGENCY?

YOUR DEPARTMENT?

YOU?

AREAS

- . States
- . Counties
- . Parishes
- . Townships
- . Towns
- . Cities
- . Communities
- . Municipalities
- . Boroughs
- . Regions
 - Intrastate
 - Interstate
- . Districts

YOUR HOME TOWN?

- . Industrial Complexes
- . River Valleys
- . Coastal Zones
- . Population Centers
- . Rural Areas
- . Ports
- . Transportation Routes

Areas may be government entities, with boundaries defined by law, or they may be geographical, with boundaries determined by natural features. The authority to do something in an area will generally be a government function. However, the area that needs something may well cross several different political borders.

The hazardous chemical spills result from industrialization. However, this does not exempt rural areas from the potential for disaster, since most spills are transportation-related, and the highway-rail-pipeline-waterway-air network exposes the entire country to some degree of risk. Indeed, because they may be less well-equipped than large cities, small towns/rural areas need planning more than anyone else, since they may have to go far afield to marshal the forces for response.

YOUR BACK YARD?

2.2 WHY PLAN?

HAZARDS

- . Oil
- . Radiological Material
- . Chemicals
 - Flammable Corrosive
 - Toxic Oxidizing
 - Explosive
- . Etiological Agent
- . Manufacturing
- . Use
- . Storage
- . Terminals
- . Transportation
 - Highway Air
 - Rail Barge
 - Pipeline Ship
 - Tanker
- . Disposal
- . Spill
- . Leak
- . Seepage
- . Contamination
- . Vapor Cloud
- . Fire/Smoke
- . Pollution (air/water)
- . Earthquake
- . Flood
- . Windstorm
- . Snow/Ice/Hail Storm
- . Hurricane/Tornado
- . Fire
- . Technological Disaster

Hazards exist, and it is up to persons in positions of authority to protect the health, lives, well-being, and property of the general populace. Hazardous spills can range from a one-pint chemical container ruptured on the highway to a technological disaster such as a BLEVE* during a railroad tank car derailment or a major oil tanker incident leaving hundreds of miles of coastline mired under crude petroleum. Small spills can be multiplied by the hundreds, and complicated by being part of the cleanup problem associated with a flood or other natural disaster.

In today's society, the need for planned responses is acute. Elected, appointed, and staff members of our representative form of government represent the people, and good planning on their part is in the people's best interest. Self-preservation may still be instinctive, but pure reflexive responses no longer apply to many complex modern situations. A new form of self-preservation, based on planning and learning, has to be developed.

* Boiling Liquid - Expanding Vapor Explosion.

THE LAW

- . Federal Law

Clean Water Act (Section
311 of 33 USC* 1251)

- . State Laws

- . County & Municipal
Codes

- . Local Ordinances

- . Directives

- . National Contingency
Plan (40CFR** 1510)

- . Disaster Relief Act
(Section 201 of
Public Law 93-288)

Legal requirements for planning may indeed exist at all levels of government, but never assume that some higher authority is looking out for your interests or has the power to respond to your local problems. In general, laws at all levels make the spiller legally liable for cleanup, but can you tell that to an injured truck driver? Or use it to make an oil slick go back to sea? Someone has to take command, assure that things get done, and if necessary, make the spiller discharge his responsibilities (particularly his financial ones) after the fact.

The closer you can get to the immediate problem of a spill, the faster it can be taken care of, and sometimes "nipped in the bud" before it escalates into a major disaster. Thus, Federal Law invites state and local participation, and many state laws mandate local planning and participation. If nothing else, municipal authorities should know how to activate higher level plans that can help them.

* U.S. Code.

** Code of Federal Regulations.

2.3 WHAT ARE THE APPROACHES TO PLANNING?

THE INDIVIDUAL

- . City Manager
- . Agency Head
- . Appointed Planner
- . Staff Planner
- . YOU?

When an individual is solely responsible for planning, the range of plan output will be limited by the individual planner's knowledge of planning principles and comprehension of inter-agency coordinating activities. However, plans that are relatively narrow in scope, such as telephone rosters, action guides/checklists, and resources lists can easily be completed by a qualified individual. More comprehensive planning will require the labors of an extremely well-informed governmental official or someone who has been assigned the job full time and can really work at it. Plans made by individuals don't require coordination meetings, and are generally self-consistent. On the other hand, they may take longer to produce, and things can get overlooked.

THE GROUP

- . Interagency Task Force
- . Designated Planning Group
- . Planning Committee
- . Coordinating Council

The planning group or committee is the traditional vehicle from which comprehensive coordinating plans and emergency response plans are developed. The planning group reflects the expertise of a variety of sources, thus ensuring the production of an accurate and complete document, if the group functions smoothly.

However, a series of meetings is a "must," and a strong group leader or committee chairman will have to make sure that things get done, that the final plan is self-consistent. An editor (who can be the group leader) will have to make sure that grammar, style, and content of everything fits together at the end.

THE CONSULTANT

- . Environmental Consulting Firm
- . Job Shopper
- . Planning Expert
- . Limited-Term Employee

A consultant may be contracted to prepare all or part of a plan. The use of a consultant is most advantageous when specialized skills are required, qualified planners cannot be identified, or tough deadlines must be met.

Consulting rates will undoubtedly be higher than regular employee salary rates, but if the consultant is appropriately selected, the investment can be cost-effective.

Make sure you get a plan that's been prepared for your specific situation, not someone else's plan with a new label on it.

STATE/FEDERAL ASSISTANCE

- . Planning Guidelines
 - . Planning Funds
 - . Model Plans
 - . Legislative Incentives
- Federal and State authorities do not usually make plans for political entities within their jurisdiction, but they do provide planning aids and incentives. These assistances are realized in the form of funding for plan preparation, the issuing of regulatory incentives, and the publication of planning guidelines and model formats.

Find out what's available in your area.

2.4 WHAT KIND OF PLAN?

TELEPHONE ROSTERS

- . Telephone Lists
 - . Alternate Phone Numbers
 - . Night Numbers
 - . 24-Hour Numbers
 - . Alternate Communications
 - . Radio Networks:
 - Police
 - Fire
 - Amateur
 - CB
 - . Radio, TV Stations
 - . Relays
 - . Addresses
- Telephone Rosters are the simplest type of plans, and it is possible that you may need only one number, if you are in an area that is served by a comprehensive state or federal system. You may need a series of numbers if the state and local mechanisms to cope with problems are in place, and all you have to know is who to call to take care of particular problems. Under disaster conditions, telephones may be inoperative, so even these simplest of plans should have alternate communications to back them up.
- If you elect to go with this simplest of plans, you also might want to back it up with a Resource & Equipment list, so you'll know what's available, as well as who to call (see p. 2-13).

The Telephone Roster approach is analogous to having the doctor, ambulance, fire, and police numbers handy to your home phone.

KEEP IT UP TO DATE!

ACTION GUIDES/CHECKLISTS

- . First on the Scene
 - . Who to Call
 - . Information to Provide
 - . Basic Actions
 - Save Life/Property
 - Fire Extinguishment
 - Shut Off
 - Identify
 - Contain
 - Prevent Access
- Action Guides and Checklists are generally short (one/two-page) sheets or cards, preferably of an easily carried size (pocket-billfold-glove compartment) for use by people who are most likely to be the first to run into a spill. They are generally a subsidiary of some more comprehensive plan, and are designed to assure that a few basic things always get done. They should never be relied on as the sole response. They should serve only as reminders to persons who have had more comprehensive training, or as a method for activating a more comprehensive response. However, they may be all that local people need, IF (and only if) they are covered by an active state or federal plan.

The Action Guide/Checklist is similar to those handy home booklets, "What To Do 'Til The Doctor Comes."

KEEP IT UP TO DATE!

RESOURCE/EQUIPMENT LISTS

- . Fire Response Equipment and Units
- . Earth-Moving Equipment
- . Trucks, Sweepers
- . Sand/Gravel
- . Booms and Skimmers
- . Disposal Capabilities/Sites
- . Civil Defense Supplies
- . Cleanup Contractors
- . Personnel
- . Police Units
- . Hospitals/Doctors/Nurses
- . Technical Experts

Resource and Equipment Lists are of several types. Those maintained by action response people so they know what they have available, within their own organization (e.g, fire departments, public works departments, transportation/roads, etc.). These may be assembled into an over-all community or other regional lists by coordinating response personnel. The industrial community can provide a wide range of equipment, sometimes on a volunteer, sometimes on a direct-hire basis. There are also an increasing number of cleanup contractors whose business is responding to spills. Even when a community is covered by an active state or regional plan, it should know its local capabilities, so the information can be made available to whomever takes charge in a spill or disaster.

People are also resources. They can provide pure brainwork (technical experts from local chemical companies, university professors), or pure dogwork (volunteers on a sandbag detail). Know how to find them and how to muster and stage them.

The resource/equipment list is like a drug and medical equipment catalog, and it presupposes skilled personnel who know what to do with the resources.

KEEP IT UP TO DATE!

RESPONSE PLANS

- . Contingency Plan
 - . Notification/Action
 - . Response Organization
 - . Response Procedures
 - . Field Techniques
 - . Telephone Roster
 - . Update/Audit
 - . Exercises/Training
 - . Containment/Disposal Resources
 - . Maps/Technical Library
 - . Vulnerable Areas
 - . Hazards Analysis
- A Response Plan tells how to handle an emergency spill situation. Its emphasis will derive from who pre-pares and uses it. An action or designated response agency such as fire department, Environmental Protection Agency, or Department of Transportation may include detailed specific field techniques. A community plan may, on the other hand, define the responsibilities and capabilities of various community action agencies, and how to activate them.
- There will also be some elements of the COORDINATION PLAN (see next page) in any Response Plan that is prepared at the state and municipal level. (Pure Response and Pure Coordination plans are rare.) If a plan contains at least one telephone number that activates or connects to a functional organization that can take care of the problem, it may be a RESPONSE PLAN, regardless of what else it contains.

The Response Plan is like a doctor's office manual or a hospital procedure book. It gets down to the realities of what people are actually going to do to take care of the mess.

KEEP IT UP TO DATE!

COORDINATION PLANS

- . Legal Backing
 - . Administrative Procedure
 - . Responsibilities
 - . Coordination
 - . Charts
 - . Annexes
 - . Agencies
 - . Disaster
 - . Classifications
- A Coordination Plan is generally aimed at carefully defining the responsibilities of various agencies, groups, or individuals under various emergency response conditions. State disaster plans prepared by Civil Defense organizations are often primarily coordination plans and many of them cover hazardous materials spills -- technological disasters -- as part of a matrix of who does what during different kinds of disasters. As mentioned on the prior page, there are generally some elements of RESPONSE found in coordination plans. Use the "telephone number" rule of thumb to decide which is which.

Do not fall into the trap of assuming that all agencies have accepted and can discharge the responsibilities outlined in a coordination plan. Implementation can lag behind, depending on budgets, personnel, and timing.

The Coordination Plan is like a theoretical medical textbook: It contains a lot of useful knowledge, but may require some supplemental laboratory workbook or training to put it into actual practice.

KEEP IT UP TO DATE!

AD HOC PLANS

- . Informal
- . "Let Joe Do It"
- . Second Level
- . Volunteer
- . Established
- . Memoranda
- . Manual

The Ad Hoc Plan is generally highly functional, and grew to fill a need to respond to a problem. Trying to make an immediate conversion to a formal plan may be difficult, or even a mistake. People tend to become highly proprietary about their areas of work, particularly with increased years on the job.

Although we may not like to admit it, governments communicate and function at a lot of different levels, and Ad Hoc plans are generally based on second-level, informal lines of contact. If you have a functional AD HOC plan, you might want to let it alone, but you always run the risk of losing the capability. If "Old Joe," who has taken care of things for years, retires, his knowledge goes with him. And there are other problems, like who has the legal duty to respond, and if there are liabilities and expenses, who pays?

Joe might be the guy you need to head up a new planning group and response team (with some appropriate recognition for his efforts). If not, maybe you can get him to begin to document his work as a series of memoranda or by writing a training manual for others in the department.

Home remedies and midwifery still flourish in some parts of the country. If they can get the job done, fine. However, there may be a better way.

KEEP IT UP TO DATE!

2.5 HAZARDS ANALYSIS

- . Rail Lines
- . Highways
- . Intersections
- . Chemical Production
- . Chemical Use
 - Paints/Solvents
 - Plastics
 - Cleaners/Caustics
 - Plating
 - Compressed Gas
- . Pipelines
- . Gasoline
 - Service Stations
 - Tanker Trucks
- . River/Canal Traffic
 - Barge/Ship
- . Airport
- . Agriculture
 - Ammonia
 - Pesticides
- . Waste Disposal
- . Oil
 - Wells
 - Storage
 - Refineries
 - Terminals
- . Vulnerable Areas
- . Environmentally Sensitive Areas
- . Pollution Sources

PLANNING STARTS with knowing what your problem is. The specific chemical HAZARDS in your area are a complex formation of the oil, refined products, and chemicals that are entering, made, used, and leaving your community. Second, the routes and locations are of great concern, primarily with respect to endangering homes and business centers. Then, the probability of an incident -- a spill -- needs to be determined. Forget about lightning -- spills often do strike in the same place, or at least close to each other, in highly industrialized areas with heavy truck and rail traffic.

Finally, make sure you know where your most vulnerable (water supplies/intakes, for example) and what your most sensitive areas are (public schools and parks?). If you have conducted a hazard/vulnerability analysis, use it to begin planning. If not, be sure it's the first thing you do in getting your plan under way.

2.6 DISASTERS

- . Fire
- . Flood
- . Windstorm
- . Snow/Ice/Hail
- . Earthquakes
- . Avalanche
- . Volcano
- . Tidal Wave
- . Technological Event
 - Explosion
 - BLEVE
 - Oil Tanker
 - Chemical Dispersions
- . Civil Defense
- . Interfaces
- . Mutual Aid
- . State Disaster Plans
- . National Plan
- . U.S. EPA*
- . U.S. DOT** (Coast Guard)
- . FEMA***

Chemical spills reach DISASTER proportions in two ways. First, they may be of such magnitude (the technological event) that they constitute disasters in themselves. Second, they may be complicating factors in a natural disaster. A flood, in its wake, may leave hundreds and hundreds of chemical containers corroding in the mud, their labels obliterated. The capabilities of local and municipal authorities are invariably insufficient to cope with disasters in themselves, but capabilities exist at the state and federal levels to meet these needs. Local plans need to be able to establish interfaces with other local plans (mutual aid) and with all the higher level plans. Communication routes, under all conditions, need to be clearly defined.

* Environmental Protection Agency

** Department of Transportation

*** Federal Emergency Management Agency

2.7 DECISION POINT NUMBER 1

2.7.1 Do I Need a Contingency Plan or Not?

a. YES, without qualification ☐. Skip down to 2.7.3.

b. YES, because I don't have one ☐.

Are you sure?

Have you checked with

(Use your
telephone!
See p. 1-8)

Local Fire Yes ☐ No ☐

Police Yes ☐ No ☐

Environmental Agency Yes ☐ No ☐

Dept. of Transportation Yes ☐ No ☐

Civil Defense Yes ☐ No ☐

You might be covered by a plan already.

c. YES, because I see hazard potential ☐.

Do you have?

Highway Yes ☐ No ☐

Railway Yes ☐ No ☐

Waterway Yes ☐ No ☐

Pipeline Yes ☐ No ☐

Industry Yes ☐ No ☐

Agriculture Yes ☐ No ☐

Have you done a Hazard Analysis? Yes ☐ No ☐

If not, make it Item #1 in your plan.

d. YES, because it's the law ☐.

State? ☐ County? ☐ Local? ☐ Municipal? ☐

Get a copy; and make sure you understand the exact legal requirements. Then skip down to 2.7.2.

e. YES, because I was directed by _____
Name

Title

Are you sure he's right?

Go back to 2.7.1, b. Maybe there's a plan already.

f. YES, because I've been named a member of/appointed to/asked to
attend a planning group ☐ .

You will probably be responsible for some particular plan
section. Skip to 2.7.3.

g. YES, but/because _____

Write in any other qualifications above -- the answer might appear
elsewhere in the brochure, and you should record your initial mis-
givings before going further.

* * * * *

h. NO, without qualification ☐ . You are finished with this guide.
Give it to your boss or circulate it to your co-workers.

i. NO, I have one already ☐ .

Is it any good?

Go to Decision Point 4, page 5-12.

j. NO, I'm covered by the _____ plan.
(name)

Oh?

Have you

Seen it in action? Yes ☐ No ☐

Called some of the phone numbers to see if they're
current? Yes ☐ No ☐

Determined its response time?

Minutes? _____

An hour? _____

Hours? _____

How many? _____ (use your telephone)

Asked around? Yes ☐ No ☐

Is your answer still NO? If not, start over.

k. NO, I have nothing to be afraid of ☐ .

Not likely. Go back to 2.7.1, c and think about it.

l. NO, it's _____'s job, not mine.
Name

Agency

Check the lists on pp. 2-2 and 2-3 (Who Should Plan?).

You're not there? Yes ☐ No ☐

Input from you needed? Yes ☐ No ☐

Maybe just some advice? Yes ☐ No ☐

m. NO, but/because _____

Write in any other qualifications above, and go back and review pages 2-2 to 2-18 of this guide. You might change your mind. At least you've recorded your present reason, and have it to refer to if things change later on.

* * * * *

2.7.2 I'd Like to Have a Plan, BUT

(a) I don't know how to go about it ☐ .

That's what this guide is for.

- (b) My boss isn't interested ☐ .

Do the Hazards Analysis (p. 3-8) and show it to him.

- (c) There isn't any funding ☐ . (See (b) above.)

The Hazards Analysis presented to City Council, Board of Supervisors, or other governing body, can be very effective. Inquire at the state level; there may be grants. If worst comes to worst, and all else fails, do what you can AD HOC (see p. 2-16).

2.7.3 Am I Ready to Start Planning?

- (a) Yes, without qualification ☐ . Go to page 3-1.

- (b) Yes, because I've been tapped to do the job ☐ .

As an individual? If so, finish up the questions (d) through (f) below and go on to Section 3, p. 3-1.

- (c) Yes, I've been named to be a member of a planning committee ☐ .

If so, you are probably going to be requested to write a particular section in which you are expert, identifying the responsibilities and capabilities of your organization.

- (1) The Committee Chairman is _____
(name)

(organization)

- (2) He is ☐ is not ☐ going to use this planning guide. Call and find out. If he's not familiar with this guide, send him a copy.

- (3) I know ☐ , do not know ☐ exactly what is expected of me. If you don't now, make sure you do after you leave your first committee meeting. You want to know both FORMAT and CONTENT.

INSIST ON IT!

- (d) I have ☐ , have not ☐ conducted a Hazards Analysis. If not, it's the first thing you should do. Maybe applicable ones already exist. Did you check?

Fire Department? Yes ☐ No ☐

Police Department? Yes ☐ No ☐

Local Civil Defense? Yes ☐ No ☐

State Agencies? Yes ☐ No ☐

(Use your telephone!)

Either DO IT NOW ☐

or

Go to Section 3, and make Hazards Analysis the first action of your planning operation ☐.

(e) I have ☐ have not ☐ selected the type of plan(s) I need.

I am ☐ am not ☐ still deciding between several different types (check two or more below, as appropriate).

Telephone Roster ☐

Action Guide ☐

Resource List ☐

Response Plan ☐

Coordination Plan ☐

Ad Hoc ☐ (as a last resort, only)

If still trying to decide, go back and reread pages 2-11 to 2-16. Pay particular attention to the listings in the left-hand columns to get a feeling for what different types of plans contain. If that fails, skip ahead to Section 4 (p. 4-2) and browse through the detailed list of plan contents.

(f) I want to make a plan, but what I want doesn't fit into the types listed ☐.

Nothing wrong with that. Maybe what you need is a:

(1) Combination ☐. Do it. Use what you want.

(2) Plan Section ☐ (see p. 4-7)

(3) Operating Manual ☐ *

* The distinction between a plan and a manual is easiest to define by analogy. For instance, a fire response plan may call for fire trucks to go to certain areas to be staged, manned with certain personnel, and commence fighting the fire when given certain directions. A manual will tell you how to insert the ignition key in the fire truck, shift the gears, couple and uncouple the hoses, lock the equipment in the racks, change the tires, maintain the truck between calls, and so on.

This guide can still help you if you checked (1) or (2). However, if you need an operating manual, you want something that this guide cannot and was never intended to provide you.

(g) I am concerned about disasters because of:

- (1) Major Transportation Artery ☐ any type
- (2) Major Chemical Industry/Oil Refinery ☐
- (3) Major Chemical Use ☐
- (4) Major Pesticide/Ammonia Agricultural use ☐
- (5) Natural Disaster Potential ☐ any type

Civil Defense people are generally well-informed on disasters and related subjects.

I have access to a copy of my state/local Civil Defense Disaster plan. Yes ☐ No ☐

I have contacted my state/local Civil Defense Office to participate in my planning operation. Yes ☐ No ☐

Name _____

Telephone _____

Transportation/Chemical companies in my jurisdiction have been contacted and invited to participate/provide information. ☐

Contacts: Name

Industry

Telephone

Name

Industry

Telephone

Name

Industry

Telephone

(Insert additional sheets if needed.)

2.7.4 Yes, I Want a Plan Prepared,

and by my authority I'm going to name the planner/planning committee chairman. ☐

(a) This is not a cop-out. ☐ (Are you sure you shouldn't chair it yourself?)

(b) The guy I'm naming is qualified because he is:

A skilled planner ☐

A good organizer ☐

Normally responds to spills, anyhow ☐

In the right department ☐ Specify: _____

Understands environmental problems ☐

Will do a good job ☐

Knows the government organization ☐, and

Knows everybody he should ☐ .

(Did you sneak a look ahead at pp. 3-1 to 3-2 of Section 3?
Maybe you should.)

Other reasons _____

His Name _____

Telephone/Location _____

Send him this guide.

☐ GIVE HIM A DEADLINE: Date Due _____ (Be reasonable!)

PROCEED TO SECTION 3 OF THIS GUIDE, OR IF YOU ALREADY KNOW HOW TO SET UP AND ORGANIZE THE PLANNING OPERATION, GO TO DECISION POINT #2 (p. 3-25).

3.0 THE PLANNING PROCESS

By now, you should have a fairly good idea of what you want in the way of a plan, and the question that we propose to answer next is:

HOW DO I GO ABOUT PREPARING THE PLAN?

You may be able to answer that question immediately if:

1. You are skilled in the techniques of planning,

OR

2. You have selected/been assigned something short and simple (telephone roster, checklist, action guide, resource and equipment list).

In these cases, you probably can handle the planning job without going any further into this guide. Skip ahead to Section 4, and concern yourself with plan content.

3.1 THE PLANNER(S): WHO AND HOW TO SELECT THEM

As a general rule, documents such as telephone rosters, action guides/checklists, and resources lists will usually be generated by governmental agencies in support of or in order to tie into a more comprehensive plan that encompasses several agencies. These simple types of plans are usually written by a single individual, and a great deal of experience in planning is not required.

The more comprehensive plans (response plans and coordination plans) are usually written for entire communities, districts, or states, and involve the coordinating efforts of several agencies and departments. In this case, it is appropriate for representatives from each involved agency to have some input into the planning process. This set of people becomes the planning group, but one person with authority and responsibility must still be identified as the plan coordinator. Depending on how they operate, these people may become a planning committee, with a planning committee chairman. The distinction:

Coordinator/Group: May never meet; coordinator or working committee members request (usually by letter) and assemble input from other members into final plan; coordinator may draft and send out sections of plan to appropriate agencies/departments for review and revision.

Chairman/Committee function by a series of meetings; may break down into smaller groups between meetings; review and revision generally occurs by direct interaction of members.

Who should these people be: the individuals -- group leaders -- committee members? The following sections will tell you who to look for.

3.1.1 Individual -- Group Coordinator -- Committee Chairman

Your first choice should always be a qualified planner if such can be identified as part of your local government or within a group or agency. Most types of planning experience, including urban planning, natural disaster planning, and financial planning, will provide the basic planning approach. Few individuals have actual experience in environmental emergency response planning for hazardous material incidents, but the important thing is to find someone who is well-versed in sound planning concepts. If possible, the selected planner should also be aware of all functions of the community, group, or agency that needs the plan, but this should not be a prime requirement.

If your organization or community is too small or organized in such a way that it doesn't include a planner as such, your next best choice is a good organizer. Look for people who carry that tag; it's generally well known who they are. Experience in heading up groups and committees, regardless of their purpose, and in successfully discharging those leadership duties, generally goes along with being a good organizer. People who have a reputation for getting the job done in complex group situations are what you are looking for.

It may sometimes be the case that a key individual has superior knowledge of the total working structure of an entire town, county, state, etc., including key contacts within each governmental sub-unit. Then, this person may be in the ideal position to write an emergency response plan or a coordinating plan for an area. In a case such as this, this key person would not assume an autonomous role, but would become sort of a chief coordinator being supported by planning information provided by personnel from within each involved agency. Look for someone who's known for his ability to expedite government or community actions; someone who has a reputation for "knowing the ropes."

If there is an Ad Hoc plan already functional in your area, the guy who fills the leadership role in that plan might be who you need. You may be treading on delicate ground, however (see p. 2-16 earlier for comments on "Old Joe"). This person is probably active in response, and a guy who gets things done, in the physical sense. A good response team leader (on-scene coordinator) is not necessarily a good planner. On the other hand, his Ad Hoc plan could be an excellent base for a response plan. Test the waters. Even if the guy drags his feet, or obviously doesn't belong in the planning role, he might make a good chief advisor (and give him adequate recognition, if he takes that responsibility).

If you've already been tapped to do the plan, chances are that you'll fall into one of the three categories above. Identify yourself, and do what you do best. Use this guide to supplement your own strengths, and you will be able to turn out a pretty good plan.

3.1.2 Planning Groups and Committees

Planning groups are usually involved with developing emergency response and coordinating plans. It is typical for the group to consist of representatives from key agencies and organizations who have functions assigned to them in the plan. This representation is needed so that there is no doubt as to an agency's duties, response capabilities, and policy.

What agencies and organizations should be represented in the planning process? Table 3-1 lists some agencies that you might want to include. The list only gives suggestions; membership of a planning group may be greater or less, but care should be taken not to make a committee so large as to become unwieldy. You may want to delegate planning authority to a few of the more involved groups and have the remaining groups be in a support position and review the final plan document. If you have prior experience with leading or chairing a group or committee from your particular government level, think back to it, and use whatever worked best.

Keeping in mind the distinctions between a group and committee that were made earlier, we recommend the following procedure for having both a dynamic and comprehensive planning operation.

Establish BOTH:

- A Group
 - Large and Comprehensive
 - Does Not Meet Routinely
 - Provides ADVICE AND INPUT
- A Committee
 - Small and Select
 - Meets Regularly
 - Provides ACTION AND OUTPUT

Basically, what you want to do is set up a committee to write the plan (Action and Output), and a large bank of brains that can be picked for information and assistance (Advice and Input). There are many names for this type of operation ("the working group," the "task force," the "subcommittee," etc., etc.); call it whatever you like, it will generally get the job done.

Recommended Committee Members are as follows:

1. The Committee Chairman, selected as described above.
2. Representatives of:
 - a. "The Lead Agency": This will be the agency/department that has been or will be designated to be in charge on the scene in the event of a spill. It may be (and probably will be) one of the response groups listed next.

TABLE 3-1. SUGGESTED GROUPS AND AGENCIES FOR EMERGENCY PLANNING

Municipal	County	State
<u>PRIMARY GROUPS</u>		
City Manager	County Executive	Governor's Representative
Mayor or Representative	Chairman, Board of Supervisors or Representative	
Emergency Management or Civil Defense	Emergency Management or Civil Defense	Emergency Management or Civil Defense
Fire Department	Fire Department	Fire Department
Police Department	Sheriff's Department	State Police
Public Works	Public Works	Environmental Resources
Water	Water	Transportation Department
Sanitation	Sanitation	Special Districts
Flood Control	Flood Control	Flood Control
Roads	Roads	Waste, Sanitation, etc.
Waste Disposal	Waste Disposal	
Health Department	Health Department	Health Department
Major Industry Representative	Major Industry Representative	Major Industry Representative
Representatives from Volunteer Organizations	Representatives from Volunteer Organizations	Representatives from Volunteer Organizations
Key Representatives from Bordering Cities	Key Representatives from Bordering Counties	Key Representatives from Bordering States
County Representative	State or Regional Representative	Federal Representative
Citizens Service Group(s)	Citizens Service Group(s)	Citizens Service Group(s)

(continued)

TABLE 3-1 (Continued)

Municipal	County	State
<u>SECONDARY GROUPS</u>		
Welfare Department	Welfare Department	Social Services
Recreation Department	Parks Department	Fish & Game Department
Hospital	Hospital	
Schools	Schools	Education Department
Utilities	Utilities	Utilities
Other Service Agencies	Other Service Agencies	Other Service Agencies
Other Service Groups, etc.	Other Service Groups, etc.	Other Service Groups, etc.
Planning Department	Planning Department	Planning Department
News Media Representative (local newspaper)	News Media Representative (newspaper, radio)	News Media Representative (news, radio, TV)

- b. The Response Agencies: Those groups who are actually going to have to perform some function. Minimum are:

Fire

Police

Public Works (be sure WASTE DISPOSAL is included)

- c. The Interface Agencies: These will hook up your plan with the existing plans:

Civil Defense

County or State Agency (Sheriff, Environmental Protection, Public Health, and/or?)

3. A Reviewer (if appropriate, see p. 5-1)
4. An Editor (may be the committee chairman)

Keep the committee small. Let the committee members contact other agencies (group members) and involve them as the plan is developed. Maintain a committee/group separation in your mind. Each is important, but don't let one interfere with the workings of the other.

Sometimes, the committee can be even smaller if people end up with several roles (for example, the committee chairman is from the fire department, which is also designated "Lead Agency"). CAREFUL. If this person can handle it all, that's fine; just make sure he isn't overloaded, and the plan gets delayed or downgraded as a result.

Many small communities, operating with volunteers in many government roles, will look at the above list and see their total qualified manpower resources listed there. In some instances, this is good, since these same people are probably working together all the time anyhow, and they can get this job done just like they get others done. However, there can also be a lot of problems in this situation, not the least of which is finding the time. Some others are addressed later (p. 3-7).

3.1.3 Consultant

Hiring a consultant to write your contingency plan may be the best choice to make if you are confronted with any of the following situations:

- You have a manpower shortage.
- Your plan involves some specialized technical knowledge.
- You simply cannot identify someone who feels qualified to plan.

If you are pressed for time, the consultant approach may not gain you anything. It takes time and commitment to work with a consultant to ensure a good product.

Of course, consultants charge a greater hourly rate than your salaried personnel so you must determine whether a consultant will be cost-effective in the long run.

You will also want to make sure that you pick the right consultant for the job. Try to locate consultants who have done similar projects in the past, and carefully review their proposals to make sure you will get what you want. Determine whether you want them to write all of the plan, or just the technical portion. Consultants may not know the "ins and outs" of your political structure, and may not recognize the subtleties involved in effective agency coordination.

Where do you look for consultants in your area? Check to see what engineering or environmental consulting firms have done work or have written environmental impact statements in your area. Question neighboring cities, counties, states, etc., for their knowledge of consultants. You may even find the ideal consultant in your own back yard: a retired, high-ranking government official with the desire, time, and know-how to do your plan.

3.1.4 Prime Planning Problems -- The Individual(s)

When a single or a few persons are assigned the task of writing a plan, there is sometimes the danger that the plan will not be complete; not all appropriate information or input will be included in the plan. Also, the plan may be slanted or biased, unknowingly, by the authors, to reflect their own views and opinions that may not be the consensus of the planning area. These problems can be mitigated if the planner(s) remains in close contact with all the involved groups and "flushes out" questionable areas with appropriate groups early in the planning process. Frequent review of on-going work by the involved agencies is another good idea. A good final review, with the checklist, is a "must" if a single individual is doing the planning. See p. 5-1.

3.1.5 Prime Planning Problems -- The Group/Committee

Group planning will most likely ensure a comprehensive planning effort, but there are some pitfalls that need to be avoided in the group process. Groups tend to work at a relatively slow pace, and this is probably due to a variety of reasons. The progress of a committee is usually limited by its slowest member, e.g., when planning input is delayed by one member, then the entire planning tempo is stalled until that one effort is completed. A good committee chairman will be alert and step in when help is needed.

Also, committee planning meetings, a necessary element of the planning process, often do not make the best use of available time. Meetings can be long-winded and unproductive if planning members bog down on inappropriate side issues. (Chairman: You must act in these situations!) It sometimes happens that when several agencies or groups sit down at one table, the meeting can become a forum for expressing political differences and other grievances fueled by long-standing interagency rivalries. The classic case, almost unavoidable, is the "traditional" police-fire rivalry, yet you will definitely need both police and fire department representatives, since they are key response agencies.

This guide attempts to offer no blanket solution to these group and committee problems, because there isn't any. Each planning committee chairman will have to handle his own situation. The intent of this section of the planning guide is to bring to your attention the possible types of problems to be encountered so that they may be anticipated. However, some suggestions are given later (pp. 3-22 to 3-24).

There are a number of good books on running effective meetings, group dynamics, and so on. We found the three listed below to have some good ideas. You can probably find some others in your own library.

Group Discussion and Decision Making, John Hasling,
Crowell Co., New York, NY, 1975

Leadership and Dynamic Group Action, George M. Beal,
Joe M. Bohler, and J. Neil Randobaugh, The Iowa State
University Press, Ames, IA, 1962

3.2 DUTIES AND RESPONSIBILITIES OF PLANNERS

Once the planner or planners have been established, it is time to get down to the business of planning. The following sections will give direction to finding, organizing, and coordinating information that will go into a plan.

There are many ways to accomplish these tasks. If you have your own accepted planning methods, then you might want to stick with what works best for you and only review the following sections for informational content. But if you are new to contingency planning, the following sections should outline a methodology for getting you from Point A -- you know you have a plan to write -- to Point B -- the pen is in your hand and you are ready to start writing.

3.2.1 Hazards Analysis

Basic to your planning, no matter how simple, is an understanding of the problems that you might anticipate. We recommend:

1. Hazards Analysis as the first step in planning
2. Including the hazards analysis as part of the plan

Even the simple telephone roster type of plan should be backed up by an analysis, and it should be documented in an accompanying letter when the roster is distributed.

A Hazards Analysis:

- Lets you know what to expect
- Prevents planning down blind alleys
- Gives you an incentive
- May show you where you need "an ounce of prevention"
- May open doors and pocketbooks for you (see p. 2-22)
- Creates awareness for new hazards
- Identifies the commitment you'll require
- Tells the type of help you'll need

This last is particularly important if you are in a growing community, and one more reason why it should be a part of the plan.

You should understand the differences between hazards, vulnerability, and

risk, since you may hear any and all of these referred to as things to analyze. Sometimes -- INCORRECTLY -- the terms are used interchangeably.

HAZARD: Any situation that has the potential for doing damage to life, property, and/or the environment

VULNERABILITY: The susceptibility of life, property, and/or the environment to damage if a hazard manifests its potential

RISK: The probability that damage to life, property, and/or the environment will occur if a hazard manifests itself

A good Hazards Analysis will consider all three of these things, but we advise you to emphasize hazard and vulnerability, and be very careful in attempting to determine risk. Even very sophisticated techniques, based on such approaches as "fault-trees" and "event-trees" can lead to a lot of controversy (and wasted time and effort). There can be so many factors involved in determining risk that you can bog down and get diverted into problems that are not the ones you really ought to be working on. The plans you prepare are going to be based on the assumption that you want to be ready, no matter how small the risk.

A stepwise procedure for hazard analysis follows, and details of what to include are given on p. 4-27 as a part of Plan Content. We recommend doing as complete a hazards analysis as your time and capabilities permit. But, even if you do only the simplest form of analysis, DO IT! And do it first!

There are three basic parts to a Hazards Analysis dealing with potential spill situations:

1. What do you have?
2. Where is it (or where does it pass through)?
3. What can it affect, and how?

We suggest the following approaches to getting the hazards analysis done:

1. Assign the job to a fire/police team. They generally already have considerable information about community business, accidents, and the like, and this is information you need.
2. If the team doesn't already have such information, then consult local industry. A suggested list is given later (p. 4-27 to 4-28).
3. After identifying potential sources and transportation routes, map them. Use both street maps (to show where population is affected) and topographical maps (to indicate flow and drainage patterns). If you are dealing with a large geographical area, heavily populated, you may have to break this up into a set of maps. Pre-fire planning, done by many fire departments, may have already generated maps of this type. Check with the fire department.

4. Identify particularly vulnerable or sensitive areas on the same map (see PP. 4-28 to 4-29).
5. Consult records (newspapers, police/fire, civil defense records) for actual spill incidents (no matter how small) and spot them on the map.
6. Make a written description of what the map shows; pay attention to any obvious pattern, such as areas of concentration of known spills, clusters of industrial use or production, storage, and so on. Then add to this writeup the results of 7, 8, and 9 below.
7. Estimate the probability of future spills, IF YOU CAN. This is the toughest job of all. Don't try to give numerical answers; use simple categories ("low, medium, high," or even "likely, unlikely"). Some guides are:
 - a. Past spills evident = high probability
 - b. Major trucking route = high probability
 - c. Major industrial concentration = high probability
 - d. Concentration of auto accidents = high probability
 - e. Concentration of railway problems = high probability

Be careful. You have now entered the realm of risk analysis. Do not equate a low probability with absolute safety. A single filling station in your town means that a truck containing thousands of gallons of flammable liquid will be rolling through your streets in the dead of night. A single drum of spilled insecticide could mean the contamination of every well in your farm community. There is always a finite possibility of having a spill, no matter who or where you are. If you have had no prior spill problems, you might consider consulting the records of nearby areas -- similar to your own -- to see what problems they've had. It can happen here.

8. Decide what would happen if some of your high-probability spills took place. That is, their impact on whatever you've identified as sensitive and vulnerable. This is obviously an exercise in speculation, but don't get carried away. Scenarios can be useful, and try to consider the secondary effects (traffic blocked, business closures, manpower drains) as well as the direct problems of spill control.
9. Finally, decide what would happen in the event of a disastrous spill situation. There are two things to consider: a really large spill and all its complications, and a natural disaster's (fire, flood, earthquake) effect on the ability to cope with the accompanying spills. Contact Civil Defense; they probably have already carried out a hazards analysis that will give you a picture of the potential for a natural disaster striking your area.

Time and resources will probably dictate the depth and extent to which your hazard analysis is carried out. At one end of the spectrum will be the case where the fire/police team simply gives their assessment based on whatever knowledge they already have; at the other end, you might conduct an industry survey, develop a picture of local transportation patterns with shippers, and go through a long set of "what if" scenarios to assess your vulnerability. DO YOUR HAZARD ANALYSIS, no matter what. Even the simplest sort of analysis will be a great help in focusing the rest of your planning effort.

Some cautionary notes on your dealings with local industry: Don't let your zeal for identifying hazards turn into a witch hunt. Too much emphasis on risk can lead you into this trap. Remember -- hazard, vulnerability, and risk are three different things, and things can be ranked as hazards -- particularly a technological hazard -- but be surrounded by so many safety constraints that the risk involved is quite low.

Local industry is a rich resource; work with it and take advantage of it. Things to look for in local industry that can help you are:

- Technical experts
- Cleanup, recycling capabilities
- SPCC (Spill Prevention Control and Countermeasure) and other types of plans with which you might interface
- Training, safe handling instructions
- Participation in developing your plan (particularly in defining how to handle spills on company property)

After your hazards analysis is complete, USE IT. It should be able to help you decide the following things:

1. The type of plan you want
2. How much detail you need
3. What types of response to emphasize
4. Where to locate response and cleanup resources
5. The type of help you'll need to get, if you can't provide it yourself

3.2.2 Review Prior Plans

A check should be made to determine the existence of current or even out-of-date emergency response plans or information. These plans can take the form of mutual aid agreements, planning guides, action guide/checklists, natural disaster plans, and ad hoc and formal spill response plans. The source of these plans can be from nearby communities, county, state, and federal agencies, planning authorities, industry, and volunteer organizations. The

specific groups or agencies to contact regarding plans are listed in Table 3-2.

The main reason for obtaining and reviewing these plans is to develop an awareness of current emergency planning and response information in order to minimize work efforts which have already been done and to ensure proper interaction with other plans (see Section 3.3). It may be helpful to obtain a plan from a region that has similar size and hazard potential characteristics as your planning area. Elements of this plan may be applicable to your area, or the plan may inspire you as to what should be in your own plan. However, it is undesirable to rely exclusively on other plans when preparing your own plan (see p. 3-24, "The Model Plan"). Every planning area has unique qualities and characteristic problems that must be addressed from a "grass roots" level, an effort that cannot be achieved by copying other plans.

3.2.3 Response Planning: Identifying Functions Of Emergency Response or Support Groups

All organizations capable of providing immediate active and material support in the event of a hazardous chemical spill must be identified. If you are doing the planning as an individual, use your phone to determine who can do what. As a starting point, contact the organizations at your level, and the next highest level listed in Table 3-2. These groups can either provide direct information or refer you to other sources of information. If you are working with a planning committee, the key response groups will already be members of your team, and can probably provide the information directly. If not, split the list up between them, and let them get the information.

Determine the spill response capabilities of the various agencies. Ask questions regarding the following topics:

- . Who would be in charge? (See also 3.2.4 below.)
- . Personnel assigned: training and skills
- . Equipment available
- . Environmental emergency response plans and activities (existing)
- . Defined responsibilities and duties
- . Existing mutual aid or interagency agreements
- . Internal chain of command

Once this survey has been completed, organize the data in a tabular or some other convenient form. This will enable you to make an overall assessment of the spill response capabilities for your area. With a knowledge of your area's capabilities in hand, you may now be ready to start assigning planning tasks. However, if you have spotted any deficiencies, you'll have to do something about them first. Go on and read pp. 3-16 through 3-17.

3.2.4 Coordination Planning: Identifying Comprehensive Emergency Responsibilities

A comprehensive coordination plan will generally go into the functions of

TABLE 3-2. CONTINGENCY PLANNING INFORMATION SOURCES

FEDERAL AGENCIES	Environmental Protection Agency Department of Transportation United States Coast Guard Federal Emergency Management Agency
STATE AGENCIES	Governor's Office State Environmental Protection Agency Civil Defense State Police State Fire Marshall State Department of Transportation
LOCAL AGENCIES	County Executive/Commissioners Mayor/City Council/City Administrator Civil Defense Fire Department Sheriff or Police Department Public Works Department Roads Water Supply Sanitation Flood Control
INDUSTRY	Chemical and Petroleum Producers Chemical and Petroleum Storers Chemical and Petroleum Consumers Chemical and Petroleum Transporters (Truckers, Railroads) Spill Cooperatives Spill Cleanup Contractors Waste Disposers Trade Associations Professional/Technical Societies
VOLUNTEER ORGANIZATIONS	Red Cross Salvation Army Church Groups Local Ham Radio Organizations Service Groups

government that are important before and after, as well as during, almost any emergency situation.

Even if you don't do anything else the way this guide suggests, establish clearly who is in charge; and furthermore, how that responsibility shifts, and to whom, as more and more resources are called into play. There exists already a network of plans, right on up to the federal level (see Section 3.3).

If you are planning at the local level, you must determine how you fit in so that it is crystal clear what your limitations are. You must know exactly how far you can go it alone, and when and for what reasons you are going to have to have additional support. Among the key responsibilities of the person you identify as being in charge at the local level will be to know exactly what his own capabilities are, when he has to call for help, and when he has to turn the reins over to some higher authority.

Certain governmental agencies have legal responsibility, jurisdictional authority, a charter, an interagency agreement, or in some other manner have been delegated a response role in an emergency situation. Therefore, when planning tasks are assigned, care must be taken to ensure that the assignments are in accord with legally mandated responsibilities and that there are no contradictions or unnecessary overlapping of duties.

When sorting out emergency roles in different agencies and organizations, logic is the key word to be kept in mind. The various necessary emergency response functions should be assigned to agencies most logically capable of dealing with them. Some assignments will be obvious, such as law enforcement and fire protection. However, some duties such as transportation or emergency public information services may require some deeper searching to determine which agency or agencies is thought best equipped to handle the situation.

A basic rule should be observed when making task assignments: List all the jobs that you will need done -- not just the response tasks -- first. Then under those tasks, list the agency or agencies who will do something to see that the job gets done. Don't do it the other way around.

If you are making a plan for a local community, a state, or a governmental agency, then primary responsibilities for emergency response tasks should not be identified as originating from volunteer or other civilian organizations. This restriction is necessary because civil preparedness is the mandated responsibility of the government. The efforts of volunteer groups, industry, and other service organizations should be coordinated through governmental agencies. In this manner, the civilian groups would have support responsibilities. Such arrangements between governmental and civilian groups need to be agreed upon prior to plan preparation. The agreements should take the form of written memoranda of understanding or any other means of expressing mutual agreement. (See also 3.2.4.1, Coordination With Industry.)

Following is a list of Emergency Responsibilities (Table 3-3). Also included in the table are governmental officials or agencies who might be contacted for information and/or input. Your particular planning agency or area may need to define more or fewer tasks than those listed. If you are in an area where a civil defense natural disaster plan already exists, then most of the emergency tasks may have already been assigned to responding agencies. Coordination with the "in-place" natural disaster plan (see pp. 3-17 to 3-20) will be required to avoid duplication of efforts or contradictions with existing plans. In fact, you may find that establishing an interface -- some sort of liaison with an existing civil defense plan -- may eliminate the need for you to develop a detailed coordination plan of your own.

TABLE 3-3. EMERGENCY RESPONSIBILITIES

<ul style="list-style-type: none"> ● Law Enforcement Services <ul style="list-style-type: none"> . Chief of Police . County-Sheriff . State Police Representative . National Guard Representative ● Fire Protection Services <ul style="list-style-type: none"> . Local Fire Chief . Volunteer Fire Chief . State Fire Marshall ● Communications and Warning <ul style="list-style-type: none"> . Local and State Civil Defense . National Guard . Parks Department . Fish and Game . Local and State Police . Weather Bureau ● Public Works/Engineering Services <ul style="list-style-type: none"> . City/County Engineer . State Engineer . Public Works Director ● Utilities <ul style="list-style-type: none"> . Public Utilities Representative . Private Utilities Representative ● Health and Medical Services <ul style="list-style-type: none"> . City/County Health Officer . State Health Official . Nursing Administrator . Hospital Administrator ● Welfare Services <ul style="list-style-type: none"> . City/County Welfare Official . State Welfare Official ● Personnel and Financial Services <ul style="list-style-type: none"> . Personnel Director . Finance Director 	<ul style="list-style-type: none"> ● Damage Assessment <ul style="list-style-type: none"> . Tax Assessor . Records Department . Public Works Department ● Transportation Services <ul style="list-style-type: none"> . Dept. of Transportation . Fleet Supervisors . Parks Department . Fish and Game ● Emergency Public Information <ul style="list-style-type: none"> . Chief Executive . Mayor/City Manager . County Executive . Governor's Representative . Public Relations Officer ● Legal Services <ul style="list-style-type: none"> . County/City Attorney . Attorney General ● Rescue Services <ul style="list-style-type: none"> . Fire Department . Police Department . National Guard ● Hazardous Materials <ul style="list-style-type: none"> . Civil Defense . Fire Department . Environmental Protection Office . Public Works Department . Department of Transportation . U.S. EPA { National . Coast Guard { Contingency Plan
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Each task will be identified with a particular lead agency, and other groups can be added to offer support. The lead agency should be able to provide for insertion into any plan a list of general actions for which they will be responsible during emergencies. A compilation of these actions for all agencies constitutes the plan. The lead agency may also have generated, for their own internal use, a phone roster and an action guide/checklist that describes detailed procedures for the agency's response to emergency situations.

3.2.4.1 Coordination With Industry

Special consideration should always be given to coordination with industry, particularly where there is potential for incidents that will require responses that are beyond local capabilities. Such capabilities can and should be arranged, in advance, with whatever industries are appropriate. Particularly important are arrangements made by local authorities with rail-ways that have rights-of-way through their communities, where, as with many other industries, the important point is:

INDUSTRY HAS THE EXPERTS.

The expertise can be made available to whoever needs it, with appropriate advance coordination. In many complex incidents, the guiding factor should be technical competence. Dealing with tank car problems, for instance, is an area where the most competent people are those in the railroad business. Local response personnel should be prepared to get assistance from industry whenever they have situations that are unfamiliar, and advance coordination is a key factor.

3.2.5 Identify Deficiencies

Now that either or both response capabilities/resources and emergency response task responsibilities have been identified, it's time to determine whether everything can be done that you feel should be done. Look to see if all emergency response tasks are adequately covered, and check again with the appropriate agencies or organizations if you are unsure or if it looks like something is missing.

If you do spot anything missing, it doesn't mean you should stop your planning operation. You may have to complete your plan, with the deficiency called out, and wait for the capabilities of some department/agency to catch up. You are, however, going to have to make some immediate recommendations to whoever is in authority. If the missing item obviously falls to some particular department/agency, then you might:

- Simply point out the problem to the agency head, and ask that the function be taken on
- Suggest a rearrangement of duties within or between agencies to utilize some particularly pertinent resources
- Explore entering into mutual aid agreements with neighbors

- Try utilizing outside organizations, either on a contract or volunteer basis

If the problem requires solution at a higher level, some things you might suggest are as follows:

- Pass a new law or ordinance, or change existing statutes
- Appropriate additional monies to emergency response activities and planning
- Look for innovative sources of aid
- Seek federal and/or state aid

If all the preceding measures prove technically and politically infeasible or do not pertain to your situation, then adjust the scope of the task assignments to fit your capabilities. It's better to know what you can and cannot do, as opposed to having an unrealistic vision of what you would like to do. The latter tends to discourage emergency planners and gives responders a false sense of security.

3.3 EXISTING PLANS: INTERFACES, COORDINATING AND USE

Other people have plans. And then some. These plans can be for governmental agencies, industry, counties, cities, states, river basins, air pollution control districts, regional boards, etc. If your plan is to be comprehensive in nature, then it is sure to interface with and be affected by other plans. As we said before, if you are planning at the local level, this is particularly important, because you must determine exactly how you will fit into the system.

Become aware of the other types of plans that are in operation around you. The local civil defense office is probably one of the most valuable resources for determining how your hazardous chemical emergency contingency plan would be affected by federal, state, local, industry, and military plans. However, they may not know everything, so be prepared to look further afield if it becomes obvious that there is more you need to know. You should check out the following:

- National Oil and Hazardous Substances Pollution Contingency Plan
- EPA Regional Pollution Contingency Plan
- State Oil and/or Hazardous Material Contingency Plan
- State Emergency Disaster Preparedness Plan
- RADEF (Radiological Defense) Plans
- SPCC (Spill Prevention, Control, & Countermeasure) Plans

- Co-Op Plans
- Industry Emergency Action & Disaster Control Plans
- Various Local Plans
 - . Pre-Fire Plans
 - . Police Emergency Plans
 - . Local Agency Plans

Also, there may be many other documents that are pertinent to your particular situation, and while they are not called plans, they may contain important information. These include agency alerting procedures, mobilization plans, mutual aid agreements, agency rosters, and the like.

Also, accidental releases of hazardous materials often cross political boundaries, thereby affecting multiple communities simultaneously. For these larger incidents, it is of prime importance that your plan coordinate efficiently with the plans of bordering political regions. Therefore, determine whether your neighbor has a plan, and work with him to make your respective plans compatible. If you are working at the state level, there may already be interstate agreements in force.

The following are some of the types of plans you will probably want to investigate prior to writing your own plan.

The National Oil and Hazardous Substances Pollution Contingency Plan

The National Oil and Hazardous Substances Pollution Contingency Plan (40CFR1510) is the principal federal mechanism for operations undertaken in response to pollution discharges occurring in navigable waters, adjoining shorelines and the high seas of the United States. The "National Contingency Plan" establishes a federal interagency governmental capability initiating operational aspects of identification, prevention, containment and cleanup of oil and hazardous material spills and related mitigation activities. Although this plan briefly considers environmental damages resulting from pollution discharges, it deals primarily with operational aspects of mitigation rather than the broader environmental consequences of spills.

The primary purpose of the plan is to provide a coordinated federal response to unexpected, and usually accidental, discharges of oil or hazardous substances that pose a threat to public health and welfare. The plan sets out roles and specific responsibilities of federal personnel in the event of a spill and addresses questions of notification, assessment and direct or indirect actions to be taken. The plan also defines various organizations, structures, and roles (see below). Recent revisions to the plan in 1978 have identified broader state, local, and industry cooperative mechanisms to improve federal spill response.

Definitions:

On-Scene Coordinator (OSC) - the federal official pre-designated by EPA or the USCG to coordinate and direct federal discharge removal efforts under Regional Contingency Plans at the scene of an oil or hazardous substance discharge. Local personnel are subject to the direction of, and must clear actions with, the OSC.

National Response Center (NRC) - serves as the notification center for pollution incidents in U.S. waters. It is located at the U.S. Coast Guard headquarters in Washington, DC, and is staffed by Coast Guard personnel. The toll-free number (800-424-8802) can be reached 24 hours a day, 7 days a week for reporting of actual or potential pollution incidents. The NRC relays reports to appropriate regional authorities for response actions. Spills can be reported to this center in lieu of contacting regional Coast Guard or EPA personnel.

National Response Team (NRT) - is composed of representatives of primary and advisory agencies. The NRT is responsible for planning and response activities for pollution emergencies at the national level. Specific responsibilities and membership are delineated in the National Contingency Plan.

Regional Response Center (RRC) - is the regional site for pollution emergency response activities. Its location is specified in regional contingency plans. It provides communications, information storage and other necessary personnel and facilities to promote proper functioning and administration of regional pollution emergency response operations.

Regional Response Team (RRT) - is composed of representatives of primary and advisory agencies as is the NRT, but in addition, states and possibly regional and local agencies may provide liaison. Details of representation are specified in regional contingency plans.

Primary Agencies - departments or agencies comprising the NRT and designated to have primary responsibility and resources to promote effective operation of the National Plan. Includes: Commerce, DOD, DOI, DOT, EPA and FEMA.

Advisory Agencies - departments or agencies that can make major contributions during response activities for certain types of discharges. Includes: DOE, ~~DEHS~~, Justice, HUD, and State.

Regional Contingency Plans - plans compiled by the RRTs for planning and response activities for each Standard Federal Region.

State Plans

It should be determined whether your state has an oil and/or hazardous material spill plan. This document can provide useful information on state policy and spill response capabilities that will be valuable when attempting to interface local, regional, and state agency plans within the overall state structure.

Civil Defense Plans (Disaster Plans, RADEF Plans, Emergency Operations Plan)

It is very likely that your local or state civil defense office has published a natural disaster plan for your area. Many of these plans contain annexes that dictate operational response procedures for hazardous chemical emergencies involving transportation-related spills or major accidents at chemical storage or producing facilities. Care should be taken not to duplicate or interfere with the operation of these plans. Determine the best way to coordinate your plan with the appropriate sections of the natural disaster plans.

Industrial and Cooperative Plans

Chemical and petroleum products producers, storers, users, and transporters often have spill emergency contingency plans covering their products. When it is to their mutual advantage, industries sometimes form spill response cooperatives designed to contain and clean up spills by means of jointly owned and stockpiled equipment and services. Contingency planners should be aware of the response services provided by industry and should interface their plans, when possible, with these services. Be aware of the emergency procedures that industries use to warn surrounding neighborhoods about accidental chemical releases. See if it is feasible to enter into a cooperative agreement with industry or an established cooperative so that equipment and manpower can be shared. Be knowledgeable of the spill response technical expertise and response capabilities available from industry, and make active coordination with industry a part of your plan.

It is also important to remember that if a private industry is responding to a spill or other emergency on his own property (or, as in the case of a railroad, his own right-of-way), and the spill is confined to that property or right-of-way, then government, no matter what level, must be careful not to interfere. A good cooperative agreement will work both ways. It will allow government to get industry expertise, and will also allow industry to get help if it needs it. It will also keep industry and government out of each other's hair until such time as they need each other.

Interfacing

If you need to hook up with any of the above plans -- and you probably do -- make sure you have mapped the channels, and know how to get in and get through to the proper person(s). You will need some or all of the following:

Who will be in charge, if any action takes place across the interface

Name -- Telephone Number (+ Alternate)

Knowledge of information you must provide

Knowledge of what conditions require action by state/federal authorities

What enabling actions are needed (disaster declaration, formal request, approvals, etc.)

FIND OUT -- the keeper of the other plan will be glad to define it for you.

3.4 WRITING AND SCHEDULING

There are a couple of approaches to writing a plan, depending on the type of plan desired. Telephone rosters, action guides and checklists, resource and equipment lists, and sometimes ad hoc plans are relatively narrow in scope and usually only require one person involved in the actual writing of the plan. However, response plans and coordination plans are more expansive in scope and comprehension and generally require more persons involved in the writing task.

When preparing to write a comprehensive plan involving several agencies, there are a couple of methods to consider:

1. The responsibility for writing the plan may be delegated to one qualified individual who would work with each involved agency on a "one-to-one" basis to develop the input for writing the plan.
2. Each agency may write its own section of the plan with the individual writing efforts being coordinated in a series of workshop meetings.

The first method may burden the single writer with an inordinate amount of work, thus driving the writer into frustration and delay. This approach does, however, produce a uniformly written package that will measurably cut down on time spent for editing, a task that will be necessary if the second approach is selected.

Merits of the second approach result from the inherent advantages of the group process. The necessary workshops provide a greater opportunity for awareness, teamwork, and cooperation among those who will be performing critical emergency response tasks during plan activation.

Consider a series of about three workshops for writing and reviewing the plan. Schedule the meetings in a realistic manner, noting the normal working duties of the persons writing each section. But, it is not wise to stretch the writing process over too great a length of time. The urgency and motivation for writing can dissipate when excess writing time is allowed.

The chairperson should schedule and set agendas for each meeting well in advance. The meetings may be patterned from the following outline:

Meeting 1. Assign to the lead and/or response agencies the task of writing a duties and responsibilities section, "Why and what they will do during a spill emergency."

Between Meetings 1 and 2, the primary agencies will probably want to contact group advisory personnel or meet with the support agencies to further define their respective roles.

Meeting 2. Written reports are submitted. Each agency briefs the group on the contents of its report. Differences are "thrashed out" and the written sections are finalized. In support of their duties and responsibilities section, each agency is assigned to write a section on "How they will perform their functions." This section will take the form of SOPs, memoranda of understanding, and appendices to the main report.

Between meetings, meet with group advisors or support agencies as needed.

Meeting 3. Each agency presents a final briefing and submits its documents for review (see pp. 5-1 to 5-4).

NOTE

The preceding meeting scenario was given only as an example. Fewer or more workshop sessions can be scheduled, depending on your own situation and plan output.

3.5 PROBLEM AREAS AND SUGGESTED APPROACHES

Under most circumstances, the climate for planning will be less than ideal mainly because PROBLEMS WILL ARISE. This is inevitable when a group of people get together limited by time constraints, money, personnel, and complicated by differences of opinion and divergences of political views.

As a planning group, the following should be kept in mind when confronting problems:

1. Your common goal is important to the health and welfare of your community. Every effort should be made to achieve this goal.
2. Solving problems often involves compromises. Remain flexible. Meet opposing ideas or persons halfway.

The following is a list of typical planning problems, along with possible solutions for resolving these problems. This entire list should be studied prior to initiating the planning process. Awareness of problems and solutions in advance is sometimes a good safeguard against their occurrence.

PLANNING PROBLEM

POSSIBLE SOLUTION(S)

Responsibility
conflicts

Prepare interagency or intergovernmental agreements

Use a neutral party mediator

Review agency charters to clarify duties and roles.
Revise legislation if necessary.

PLANNING PROBLEM	POSSIBLE SOLUTION(S)
Lack of planning coordination	<p>Hold frequent planning meetings</p> <p>Invite more groups into the planning process</p> <p>Select a planning authority</p> <p>Select appropriate planners</p> <p>Follow a planning guide</p>
Confusion over regulations	<p>Obtain higher governmental authority assistance</p> <p>Pass legislation to clear up confusion</p>
Difficulty in obtaining plan approval	Follow proper plan reviewing procedures (see pp. 5-1 to 5-4)
Excess red tape	<p>Review previous planning efforts</p> <p>Pass an ordinance streamlining planning process</p>
Planning/response personnel turnover	<p>Maintain planning records</p> <p>Frequently update plan</p> <p>Schedule regular training exercises</p>
Difficulty in identifying technical assistance resources	<p>Follow a planning guide</p> <p>Obtain planning assistance from a higher authority</p>
Community interest lacking	<p>Publicize a hazards analysis</p> <p>Hold public hearings</p>
Insufficient legal support	Pass local/state ordinances
Lack of funding	<p>Obtain state/federal planning assistance</p> <p>Finance planning through bonds, taxes, or other charges</p>
Setting up planning organizational structure	<p>Review civil defense planning procedures</p> <p>Determine type of plan desired</p> <p>Determine a planning authority</p> <p>Issue a planning directive</p>

PLANNING PROBLEM

POSSIBLE SOLUTION(S)

Setting up planning organizational structure (cont'd)	Determine current planning capabilities
	Select appropriate planners
	Follow a planning guide
Lack of full-time planning commitment	Locate additional funding sources
	Obtain state/federal planning assistance
	Hire a planning consultant
	Adjust scheduling
Failure to tailor plan to local needs	Perform a hazards analysis for the area in question
	Forecast community needs
	Identify resource needs and availability
Difficulties planning for a large constituency	Hold a series of public meetings
	Use third-party mediation to resolve conflicting views
	Clearly define planning priorities
Problems maintaining the planning schedule	Select a planning authority to establish a firm schedule
	Maintain hazardous material contingency planning as a high-priority item in the community

3.6 THE MODEL PLAN (IT'S NOT RECOMMENDED)

Planning is hard work, and it may seem like there is an easy way out. You can ignore the rest of this planning guide, and take the model plan approach. Find a plan where all you have to do is fill in the blanks, and go to it. Or borrow a plan from a neighboring community, change the name from "East Weston" to "West Easton," stick in a few phone numbers, changes, and you're done. BUT -- be aware of the pitfalls. There are plenty of model plans, but there is no such thing as a model community. By using a model, you run the risk of missing something, or of defining some function incorrectly, because your community is going to have something different from the model. In order to avoid getting trapped, you have to take a lot of things into consideration.

- Complacency -- it's difficult to read through a well-written model without getting lulled by it.

- Generality -- model plans tend to be general; you need to know the specifics for your community. A well-written general statement can make you believe something is all set up and arranged, when it really isn't.
- Reliability -- your plan will only be as complete as the one you're following, plus your own ability to spot any omissions. You also have to spot things that the model includes, but which your community doesn't have. Then you have to decide where those functions belong.

We recommend against the model plan, but we'd rather see you following a model plan than doing nothing. However, to do a really good job with a model may be just as much work, if not more, than following this guide.

IF (AND ONLY IF) YOU'RE SURE THE MODEL PLAN IS THE ONLY THING FOR YOU -- DO IT! But please, be careful!

3.7 DECISION POINT #2

3.7.1 How Do I Go About Preparing the Plan?

- (a) Planning is my business. I am a _____ planner, so I know how ☐ . (discipline, department)

Go to Section 4, and start to work.

- (b) I'm a good organizer. Any good organizer can plan ☐ .

O.K. Have you decided:

- (1) As an individual? Yes ☐ No ☐
 (2) With a group? Yes ☐ No ☐
 (3) As a committee chairman? Yes ☐ No ☐

Maybe you should look at the appropriate parts of Section 3.

- (c) I know the state/county/city/local government (choose one or more) like the back of my hand, so I can easily put together a plan ☐ .

See (1), (2), and (3) under (b) above.

- (d) It's easy, because _____

If this reason satisfies you, go on to Section 4. Don't mess with something that you know will work. But are you positive?

(e) I have a model to follow ☐ .

BAD! See p. 3-24.

(f) I don't know ☐ .

Stop now, and read Section 3.

(g) I still don't know ☐ .

Don't abandon the plan!

☐ Choose a simpler/less ambitious plan

☐ Get an assistant

☐ Find another person to do the plan

☐ Get a different planning guide (Civil Defense might help)

☐ Go to a training course

☐ Ask for help! From your boss? Colleagues? Another branch/department?

☐ Hire a consultant (see p. 3-6)

(h) I'm going ahead with the plan, but I can't decide between the group/committee approach, or whether I should just do it as an individual ☐ .

Read pp. 3-1 to 3-8.

☐ Individual, because _____

(most important reason)

☐ Committee/group, because _____

(most important reason)

☐ Still undecided. Read pp. 3-22 to 3-24.

(1) The individual approach will give me a real tough problem,
so I'm going with the group/committee ☐ .

(2) Vice-Versa ☐ .

(i) I'm ready to go, and I understand all about groups and committees,
and who I want working on the plan ☐ .

☐ The more the merrier. -- Good Luck.

☐ Groups and committees are all the same. Oh? (see p. 3-3)

☐ I've selected and arranged for

☐ Lead Agency Representative

☐ Response Agency Representative(s)

☐ Interface Agency Representative

☐ Reviewer

☐ Editor

(Did you forget someone? See p. 3-3)

☐ An Advisory Group

(j) I'm ready to go, and I understand all about

☐ Reviewing Prior Plans (p. 3-11)

☐ Hazards Analysis (p. 3-8)

☐ Response Planning (p. 3-12)

☐ Coordination Planning (p. 3-12)

☐ Identifying Deficiencies (p. 3-16)

☐ Interfacing with Existing Plans (p. 3-17)

☐ Getting Down to Writing (p. 3-21)

If so, continue. If not, read where it indicates.

(k) I won't have any problems. Yes ☐ No ☐

Do you know what to expect? (See p. 3-22.)

☐ Rivalries

☐ Responsibility Conflicts

- ☐ No Coordination
 - ☐ Confusion over Regulations
 - ☐ Red Tape
 - ☐ Personnel Turnover
 - ☐ No Resources/Can't Find Them
 - ☐ No One Really Cares
 - ☐ No \$
 - ☐ Trouble Getting Organized
 - ☐ No Full-Time Planners
 - ☐ No Time to do it
 - ☐ Doesn't Fit my Town
 - ☐ My City's Too Big
 - ☐ Schedule Slipped
 - ☐ I Just Thought of Another One _____
-

4.0 PLAN DEVELOPMENT AND CONTENT

4.1 PLAN TYPE

If you have already decided on the type of plan you want, then skip to page 4-2. However, if you still aren't absolutely sure what kind of plan you should be making, then you might first want to review an earlier section: (WHAT KIND OF PLAN?, pp. 2-11 to 2-16). If you still can't decide, perhaps some further discussion will help you. Keep reading.

For review, the following is a list of the types of plans to be considered:

- Telephone Roster
- Action Guide and Checklist
- Resource and Equipment List
- Response Plan
- Coordination Plan
- Ad Hoc Plan

Depending on the situation, you may want to develop one or more of these plans. To help choose the correct plan, the following planning situations are described, along with the appropriate type of plans for each case:

- ☐ Your area is already covered by a comprehensive state or federal plan (Telephone Roster, Action Guide and Checklist, Resource List)
- ☐ Your agency is likely to be first on the scene at a hazardous spill event (Telephone Roster, Action Guide and Checklist, Resource List)
- ☐ You are an emergency response organization (Response Plan)
- ☐ You are a governmental agency responsible for the coordination of emergency response actions (Coordination Plan)
- ☐ Your area is not covered by a comprehensive state or federal plan (Response Plan, Coordination Plan)
- ☐ Your area is only covered by a civil defense disaster plan (Response Plan)
- ☐ It appears that there will be no formal emergency response planning efforts in your area in the near future (Ad Hoc Plan)

If you are still undecided, you will just have to learn more about plans. Read the next part on "Plan Content," and then try again.

4.2 PLAN CONTENT

Assuming that the plan type has been determined, it is time to outline the kinds of information each plan will contain. Included in the following list are the major sections found in contingency plans, a brief description of the contents of these sections, and an indication of the types of plans to which each section is applicable. It is not mandatory that all plans contain the sections indicated. The list has been developed to provide to planners a set of guidelines mapping out what can be included in different types of plans.

The subject headings are listed in the general order that is recommended for their inclusion in contingency plans. The EMERGENCY RESPONSE NOTIFICATION section should always be placed on the plan front cover or on the first page in order to facilitate access to this vital information. It should also be repeated in the body of the plan, since front covers get torn off and lost, particularly if the plan is one that sees a lot of field use. (See p. 4-8 and 4-17.)

<u>Section</u>	<u>Content</u>	<u>Applicability</u>
Emergency Response Notification	. Emergency 24-hour telephone number	Action Guide/ Checklist
	. Emergency notification information	Response Plan
	- Location of spill	Ad Hoc Plan
	- Material spilled	Telephone Roster
	- Time of spill	
Record of Amendments	- Danger present	
	- Actions initiated	
	- Etc.	
	. Change record sheet	All Plans
Letter of Promulgation	- Date of change	
	- Recording signature	
	- Changes made	
Foreword/Preface	. Statement of Plan Authority	Response Plan
		Coordination Plan
Foreword/Preface	. Preliminary remarks	Response Plan
	- General background information	Coordination Plan
	- Planning philosophy	
	- Intent of document	

<u>Section</u>	<u>Content</u>	<u>Applicability</u>
Acknowledgment	. Identification of plan contributors	Response Plan Coordination Plan
Table of Contents	. List of topical sections, figures and tables	Response Plan Coordination Plan
Introduction	. Introductory information	Response Plan
	- Abbreviations and definitions	Coordination Plan
	- Purpose/Objectives	
	- Scope	
	- Policy	
	- Assumptions/planning factors	
Emergency Response Operations	. Notification of spill	Response Plan
	. Initiation of action	Action Guide/ Checklist
	. Coordinate decision-making	
	. Containment and countermeasures	
	. Cleanup and disposal (if spiller is not doing so)	
	. Restoration	
	. Special considerations	
	- Response personnel safety	
	- Wildlife protection	
Emergency Assistance Telephone Roster	. Affected agencies	Telephone Roster
	. Technical and response assistance	Resources and Equipment List
	- Sequence	Response Plan
	- Alternate telephone numbers	Ad Hoc Plan
	- Radio contact	Coordination Plan
	. Public and private support groups	

<u>Section</u>	<u>Content</u>	<u>Applicability</u>
Legal Authority and Responsibility	<ul style="list-style-type: none"> . Authorizing legislation . Mandated agency responsibilities 	<p>Response Plan</p> <p>Coordination Plan</p>
Response Organization Structure/Responsibilities	<ul style="list-style-type: none"> . Response Organization <ul style="list-style-type: none"> - Chain of command - Assigned duties 	<p>Response Plan</p> <p>Coordination Plan</p>
Disaster Assistance and Coordination	<ul style="list-style-type: none"> . Use of outside resources <ul style="list-style-type: none"> - Response capabilities - Contingency plans . Predetermined arrangements 	<p>Response Plan</p> <p>Coordination Plan</p>
Procedures for Changing or Updating Plan	<ul style="list-style-type: none"> . Responsibility . Change notification procedures . Change frequency 	All Plans
Plan Distribution	<ul style="list-style-type: none"> . List of organizations receiving plan <ul style="list-style-type: none"> - Governmental agencies - Industry - Volunteer groups - Other involved groups 	<p>All Plans</p> <p>Coordination Plan</p>
Spill Cleanup Techniques	<ul style="list-style-type: none"> . Description of cleanup methods - use Guidelines 	<p>Response Plan</p> <p>Coordination Plan</p> <p>Ad Hoc Plan</p>
Disposal/Recycling Resources	<ul style="list-style-type: none"> . Resource listings and telephone directory <ul style="list-style-type: none"> - Cleanup and disposal services - Materials and equipment 	<p>Resources and Equipment List</p> <p>Coordination Plan</p> <p>Response Plan</p> <p>Telephone Roster</p>
Laboratory and Consultant Resources	<ul style="list-style-type: none"> . Telephone directory of technical support services <ul style="list-style-type: none"> - Laboratories - Private consultants - Scientific groups 	<p>Telephone Roster</p> <p>Response Plan</p> <p>Coordination Plan</p> <p>Resource/Equipment List</p>

<u>Section</u>	<u>Content</u>	<u>Applicability</u>
Technical Library or Bibliography	<ul style="list-style-type: none"> . List of references - Specific references - Technical information - Maps 	<p>Response Plan</p> <p>Coordination Plan</p>
Hazards Analysis	<ul style="list-style-type: none"> . Probable hazards - Pollution sources . Vulnerable locations . Frequency/probability analysis . Identification of high-risk areas - Wildlife - Recreational - Historic - Archeological 	<p>Response Plan</p> <p>Coordination Plan</p>
Documentation of Spill Events	<ul style="list-style-type: none"> . List of required reports . Justification for reports . Report formats 	Response Plan
Hazardous Materials Information	<ul style="list-style-type: none"> . Technical information - Chemical and physical properties - Toxicity - Measurement techniques . Local hazardous materials . Transportation placarding/ labeling 	Response Plan
Training Exercises	<ul style="list-style-type: none"> . Methods for maintaining awareness of emergency response duties - Case studies - Simulated exercises 	<p>Response Plan</p> <p>Coordination Plan</p>

In order to start deciding what to include in your specific plan, go now to Table 4-1, which shows which plan sections are either recommended or optional for inclusion in the various types of plans. You may want to check the boxes in Table 4-1 as you go down the list.

TABLE 4-1. RECOMMENDED/OPTIONAL PLAN CONTENT

Sections	Telephone Roster	Action Guide- Checklist	Resource- Capabilities List	Response Plan	Coordination Plan	Ad Hoc
Emergency Response Notification	R	R	NA	R	R	(If plan is actually to be written, check under type it most closely resembles.)
Record of Changes or Amendments	R	R	R	R	R	
Letter of Promulgation	NA	NA	NA	O	O	
Foreword/Preface	NA	NA	NA	O	O	
Acknowledgment	NA	NA	NA	O	O	
Table of Contents	NA	NA	O	R	R	
Introduction	NA	NA	NA	R	R	
Emergency Response Operations	NA	R	NA	R	O	
Emergency Assistance Telephone Roster	R	NA	R	R	O	
Legal Authority and Responsibility	NA	NA	NA	O	R	
Disaster Assistance and Coordination	NA	NA	NA	R	R	
Procedures for Changing or Updating Plan	O	O	O	R	R	
Plan Distribution	O	O	O	R	R	
Spill Cleanup Techniques	NA	NA	NA	R	O	
Cleanup/Disposal Resources	R	NA	R	R	O	
Laboratory and Consultant Resources	R	NA	O	R	O	

R = Recommended

O = Optional

NA = Not Applicable

(continued)

TABLE 4-1 (Continued)

Sections	Telephone Roster	Action Guide- Checklist	Resource- Capabilities List	Response Plan	Coordination Plan	Ad Hoc
Technical Library or Bibliography	NA	NA	NA	R	R	(If plan is actually to be written, check under type it most closely resembles.)
Hazards Analysis	NA*	NA*	NA*	R	R	
Documentation of Spill Events	NA	NA	NA	R	R	
Hazardous Materials Information	NA	NA	NA	R	O	
Training Exercises	NA	NA	NA	R	R	

* While a Hazards Analysis is not included in these simple plans, it should still be carried out prior to preparing them. Consider distributing the hazards analysis in an accompanying letter when the plan is distributed.

4.3 DETAILED PLAN SECTIONS

The contents of each plan section will vary, depending on the type of plan and the planning level. As a general rule to follow, the higher the governmental authority issuing a plan, or the larger the area covered by the plan, the more comprehensive or the greater the length of each section will be. As an example, a hazardous materials spill plan for a city would contain a telephone roster with listings of local response personnel, local resources, and numbers for state or county assistance. Federal assistance telephone numbers would not necessarily be listed unless a strong federal program is in operation in an area. In most cases, federal telephone listings would be included in a more comprehensive plan such as state oil and/or hazardous material plans.

Many people will know what they want and what they can reasonably expect to include in a plan once they have reached this point in the guide, particularly if they have assessed their capabilities for either response or coordination planning (see pp. 3-12 to 3-16). For those who would like some additional guidance, we define three planning levels, as follows:

- Minimum Plan Content -- Those recommended elements of each plan that should always be included
- Major Plan -- An extensive plan with all major elements of response included

- Comprehensive Plan -- Incorporating in detail all major elements of both response and coordination

Suggested criteria for these planning levels are:

The Minimum Plan Content level of planning is appropriate for local agencies or small to medium communities whose environmental emergency role is response-oriented. The prime purpose is to create a plan that gets the job done within the confines of local budgets and capabilities. These are presumed to be limited and clean lines of communication must be left open to regional or state authorities for support.

Major Plans are for major population centers or state regional authorities or agencies who will want to consider planning in terms of both their own immediate mission and as a support to others within their jurisdiction. As well as being response-oriented, this planning level produces a plan with well-developed, comprehensive sections and strong coordinative ties to state assistance agencies.

Comprehensive Plans should be developed at the State level. Plan contents should strive for maximum completeness, be geared toward major incidents, and be well coordinated with federal response capabilities. This plan may be too bulky for field use, and subsidiary plans (rosters, action guides, resource lists) should be considered.

Checklist -- Those who like a still more definitive picture of what elements should be included at various planning levels are referred to the Checklist, Section C.

4.3.1 Emergency Response Notification (Front Page Notification)

This section is designed to provide the plan user with a quick handle on emergency response telephone numbers and hazardous chemical spill reporting information. The content of the initial spill report is often extremely critical. Incomplete or nonfactual information transmitted at the beginning of a spill event can lead to improper response and delays that can threaten public health and the environment to a degree more than necessary.

This emergency response section should be:

BRIEF -- never more than one page in length.

EASILY ACCESSIBLE -- located on the cover or first page of the plan.
It should also be repeated at least once inside the plan, in case the cover is torn off.

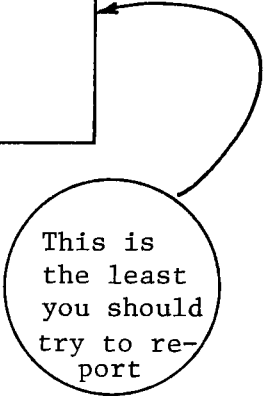
SIMPLE -- reporting information and emergency telephone numbers should be kept to a minimum.

The following is a sample of the type of information included on an emergency response notification page. You may wish to use part or all of this information, or generate new reporting information to suit your own needs.

- 24-Hour Emergency Response Hotline Telephone Number
- Emergency Reporting Information
 - Caller's name, telephone number, identification
 - Location and source of spill
 - Material spilled

- Time of spill
- Spill quantity
- Area and/or waterbody endangered
- Personnel at scene
- Actions initiated
- Shipper/manufacturer identification
- Container type
- Railcar/truck identification numbers
- Placard/label information

- Other Agencies to Notify Immediately



This is
the least
you should
try to re-
port

4.3.2 Record of Amendments or Changes (See also Section 5.0)

Maintaining an up-to-date version of a plan is of prime importance. When corrections, additions, or changes are made, they should be recorded in a simple bookkeeping style so that all plan users will be aware that they are using a current plan.

All that is necessary for this page is a set of columns indicating date of change, the changes made, and the signature of the person making the change. It is also a good idea to include a notice of where to report changes on this same sheet.

4.3.3 Letter of Promulgation

This letter is mainly a statement of the legal authority responsible for putting the plan into action. The letter is usually signed by the chief executive for the area the plan covers.

4.3.4 Foreword/Preface

This section may be included to express certain types of preliminary or introductory information that will not be addressed in the main body of the

plan. This type of information may consist of general background information or a statement of what the plan intends to do.

4.3.5 Acknowledgment

Within this section, you may wish to identify and congratulate specific members of the planning and response teams.

4.3.6 Table of Contents

The TABLE OF CONTENTS section is self-explanatory. Page references should be used to make sure key sections can be found quickly during emergencies. Critical maps, charts, and figures should also be clearly identified.

4.3.7 Introduction

The content of the INTRODUCTION section is more informational than functional. The more functional elements of the INTRODUCTION will be listed first.

- Abbreviations and Definitions
- Purpose/Objectives
- Scope
- Plan Policy
- Assumptions/Planning Factors

You may choose not to include all these items since some of them may be covered in other parts of your plan.

4.3.8 Emergency Response Operations

The actions taken to respond to a hazardous chemical spill are outlined in this section. The response operations are broken up into 11 phases:

- I. Notification of Spill
- II. Required Federal Notification
- III. Initiation of Action
- IV. Coordination of Decision-Making
- V. Containment and Countermeasures
- VI. Cleanup and Disposal
- VII. Restoration
- VIII. Recovery of Damages
- IX. Followup
- X. Special Response Operations
- XI. Agent-Specific Considerations

Each response phase is not a discrete response action which is entirely independent of all other phases, but for grouping purposes for this guide, the preceding list will be used. Several phases may occur simultaneously and may involve common elements in their operation. For example, during containment and countermeasures you may indeed be using cleanup and disposal techniques as part of containment operations.

I. Notification of Spill

The discovery of a hazardous material incident may be made at any time by a variety of persons: carrier, shipper, manufacturer, government worker, or bystander. It is necessary that these people have at their disposal a 24-hour telephone number to convey preliminary emergency spill information to the proper governmental agency. The type of information to be reported includes the following:

- Type of aid required
- Name, telephone number, and identification of caller
- Person to contact on scene
- Time of spill
- Location of spill
- Spilled material
- Behavior of material -- reactions observed
- Source of spill
- Weather conditions/local terrain conditions
- Population of area
- Personnel at scene
- Volume of spill
- Anticipated movement of spill
- Actions initiated
- Water bodies or streams involved
- Shipper/manufacturer
- Chemical placarding/labelling information
- Container type
- Railroad/truck ID numbers

The sections of the plan should

1. Repeat and reinforce any items you listed on the Front Page Notification (see p. 4-8)
2. Offer any explanations, discussion, or special comments on the items above that are appropriate to your area

3. Add any items that you decided not to include on the Front Page Notification, but which are obviously important to know about in the early stages of the spill situation
4. Be descriptive -- tell about how you want the act of notification carried out -- as well as list the items above

II. Required Federal Notification

800-424-8802
800-424-8802
800-424-8802

Any spill of oil or designated hazardous material must be reported to the above number, which is maintained by the U.S. Coast Guard. Make sure that either the spiller has done this, or designate it a specific duty of someone on the response team.

The designated hazardous materials have been listed by the EPA in the Code of Federal Regulations 40CFR116-119. There are about 300 such materials. Your best bet is to make sure any oil, oil product, or chemical spill is reported, and worry later whether it's on the list or not.

III. Initiation of Action

Before actually responding to a hazardous material incident, there are certain actions that must be taken to establish a firm base of operations. In this section, the following actions should be covered:

- Establish on-scene authority -- who's in charge
- Establish command post and communications network
- Identify material (from labels, shipping papers, placarding, CHEMTREC, the railway STCC system, etc.)
- Determine hazard threat (public health and environmental)
- Warn public
- Activate emergency response teams
- Establish priorities (public health, environmental)

IV. Coordination of Decision-Making

In any response, chances are there will be at least two agencies involved (local police and fire personnel). In major incidents there can be 10 or more, as the resources of state and federal level are needed, and these levels begin to exercise their responsibilities through various agencies. Experts may be called from industry to provide assistance. Work out in advance, to the greatest extent possible, the following:

- FIRST & FOREMOST, who will be in charge
- What will be the chain of command
- Who will maintain the command post
- When and to whom will the on-scene authority pass to another level
- Who will have advisory roles
- Who will have the technical say-so on response actions
- How do the principals keep each other informed
- Who is to make public statements
- Who (if anyone) will have veto power

V. Containment and Countermeasures

Actions taken during this phase are directed toward controlling the immediate spread of the hazardous materials. Depending on the type of spill, some or all of the following procedures may be employed and should be identified in this plan section:

- Fight fire (if any) -- avoid hazard to firefighters, and let it burn out if prudent
- Shut off source, whenever feasible
- Predict spill movement
- Contain the material (using any of the response techniques mentioned in the SPILL CLEANUP TECHNIQUES section)
- Contact spiller
- Contact spilled material manufacturers
- Hire a cleanup contractor
- Perform surveillance activities (in support of Phase VI and VII actions)

VI. Cleanup and Disposal

During this response phase, polluting substances are removed from the spill area using the types of methods listed in the SPILL CLEANUP TECHNIQUES section (pp. 4-23 to 4-24). Remember, it is the spiller's responsibility, by law, to clean up. A government agency should not interfere if the spiller is acting responsibly. Other actions to be considered in this section include:

- Determine spill cleanup responsibility
- Determine availability of approved disposal sites

- Consider reclamation/recycling of spilled material
- List temporary storage sites
- List cleanup funding sources

VII. Restoration

The purpose of this response phase is to restore the environment, to such an extent as practical, to natural conditions. Actions to be documented during this phase include assessment of damages, determining restoration guidelines, and replanting, restocking, etc.

VIII. Recovery of Damages

This section of the plan, which deals with the recovery of cleanup costs, should cover some or all of the following items:

- Investigative requirements (monitoring procedures, photographs, witness statements, etc.)
- Reimbursement procedures
- Legal ability to recover damages
- Determination of liability
- Methods for resolving disputes

IX. Followup

This section explains the use of post-spill monitoring data and other scientific reports for updating spill response procedures.

X. Special Response Operations

Safety of response personnel, wildlife cleanup and protection techniques, and special region-specific problems are documented in this section. The response personnel safety section should include a discussion of recommended safety equipment and personal hygiene activities.

XI. Agent-Specific Considerations

Depending on the results of your hazard analysis, you may want to include guidelines for response personnel to use in developing action procedures for the following material:

- Oil and petroleum related substances
- Hazardous chemicals
- Etiological (disease-causing) agents

- Radioactive materials

Oil and related petroleum products have received the most attention, and many specific response actions are available and well documented (see p. 4-23). In general, fire departments are prepared to cope with the fire hazard inherent in these materials. However, they may not be acquainted with or prepared to operate under the guidance of containment, which should be applied if at all possible. The Coast Guard handles huge spills involving tankers, and industry cooperatives have been established in most major port and refinery cities to cope in these areas. Producer and processor sites all have SPCC (Spill Prevention, Control & Countermeasure) plans for oil, as mandated by federal law. Any guidelines you establish should be consistent with this existing system, so you must establish just how the existing system affects and works in your particular area, and how to tie into it.

Hazardous chemicals will vary from area to area. The best guidelines for response to such materials are generally derived from the industry that manufactures them. As we have indicated many times, establish a rapport and a good working relationship with any industry in your area. Guidelines for specific materials of interest can also be obtained from a number of the reference works cited later (p. 4-26). Use of CHEMTREC (p. 4-31) as an on-the-spot information source, and activation of chlorine and pesticide response teams through CHEMTREC should be a part of your guidelines. On land, large quantities of chemicals travel in railroad tankcars, so be sure to include railroad company contacts in developing guidelines.

Etiological agents -- For disease organisms or highly toxic substances, guidelines must be established that will center around protecting the health of both the public and of response workers. Preventing spread, dissemination or proliferation of such agents should be the guiding principle. Local and state public health departments represent the best resource for establishing such guidelines, and for providing information on the need for specific response capabilities in your area. The Center for Disease Control (CDC), Atlanta, GA, is responsible for any federal response to the health aspects of toxic environmental exposures and emergencies. However, the CDC will act only if there is a clear request from state and/or local health authorities. Make sure this is understood by anyone concerned with response; a direct call to CDC will be treated as "information only," or simply as an alert, pending contact from the appropriate public health agency. CDC has provided clear guidelines to such agencies, defining their capabilities in response and technical support in emergency situations.

Radioactive materials -- Again, as with the etiological agents, guidelines must center around the health and safety of both the public and response workers, and preventing spread, dissemination or proliferation of the material has to be a guiding principle.

The area of response to radiological emergencies is already well developed and highly complex. Again, you must establish where you fit in. At the state level, there are generally RADEF (Radiological Defense) plans and operations that originated via Civil Defense, but which may be delegated to other agencies for action. State civil defense offices usually provide guidelines,

and guidelines may also be obtained from FEMA (see below).

The Department of Energy and the Nuclear Regulatory Commission (NRC) also provide guidance to states in emergency planning for fixed nuclear facilities (power plants, etc.). Two NUREG documents, and a recent joint FEMA/NRC report may be used for such planning. In addition, the EPA has provided "Protective Action Guidelines" for general use.

Several important guides are provided by DOT, including the interim edition of an action guide for responders to transport accidents (see below).

Active response teams are in place at the state level, and also via interstate agreement (for instance, the 15 Southern States, under the Southern Emergency Response Course, have developed the Southern Mutual Radioactive Assistance Plan), and at the federal level. The latter provides for IRAP -- Interagency Radiological Assistance Plan -- that uses primarily Department of Energy and Department of Defense capabilities to provide assistance and guidance in radiological emergencies. These are generally accessed through the nearest DOE or military installation.

There are a number of guides and planning documents available in this area, as follows:

CPG-6.1, Radiological Defense Preparedness. Federal Emergency Management Agency, Publications Office, Room 406, 1725 Eye Street, NW, Washington, DC 20472.

NUREG 00931, Handbook for Federal Assistance to State and Local Governments. Nuclear Regulatory Commission, Division of Document Control, Washington, DC 20555 (\$3.50).*

NUREG 75/111, Guide and Checklist for Development and Evaluation of State and Local Government Radiological Emergency Response Plans in Support of Fixed Nuclear Facilities. Nuclear Regulatory Commission, Division of Document Control, Washington, DC 20555 (\$3.25).*

NUREG 0654; FEMA-REP 1 - Criteria for Preparation and Evaluation of Radiological Emergency Response Plans and Preparedness in Support of Nuclear Power Plants. Nuclear Regulatory Commission, Division of Technical Information and Document Control, Washington, DC 20555 (free), or Federal Emergency Management Agency, 1725 Eye Street, NW, Washington, DC 20472.

Regulatory Guide 5.56, Standard Format and Content of Safeguards Contingency Plans for Transportation. Nuclear Regulatory Commission, Division of Document Control, Washington, DC 20555 (\$1.50).*

A Review of the Department of Transportation Regulations for Transportation of Radioactive Materials. U.S. DOT, Materials Transportation

* Checks payable to: Director, Division of Technical Information.

Bureau, Washington, DC 20540.

Response to Radioactive Material Transport Accidents. U.S. DOT, Materials Transportation Bureau, Washington, DC 20590.

EPA-520/1-75-001, Manual of Protective Action Guides and Protective Actions for Nuclear Incidents. U.S. EPA, Office of Radiation Programs, Washington, DC 20460.

4.3.9 Emergency Assistance Telephone Roster

An accurate and up-to-date emergency telephone roster is an essential item of any response-type contingency plan. All phone numbers should be verified by periodic calls checking to see that telephone numbers and personnel are still current.

A comprehensive telephone roster is shown on the next page. It is very likely that you will not need all numbers listed. Choose the phone numbers most appropriate to your situation for inclusion in your plan.

4.3.10 Legal Authority and Responsibility

In many cases, planned responses to hazardous material spills have been established as a result of laws, statutes, ordinances, etc. These laws usually provide the legal muscle to do some or all of the following:

- Authorize preparation of a plan
- Require spill notification
- Determine liabilities
- Impose penalties
- Require cleanup
- Define governmental responsibilities
- Appropriate funds for spill cleanup

This section gives the opportunity to explain what laws are in effect, who has the authority to enforce them, and what are the mandated responsibilities of government.

If writing a plan for a community, you will probably want to include all local ordinances dealing with spills, and any pertinent state legislation. If you wish, you might even make reference to the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR 1510) that encourages the formation of contingency plans at the local level (1510.42).

State contingency plans will want to reference appropriate state laws and federal laws and regulations, such as Section 311 of P.L. 92-500 (the Clean Water Act) and 40 CFR 1510, respectively.

SAMPLE TELEPHONE ROSTER

Contact/Alternate

Business/Home Phone

Community Assistance

(Note: If there are 24-hour numbers, or special time restrictions, so indicate.)

Police

Fire

Civil Defense

Environmental Protection Agency

Department of Transportation

Public Works

 Water Supply

 Sanitation

Rescue Squad

Ambulance

Hospitals

Utilities

 Gas

 Phone

 Electricity

Community Officials

 Mayor

 City Manager

 County Executive

Response Personnel

On-Scene Coordinator

Agency Coordinators

Response Team Members

Bordering Political Regions

Cities

Counties

States

River Basin Authorities

Interstate Compacts

SAMPLE TELEPHONE ROSTER (Continued)

	<u>Contact/Alternate</u>	<u>Business/Home Phone</u>
<u>Bordering Political Regions (cont'd)</u>		
Regional Authorities		
<u>Industry</u>		
Transporters		
Chemical Producers/Consumers		
Spill Cooperatives		
Spill Response Teams		
<u>Volunteer Groups</u>		
Red Cross		
Salvation Army		
Church Groups		
Ham Radio Operators		
Off-Road Vehicle Clubs		
Etc.		
<u>Media</u>		
Television		
Newspaper		
Radio		
<u>State Assistance</u>		
Environmental Protection Agency		
Civil Defense		
Department of Transportation		
Police		
Public Health Department		
Military Department		
<u>Federal Assistance</u>		
U.S. Dept. of Transportation (DOT)		
U.S. Environmental Protection Agency		

SAMPLE TELEPHONE ROSTER (Continued)

	<u>Contact/Alternate</u>	<u>Business/Home Phone</u>
<u>Federal Assistance (cont'd)</u>		
Federal Emergency Management Agency		
National Response Center	24 hours	800-424-8802
Center for Disease Control - Contact via State/Local Public Health		
U.S. Army		
Nuclear Regulatory Commission		
Radioactive Material Emergency Response		

Other Emergency Assistance

CHEMTREC	24 hours	800-424-9300
CHLOREP	24 hours	800-424-9300
NACA Pesticide Safety Team	24 hours	800-424-9300
Bureau of Explosives (AAR)		
Bomb Disposal and/or Explosive Ordnance Team, U.S. Army		
Poison Control Center		
Cleanup Contractor		

4.3.11 Response Organization Structure/Responsibilities

The purpose of this section is to describe the emergency response groups and organizational structure, spill response center operations, and the duties of key response personnel. The following is a listing, by governmental level, of the various types of hazardous material spills response operations. Pick the groups appropriate for your planning level and area and include clear definitions of their activities in your plan. To obtain correct information, you may need to make inquiries to appropriate emergency response or planning agencies.

Federal (Refer back to Section 3.3 for a discussion)

National Response Center
National and Regional Response Teams
On-Scene Coordinators

Environmental Response Team (EPA)
National Strike Force (Coast Guard)

State

State Response Center
State Response Teams
On-Scene Coordinator

Local

Local Response Center
Local Response Team
On-Scene Coordinator

In addition, emergency response groups and individuals such as coordinating committees, agency coordinators, and public information officers should be described. It is important, when defining the duties of the public information officer, that the news media release policy is clearly explained to ensure quality and accurate reporting.

4.3.12 Disaster Assistance and Coordination (See also pp. 3-17 to 3-21)

This section should indicate where assistance can be obtained when the operating emergency response system becomes overburdened during a hazardous material emergency. Pre-arrangements for assistance can be made with higher level governmental agencies, bordering political regions, industry, spill cooperatives, and provisions for interfacing with other contingency plans (either hazardous material or natural disaster) can be made.

It is important to be familiar with the civil defense disaster plan covering the area in question. When spill events or hazardous material emergencies reach disaster magnitudes or when a natural disaster threatens to complicate a hazardous material spill, governmental authorities must know who to contact to receive disaster assistance from the civil defense sector. This section should describe the mechanism for coupling with disaster plans.

Any coordination with outside agencies should be formalized through mutual aid agreements or memoranda of understanding specifying delegation of authority, responsibility, and duties. These agreements can be included in the plan if desired.

4.3.13 Procedures for Changing or Updating Plan (See Section 5.0 for more details)

This section provides the mechanism for ensuring that plan contents are kept in a correct and up-to-date manner. Accurate plan information is necessary for swift and efficient emergency response actions.

Responsibility should be delegated to someone to make sure that the plan

is updated frequently and that all plan holders are informed of the changes. Someone should periodically (at least every six months) check to see if stock-piled resources are available as indicated in the plan.

Notification of changes should be via some type of written memorandum or letter, and the changes should be recorded on the RECORD OF AMENDMENTS page.

4.3.14 Plan Distribution

The plan distribution list should account for all organizations receiving copies of the plan. This information is essential when determining who should be sent revisions and updates to the plan. Also, it is important for each group on the list to be aware of who has access and reference to the plan. This awareness will promote coordinated spill emergency readiness and response among the various organizations.

The following is a sample distribution list. Specific organizations will need to be listed for your planning area under some of the headings, but you will not want to include all the organizations indicated, since the distribution list will depend on the level and comprehensiveness of your plan.

DISTRIBUTION LIST

Federal Agencies

Environmental Protection Agency
Coast Guard
Corps of Engineers
National Weather Service
Federal Emergency Management Agency
Nuclear Regulatory Commission
Department of Commerce
Department of Transportation

State Agencies

Environmental Protection Agency
Civil Defense
Department of Transportation
Governor's Office
Public Health
State Police

Interstate Agencies

County Agencies

Municipal Agencies

Volunteer Groups

Industry

Chemical Manufacturers

Chemical Processors

Chemical Users

Petroleum Companies

Railways

Truckers

Others as Appropriate

Spill Cooperatives/Mutual Aid Groups

Bordering Political Regions

4.3.15 Spill Cleanup Techniques

Spill cleanup techniques are included in plans to provide emergency response field personnel with the proper methods for cleaning up and disposing of spills. Listed in this section are some of the most commonly used types of cleanup methods. Concentrate on the techniques that are applicable to the hazardous materials and terrain of your area. It may be helpful to include sketches and details on how cleanup should occur for certain areas where spills are expected.

The following references will give some background information on clean-up, containment, and fire prevention techniques:

- Manual for the Control of Hazardous Material Spills: Volume 1 -- Spill Assessment. EPA-600/2-77-227.
- Emergency Handling of Hazardous Materials in Surface Transportation. Bureau of Explosives, Pamphlets 1-4, Association of American Railroads.
- Fire Protection Guide on Hazardous Materials, 7th Edition. National Fire Protection Association.
- Hazardous Chemical Spill Cleanup 1979, J. S. Robinson (Ed.). Noyes Data Corporation, Park Ridge, NJ, 1979.

In addition to these references, local fire departments, environmental emergency response agencies, and spill control training courses should be consulted for more information. Also, the ASTM (American Society for Testing Materials), through its F-20 committee, is developing standards and guidelines for the various technological aspects of spill control.

If it looks like these techniques are beyond your local capabilities, consider a cleanup/disposal contractor. It may be possible to make standby arrangements with such a private company to provide needed services. None of these techniques should be attempted by other than trained and qualified personnel.

Every year, the U.S. EPA and the U.S. Coast Guard sponsor a National Conference on spill control, with the emphasis alternating each year between oil and hazardous materials. The presentations at these meetings provide the latest in information on control and cleanup techniques. An accompanying exhibit provides a showcase for manufacturers of equipment and service organizations to display their wares.

4.3.16 Cleanup/Disposal Resources

This section is similar to the yellow pages of the telephone book. It informs plan users of three important pieces of information:

- What types of resources are available (public and private)
- How much is stockpiled
- Where it is located (address and telephone number)

This section of the plan should include such resource items as:

- Cleanup/disposal contractors and services provided
- Cleanup material and equipment
- Communications equipment
- Emergency transportation (aircraft, four-wheel vehicles, boats, etc.)
- Cleanup personnel
- Personal protective equipment
- Approved disposal sites

This information can be gathered by sending to appropriate groups and agencies a questionnaire requesting the desired information. The questionnaire should be followed up or verified by a personal or telephone interview.

Organizations that may have resources for use during a hazardous material incident include:

- Public agencies (fire, police, public works, Fish & Game, etc.)
- Industry (chemical producers, transporters, storers; spill cleanup contractors; construction companies)

- Spill/equipment cooperatives
- Volunteer groups (ham radio operators, four-wheel vehicle clubs, etc.)

Resource availability will change with time, so keep this section of the plan up to date.

4.3.17 Laboratory and Consultant Resources

The scientific community can be a valuable source of technical information during hazardous material spill emergencies. Technical experts can provide such services as advice on chemical toxicity, reactivity, and environmental damage, and public and private laboratories may be equipped to perform chemical analyses for monitoring purposes or for determination of unknown spilled substances.

This section should identify the various scientific groups capable of providing technical support, the persons at these facilities to contact in an emergency, and the services available. Places to contact with regard to this type of information include:

- Colleges or universities
- Local health department
- Private or industrial laboratories
- Private consultants
- Government-supported laboratories or research institutes

4.3.18 Technical Library

Much information has been published on hazardous materials, hazardous material spills, and contingency planning. For an emergency response or planning organization, it could prove quite useful to maintain a technical library at a convenient location to serve as a reference source and an instructional tool.

This section should simply list the technical references kept on hand. The reference may be annotated to supply additional information about reference contents.

The following are some of the types of publications to be included:

- General References
 - Pertinent laws, legislation, regulations, etc.
 - Local and/or state oil and/or hazardous materials contingency plans
 - Bordering political region contingency plans

- Spill cooperative/mutual aid contingency plans
- EPA technical documents and other scientific publications on oil and/or hazardous materials
- A few selected specific references to be recommended are:
 - National Oil and Hazardous Substances Pollution Contingency Plan, 40 CFR 1510
 - EPA Regional Contingency Plans
 - Emergency Handling of Hazardous Materials in Surface Transportation, Bureau of Explosives Pamphlets 1-4, Association of American Railroads
 - Disaster Operations. A Handbook for Local Governments. CPG 1-6, July 1972, Federal Emergency Management Agency, Publications Office, Room 406, 1725 Eye Street, NW, Washington, DC 20472
 - * Hazardous Materials Spill Monitoring. Safety Handbook and Chemical Hazard Guide. Parts A and B. EPA 600/4-79-008a&b
 - Managing Hazardous Substance Accidents. Al J. Smith, McGraw Hill, New York, 1980 (in press)
 - Fire Protection Guide on Hazardous Materials, 7th Edition, National Fire Protection Association, 470 Atlantic Ave., Boston, MA 02210
 - Emergency Action Guide for Selected Hazardous Materials, 1978. U.S. Department of Transportation, 400 Seventh Street, SW, Washington, DC, 20590
 - Dangerous Properties of Industrial Materials, N. Irving Sax, Van Nostrand Reinhold Co., New York, NY
 - Fire Officers' Guide to Dangerous Chemicals, Charles W. Bahme, National Fire Protection Association, 470 Atlantic Ave., Boston, MA 02210
 - * Manual for the Control of Hazardous Material Spills: Volume 1 -- Spill Assessment. EPA-600/2-77-227
 - Guidelines to the Handling of Hazardous Materials, Darrel J. Behrendsen (Denver Police Department). Source of Safety, Inc., 8303 E. Kenyon Blvd., Denver, CO 80237.
 - * Development of an Emergency Response Program for Transportation of Hazardous Wastes, EPA Report SW-171C

* For EPA report availability, contact Patricia Folker, U.S. EPA, Cincinnati, OH 45268.

- Transportation Emergency Action Guides for Hazardous Materials Incidents (a wall chart). JODY Incorporated, P.O. Box 88884, Atlanta, GA 30338
- * Land Disposal of Hazardous Wastes, EPA-600/9-78-016
- * Field Detection and Damage Assessment Manual for Oil and Hazardous Material Spills, EPA Division of Oil and Hazardous Material
- A Survey of Personnel Protective Equipment and Respiratory Apparata for Use by Coast Guard Personnel in Response to Discharges of Hazardous Chemicals. NTIS ADA-010-110, National Technical Information Service, 5285 Port Royal Road, Springfield, VA 22161
- Maps
 - Land use
 - Topographic
 - Environmental
 - Streams, drainage basin

4.3.19 Hazards Analysis (See also Section 3.2.1, p. 3-8)

This analysis consists of determining where hazards are likely to exist, what places would most likely be adversely affected, and what is the probability that a hazardous material incident could occur at a given location. A detailed method for conducting a hazards analysis was given earlier (Section 3.2.1).

To identify probable sources of hazardous materials pollution, oil and chemical manufacturers, users, storers, and transporters need to be interviewed, either in person or through a written questionnaire, about their activities. At the same time, experts can be identified, and the company's interest in establishing a cooperative agreement, support, assistance in spill problems, etc., can be established.

Industries to be contacted include:

- Farm and Related Industry
 - Crop dusting
 - Fertilizers
 - Pesticides

* For EPA report availability, contact Patricia Folker, U.S. EPA, Cincinnati, OH 45268.

- Petroleum Industry
 - Bulk consumers
 - Producers
 - Oil fields
 - Refineries
 - Storage facilities
 - Waste disposers
 - Refueling facilities
 - Bulk terminals
- Transporters
 - Airway
 - Highway
 - Waterway
 - Pipeline
 - Railway
- Chemical Industry
 - Manufacturers
 - Processors
 - Distributors
 - Recycling plants
- Manufacturers (Chemical Users)
 - Rubber
 - Paint
 - Plastics
 - Textiles
 - Soap/Detergents
 - (Many others)
- Waste Disposal
 - Sanitary wastes
 - Hazardous waste

Any written questionnaire should be sent to management-level officials and be accompanied by correspondence indicating how the information will be used. The questionnaires should be aimed at learning the following:

- Hazardous materials and trade names
- Hazardous properties
- Product safety information and emergency guidelines
- Types of storage/shipping containers
- Transportation routes/frequency
- Persons to contact for technical assistance
- Company spill plans, and possibility of interfacing with community plans

The next step is to determine at what locations a hazardous material incident would cause the most problems in terms of public health and environmental protection, the first and second priorities, respectively. Questions similar to the following should be raised:

- Are drinking water intakes close to any major transportation artery or hazardous material facility?
- At what sections of the highway are transportation accidents most likely

to occur? At the narrow bridge over the stream feeding into town?

- What sections of the highway are subjected to severe natural elements (rain, flooding, ice, etc.)?
- Historically, what have been the major problem areas?
- Are chemical storage, production facilities, or pipelines located in the flood plain or near earthquake zones?
- What natural disasters are common to the area, and is it likely they will cause or contribute to a hazardous material incident?

These and similar questions need to be asked so that emergency readiness can be planned. It may be helpful to plan in detail for certain types of expected emergencies. For instance, cleanup supplies and equipment can be stockpiled at key locations, evacuation routes can be planned in advance, and specific response procedures can be practiced in advance. But keep in mind, many types of accidents may occur besides the most expected ones. Therefore, make sure plans remain flexible, even though only a few types of emergencies are common for an area.

In the plan, in addition to whatever maps you might include, it may also be useful to make lists of the following items for reference during emergency situations:

- Transportation corridors
 - Railway
 - Airway
 - Pipeline
 - Highway
 - Waterway
- Oil and Hazardous Material Facilities
 - Producers
 - Storers
 - Consumers
- Areas of Public Health Concern
 - Drinking water intakes
 - Vulnerable population centers
 - Hospital locations
 - Schools, playgrounds

- Sensitive environmental areas
 - Wildlife habitats
 - Parks and recreational areas
 - Wild and scenic rivers
 - Historical sites
 - Archeological areas

4.3.20 Documentation of Spill Events

Written reports are necessary to successfully evaluate a hazardous material incident as well as lending support to possible cost reimbursement and legal action. The following is a list of the various types of reports that have been used to document hazardous material spill events. From the descriptive information given, choose the reports or parts of reports that are applicable to your situation. It is important that all reports be written using a standard format to facilitate information gathering.

Initial Pollution Incident Report reports the initial specifics of a spill, e.g., time, location, material and quantity spilled, spiller, source of spill, public health hazards, agencies contacted, comments, etc.

Chronological Log maintains a minute-by-minute account of spill response activities, e.g., emergency response team activation, call for state/federal help, commence sampling of contaminated area, etc.

Final Pollution Incident Report summarizes the total event including cause of incident, incident critique, damage assessment, expenditures, liability conclusions.

Spiller's Report - Spiller's version of the spill incident including time, cause of spill, material and quantity spilled, location, cleanup actions taken, etc.

Investigative Report - Foundation for civil action against spiller or violator. Report includes who, what, why, when, where, how, witness statements, photographs, etc.

4.3.21 Hazardous Materials Information

This section should provide technical support information on hazardous materials. Information to be developed in this section includes the following:

- Listing of common hazardous materials
- Hazardous material definitions (49 CFR parts 100 to 199) and 40 CFR 112-116
- Technical information
 - Chemical properties

- Physical properties
 - Measurement techniques
 - Toxicological data
 - Response personnel safety data
 - Recommended fire-fighting techniques
- Shipping regulations (packaging, labelling, and placarding)

Excellent technical information can be obtained from the following references:

- Fire Protection Guide on Hazardous Materials, 7th Edition -- National Fire Protection Association
- Emergency Handling of Hazardous Materials in Surface Transportation -- Bureau of Explosives Pamphlets 1-4, Association of American Railroads
- Emergency Action Guide for Selected Hazardous Materials, 1978 -- U.S. Department of Transportation
- Hazardous Materials Spill Monitoring, Safety Handbook and Chemical Hazard Guide, Parts A and B. EPA 600/4-79-008a&b

Information on federal hazardous material shipping regulations is available from the Material Transportation Bureau of the U.S. Department of Transportation. Also, local transportation or highway departments should be checked to determine regulations that affect hazardous material transportation.

4.3.21.1 CHEMTREC

CHEMTREC stands for Chemical Transportation Emergency Center, a public service of the Chemical Manufacturers Association, with offices in Washington, DC. CHEMTREC provides immediate advice for those at the scene of emergencies, then promptly contacts the shipper of the chemicals involved for more detailed assistance and appropriate followup.

CHEMTREC operates around the clock -- 24 hours a day, seven days a week -- to receive direct-dial toll-free calls from any point in the continental United States through a wide area telephone service (WATS) number, 800-424-9300 (483-7616 for calls originating within the District of Columbia; 202-483-7616 for calls originating outside the continental U.S.).

As circumstances warrant, the National Transportation Safety Board or appropriate offices of other agencies may be notified.

CHEMTREC is not intended and is not equipped to function as a general information source, but by design is confined to dealing with chemical transportation emergencies. CHEMTREC should not be called on problems other than chemical spill emergencies.

An emergency reported to CHEMTREC is received by the Communicator on duty, who records details in writing and by tape recorder. The Communicator then attempts to determine the essentials of the problem. This is to enable him to provide the best available information on the chemical(s) reported to be involved, thereby giving specific indication of the hazards and what to do (as well as what not to do) in case of spills, fire, or exposure as the immediate first steps in controlling the emergency. Information on the various chemicals, as furnished by the producers, is within easy reach. Trade names and synonyms of chemical names are cross-referenced for ready identification by whatever name is given.

CHEMTREC's Communicators are not scientists. They are chosen for their ability to remain calm under emergency stresses. To preclude unfounded personal speculation regarding a reported emergency, they are under instructions to abide strictly by the information prepared by technical experts for their use.

Although proceeding to the second stage of assistance becomes more difficult where the shipper is unknown, the Communicator is armed with other resources to fall back on. For example: Concerning radioactive materials, CHEMTREC can call on the Department of Energy.

Mutual aid programs exist for some products. Arrangements of this sort are established on chlorine through the Chlorine Institute and on pesticides through the National Agricultural Chemicals Association. The former has CHLOREP, the Chlorine Emergency Plan, in which the nearest producer responds to a problem. NACA has a Pesticide Safety Team Network of some 40 emergency teams distributed throughout the country. CHEMTREC serves as the communications link for both programs.

4.3.22 Training Exercises (See also Section 5.0)

The most important tool in keeping a plan functionally up to date is the training exercise. These are simulated spill exercises where emergency response personnel act out their duties and coordination interfaces are checked for proper match-up. The exercises can be desk-top/paper types, or they can be realistic enough so that equipment is deployed, communication gear is tested, and "victims" are sent to hospitals with simulated toxic exposures. The purpose of exercises may be threefold:

- To test the adequacy of the plan
- To train personnel
- To introduce new procedures, concepts, or equipment

For a broader understanding of the importance of training and exercises, the planner should read pp. 5-9 et seq. before completing this section of the plan.

This section of the plan should establish the following minimum criteria:

- Authority in charge of training exercise
- Frequency of training exercises
- Procedure for evaluating training performance and making changes to contingency plans as necessary (see pp. 5-9 et seq for suggestions).

The nature of training simulations should be related to how often a plan is used. If the plan is used in response to many real spill situations, then training exercises should emphasize two things:

- New equipment, concepts, procedures, and/or
- Uncommon spill situations

This last is recommended because scenarios that simply repeat situations with which everyone is familiar will not challenge the flexibility and resources of the plan and the personnel who operate within its framework.

If a plan is used but seldom, then scenarios should also include the most likely spill situations for your area. Use your Hazard Analysis for a guide.

Remember: A training exercise must be carefully worked out and executed if it is to be effective. Half-hearted efforts will generate a false sense of security. Each exercise must be followed with a realistic critique. See also page 5-8 .

4.4 DECISION POINT #3

4.4.1 What Type of Plan Do I Want?

- a. I've already decided. Without question, it will be a:

- Telephone Roster ☐
- Action Guide/Checklist ☐
- Resource/Equipment List ☐
- Response Plan ☐
- Coordination Plan ☐
- Ad Hoc Plan ☐

Get on with your plan. Skip to 4.4.2 to decide what to put in it.

- b. I could probably decide if:

- (1) I knew what was right for my level of government ☐

Read p. 4-1, then go back to 4.4.1, a.

- (2) I had a good idea of what was in each type of plan ☐

Read pp. 4-2 to 4-7, then go back to 4.4.1, a.

- (3) I really knew a whole lot about what was in each type of plan ☐

Read pp. 4-7 to 4-33, then go back to 4.4.1, a.

- (4) I weren't so confused ☐

You're probably trying to swallow too much at once. Go back and rest awhile in the AWARENESS section, and let the different concepts of WHAT KIND OF PLAN (pp. 2-11 to 2-16) sink in. Then read Section 4.1, and try again.

c. I'm going to:

- (1) Let my boss decide ☐

- (2) Let the committee decide ☐

- (3) Put it to a vote ☐

- (4) Ask _____ and see what they have ☐
(neighboring town, state, agency)

- (5) Read Section 4.0 and then decide ☐

You can guess what we recommend.

4.4.2 What Sections Will the Plan Contain?

- a. I know exactly what I want ☐

Skip down to 4.4.3. (But if you're just a little unsure, read Section 4.2.)

- b. It doesn't matter, all plans contain pretty much the same thing ☐

You are mistaken. See p. 4-2.

- c. I don't know what's meant by "sections" ☐

Read Section 4.2 (pp. 4-2 to 4-7).

- d. Well, at least it doesn't matter what order they're in ☐

Wrong again. See p. 4-8.

- e. I wish I had a listing of sections by plan type, so I could pick what I need ☐

Now you're talking. See Table 4-1 (p. 4-6).

- f. I'm going to:

- (1) Let my boss decide ☐
- (2) Let the committee decide ☐
- (3) Put it to a vote ☐
- (4) Ask _____ and see what they have ☐
(neighboring town, state, agency)
- (5) Read Section 4.0 and then decide ☐

We just went through this a few minutes ago.
Remember?

4.4.3 What Will be Detailed in Each Section?

- a. I know exactly what I need ☐

Not likely. Keep reading.

- b. I'll let the concerned agencies worry about that ☐

Who's going to guide them?

- c. The details will be pretty much the same regardless of level of government concerned ☐

No. See pp. 4-7 to 4-8 .

- d. I want to:

- (1) Just do the minimum necessary ☐
- (2) Develop a hefty plan ☐
- (3) Really do a comprehensive job ☐

First, make sure it's right for you (see pp. 4-7 to 4-8).

- e. I have a good idea of what I want, because I have already assessed local capabilities ☐

Probably true. Get on with your planning.

f. I just need an outline, then I can decide ☐

See pp. 4-2 to 4-5.

g. Maybe if I had some kind of checklist I could decide ☐

OK. Read pp. 4-6 to 4-7 , then proceed as indicated there.

5.0 PLAN APPRAISAL AND CONTINUING PLANNING

5.1 PLAN REVIEW AND APPROVAL

There are a number of approaches to the question,

IS THE PLAN ANY GOOD?

The first step comes immediately after the plan is assembled, completed, and edited, but before it is issued, and takes the form of one or more of the following:

- Self-Review
- Peer Review
- Committee Review
- Higher Level Approval

The suggested use of these techniques for the various types of plans is shown in the chart below. Look at what you should be doing for your plan, then skip ahead and read about it.

Plan Type	Review Method			
	Self-Review	Peer Review	Committee Review	Upper Level Review
Telephone Roster	✓✓	x	x	OK
Action Guide & Checklist	✓	✓✓	x	OK
Resource & Equipment List	✓✓	x	x	OK
Response Type	x	✓	✓✓	✓
Coordination Plan	x	✓	✓✓	✓
Ad Hoc Plan	✓✓	x	x	x

- ✓ Minimum Necessary
- ✓✓ Recommended Approach
- x Not Appropriate
- OK Only if Required

UPPER LEVEL REVIEW is always desirable, and in some cases may be absolutely necessary in order to formalize commitments, agency assignments, etc. You will have to judge this requirement for yourself.

SELF-REVIEW means going over the finished plan yourself to see if it's all right. But if it's finished, doesn't that mean it must be all right? In order to avoid this complacent little trap, a CHECKLIST (p. C-1) has been provided so you can see how your plan stacks up. USE IT! -- No matter how simple your plan has turned out, TRY TO BE HONEST! Remember, what you are turning out in the way of a plan could affect lives and property -- and you live here, too.

PEER REVIEW means finding someone else to review your plan, who knows what he's doing. PEER should mean someone with capabilities equal to your own in contingency planning, but that may be tough to find about now. After all, you just finished working out a plan, and probably know more than any of your co-workers about the problems and content of that plan. DON'T just hand the plan to the guy in the next office and ask him to "look it over." That is not peer review. The simplest and quickest way to get a reasonable approximation of peer review is to give your plan and this guide to someone and ask him to go through the CHECKLIST (p. C-1) for you. Now all you have to do is find the right person to do that job. Go back (p. 3-2) and look at the qualifications for selecting people to prepare plans. You want someone who:

- Is Honest
- Is Objective
- Is Conscientious
- Won't Nit-Pick
- Understands what the plan's all about

If you plan to use peer review on a plan that's being prepared by a committee, it's wise to try to identify the reviewer early, and include him in the committee from the very beginning. This will ensure his understanding of the scope and purpose of the plan.

DO NOT SELECT

- A Superior
- A Subordinate
- A "Yes Man"
- Anyone with an axe to grind
- A specialist on some part of the plan

You may have to go outside of your own department, or even outside of the framework of your own government level to find the most appropriate person (you might even find a True PEER). There's nothing wrong with that. How about:

The safety or environmental engineer in a local industry?

A Principal/Superintendent, local school system?

A College Professor? (May ask consultant fee.)

A concerned citizen's group? (Such groups as the League of Women Voters and many others provide a high level of objectivity along with the appropriate environmental awareness.)

COMMITTEE REVIEW uses the same committee that prepared and submitted the individual parts of the plan. This process does not suffer from the "it's finished, so it's all right" trap that the individual can fall into, because the committee members are asked to review the total plan (and they will automatically be critical of all parts of the plan except the part they wrote themselves — that's only human nature).

COMMITTEE REVIEWERS should be given the following instructions:

1. Follow the CHECKLIST if it helps you.
2. Be honest, etc. (see PEER listing, above).
3. Do the following, WITHOUT FAIL, even if they do nothing else:
 - a. If YOU EXPECT SOMETHING (support, response, contact, whatever) from another organization or person as a part of the action to be taken, make sure that it's spelled out and understood by that organization in their part of the plan, or by other identifiable agreement.
 - b. If another organization/person EXPECTS SOMETHING OF YOU, make sure you know what it is, and are prepared to do it.
4. Set a deadline for comments. However, ask any agencies/groups/persons who run into problems in 3a and b above to work out the appropriate revision, not just say, "It ain't there," or "we can't do it" when they turn in their comments.

UPPER-LEVEL APPROVAL generally means, submit something to your boss, see if he likes it, and get him to "sign it off." Most management-level people are pretty good at doing this job the way it was meant to be done; after all, direction, review, and evaluation of subordinates' work is what management's all about. Make sure your boss has the proper tools to do the review job:

1. If he assigned you the job, remind him of the original constraints and conditions he imposed.
2. Complete either peer or committee review prior to submission for upper-level approval and submit the results of that review along with the plan.

3. Suggest the CHECKLIST.

4. Set a deadline (allow enough time). TELL HIM! "I'd like to have this back by (date) so we can issue it before (whatever's appropriate)."

AFTER THE REVIEW IS OVER, you, as planner, planning committee chairman, or editor, have to make some final decisions on what to change or revise.

1. Omissions. If there are any, they should be fixed. That's obvious.

2. Additions and Alterations

a. Make sure you are not going beyond what was originally intended.

b. Make sure you aren't adding detail to the point where you're writing a manual (see p. 2-23).

c. On the other hand, make sure you don't leave something out or leave something in that's incorrect, just because you don't feel like reworking part of the plan.

3. Erroneous comments are bound to turn up once in awhile. Someone misunderstood something. However, check and be sure -- maybe there's confusion in the way something's written. English is a deceptive language.

4. Disagreements between you and the reviewers may occur. Discuss them, and try to reach a solution. Keep such disagreements out of committee meetings; save them for private contacts/communications.

After you've been through the review cycle once, GET ON WITH IT. Don't re-review, distribute results for comment, or otherwise quibble. Make changes, issue the plan, and start using it. Everything from here should be considered updating and improving. If anyone is still in disagreement with some part of the plan, make sure he understands that there will be future opportunities for change. Be careful: Make sure any leftover disagreements don't interfere with function. In that case, they have to be cleared up.

5.2 KEEPING A PLAN UP TO DATE

All plans get out of date: people change jobs, new telephones are installed, new equipment is purchased, old equipment is scrapped, companies go out of business, department and agency responsibilities change, etc. Keeping a plan up to date is difficult, unless you have a high frequency of spills, and the plan gets a lot of use. Interviews with state and local officials have indicated that plan updating is one of the biggest problems, if not the single biggest problem, in contingency planning. There is no ready, 100-percent foolproof solution to this problem, so overkill is recommended. Use as many of the following techniques as possible -- preferably all of them -- and think up some of your own.

1. Establish a regular review period, preferably every 6 months; never less than annually.
2. Make one person or one department/branch responsible for review. Choose with reliability in mind.
3. Choose another person, or another department/branch to whom the results of the review must be reported (in addition to the normal distribution of changes).
4. Include a "Record of Amendments and Changes" sheet in the front section of the plan (see Section 4.3.2). When changes are sent out, people having copies of the plan should have, as a minimum, spaces to enter the following:

Date
Pages Affected
Nature of Change

5. Include a "Where to Report Changes" notice in the plan, and a plea for holders of the plan to report any changes or suggested revisions to whoever's responsible (see 2, above).
6. Make any sections of the plan that are subject to frequent changes either easily replaceable (looseleaf, separate appendix, or however you like), or provide lots of blank space (double- or triple-spaced typing) so that old things can be crossed out and new things easily written in. This applies particularly to TELEPHONE ROSTERS and RESOURCE & EQUIPMENT LISTINGS.

The responsible person/department/branch (2, above) should do the following:

1. Maintain a list of plan holders, based on the original distribution list, plus any new copies made or distributed. Since copying machines abound, it is wise to send out a periodic request to departments/branches showing who is on the list, and asking if anyone should be added.
2. Test/check all telephone numbers, persons named with particular responsibilities, equipment locations/availability, and so on. In addition, ask departments/agencies to review sections of plans defining their responsibilities and action.
3. Distribute changes. Be specific ("Replace page xxx with the attached new page," or "cross out (whatever) on page (so and so) and write in the following (new phone number, name, location, etc.). Any key changes (i.e., emergency phone number change, equipment availability, etc.) should be distributed as soon as it occurs. Do not wait for the regular review period to notify plan holders.

4. Send a periodic letter to all plan holders, even if there are no changes, and ask them to record it:

Date: whatever

Pages Affected: (None)

Nature of Change: (None: Regular Review)

5. Request an acknowledgment of changes from whomever you send them to. The best way to do this is to include a self-addressed send-back sheet ("I have received and entered changes dated _____. Signed (whoever)").
6. Attend any plan critique meetings and issue changes as may be required (see below, p. 5-8).

5.2.1 Computer Techniques: Word Processing

Word processors allow the storage of data -- telephone rosters, equipment lists, resources plan sections, entire plans -- and allow the material to be revised by simply telling the processor what to do, what changes to make, what to delete or add.

Word processing has the following advantages:

1. It makes revision and update less of a chore.
2. It is rapid.
3. It allows for more frequent updating, even with large plans.

The use of word processing techniques does not change any of the previous recommendations on plan updating (see 5.2 above). It will only make it easier for the person or department that is responsible to do the job -- and that, of course, is an important thing to consider.

Disadvantages of word processing are:

1. It may not be cost-effective for small plans, unless it can be piggy-backed onto an existing computer in some fashion, such as by time-sharing.
2. If large sections of a plan are updated at one time, individual changes are not readily evident.

- Therefore -

3. A manual backup notification system may be necessary to assure that key changes are noticed by everyone concerned.

A basic word processing system would consist of the following functional units:

- A keyboard entry terminal for manual entry of plan text and subsequent updating of plan data
- A storage module (i.e., magnetic cards, magnetic tape, disk) to archive the plan and allow easy access to the text to make updates and produce copies
- An output device (i.e., line printer, high-quality terminal) to produce printed copies and updates of the plan
- An interactive word processing software package to serve as interface between the hardware devices and the user of the system. This package should support text input, text modifications, and formatting and finished document outputting.

A viable word processing system must provide all of the above functionality regardless of the size of the plan to be stored. However, depending on the physical size of the plan, the actual hardware/software configuration will vary.

A small plan, e.g., a local agency response plan of some 20 or 30 pages of text, would require a minimal configuration. A plan such as this would require storage of approximately 100,000 characters. A requirement such as this would be served very well by a magnetic card typewriter based system. By giving careful consideration to the initial layout of the plan, future updating and modifications would be handled very well by this type of system with a minimal cost to the user.

A large plan, e.g., a comprehensive state plan and operations manual or an emergency preparedness plan of several hundred pages requiring frequent modification, routine updating and frequent access, would require as much as a million characters of storage. A faster, more versatile system such as a commercial word processing package based on a full-fledged computer system would be preferable. The output device should be fast enough to enable a complete copy of the plan to be produced in a reasonable amount of time.

There are several important considerations when deciding upon the type of word processing system to be employed. These include, but are not limited to, cost, functionality, reliability, and frequency of use. In general, an agency should try to choose a system that fulfills its needs at a minimum cost. However, the agency should also take into account the availability of qualified personnel to operate and maintain the system. In many cases, agencies will find it is more cost-effective to lease or time-share word processing services rather than purchase and maintain their own system.

5.3 CONTINUING PLANNING

The final question,

HOW DO I IMPROVE MY PLAN?

should always be left open, because planning should never truly stop. The

first step in continuing planning was treated separately earlier, because it is an extremely important and difficult item to deal with:

KEEP UP TO DATE (p. 5-4)

Additional steps in continuing plan improvement are:

INCIDENT REVIEWS AND CRITIQUES

EXERCISES

TRAINING COURSES

INCIDENT REVIEWS AND CRITIQUES should be held after an actual spill or other problems covered by the plan, and the basic idea is to find out if anything slipped through the cracks. Suggestions on the critique/review follow.

1. Make the person who's in charge of plan updating also be responsible for conducting the incident review.
2. Let the dust settle before conducting a review. Wait until at least a week has passed; this gives people a chance to get minor irritations out of their system.
3. Avoid Critique and Incident Review meetings, unless you know that everyone who is attending is capable of giving and accepting truly constructive criticism (very rare!). Otherwise, you run the risk of the meeting degenerating into accusations, confrontations, recriminations, and timid silence, particularly if things got fouled up. And that's exactly when you need the most feedback -- after things get fouled up.
4. Send a questionnaire letter to everyone involved in the spill, asking for comments and suggestions. Again, it's best if you include some sort of self-addressed send-back form. Keep responses confidential.
5. Failure to answer your request for comments can itself indicate a problem. Follow up with a phone call.
6. Look for true plan deficiencies: things that were overlooked, improperly identified, or just didn't work the way they were supposed to --

- HOWEVER -

7. -- Chances are, you're going to get a lot of personal or departmental deficiencies pointed out in response to your request. Such things as failure to communicate, slowness to respond, not knowing the job, and so on, are indeed problems, but not plan problems. Handle them separately, or let the appropriate people know about them (informally!) Don't make matters worse by sending out a bunch of finger-pointing letters.

8. Do something about it. If you do uncover a true deficiency, get the wheels in motion to correct it. (New planning session; request appropriate person/department to rewrite section; revise and re-issue it yourself.)

EXERCISES/TESTS are simulated incidents that allow you to try out the plan; they are "dry run" situations. They can range in complexity from a simple paper and pencil desk-top exercise to a full-scale, real-time mock disaster.

DON'T EVER IGNORE THE NEED for continuing exercises and training via such exercises. Mismanagement of incidents can be traced more often to plain ignorance -- lack of training -- than to anything else. Exercises should be aimed at letting you always have the answers (the right answers!) to three questions:

1. Is the plan adequate, or are there holes in it?
2. Are the personnel trained -- at all levels -- to function under the plan?
3. Does everyone understand the latest concepts, procedures, and equipment?

The last of these is particularly important if there have been changes in the plan, or new developments (equipment, capabilities, personnel) that require familiarization.

The extent and type of exercise can be varied to adapt to your particular plan. If your plan is used in many real spill situations, you will not test your capabilities by fighting the same war over again. Try to set up situations that are uncommon. You can use your Hazard Analysis as a guide if you don't have many actual spills. In this case, you should simulate the situations you expect most likely to occur.

IT IS PARTICULARLY IMPORTANT to conduct exercises if you have few real spills. Don't let your plan gather dust in a file drawer, and expect everything to go smoothly the first time you need it.

CIVIL DEFENSE should, if possible, be given charge of conducting tests and exercises; they generally have been conducting disaster drills, and either have access to or can adapt an exercise to center around spill situations. An existing Hazardous Material Exercise of the desk-top variety is available from FEMA, Region 8, Denver Federal Center, Building 710, Denver, CO 80225. Ask for "DOWNWIND."

Some notes about exercises:

1. If your plan is already very actively in use, don't repeat actual situations in exercises.
2. Do have a critique and review meeting, and hold it immediately after

the exercise. People tend to discount problems encountered during exercises, so you want to get to the results as soon as you can. Chances of dissention between people in this meeting are small. They already have an adversary (the exercise director) and an automatic excuse ("Well, it was only a game") for any misadventures.

Again, as after a real incident (see p. 5-8):

- Distinguish between
Plan Deficiencies
and
Personal and departmental deficiencies
- Do something about plan deficiencies.

TRAINING COURSES can help with continuing planning by:

- Sharpening response personnel skills
- Presenting latest ideas/techniques
- Contact with other people in the business

EVERYONE ON A RESPONSE TEAM MUST BE TRAINED.

EVERYONE DESIGNATED IN THE PLAN SHOULD BE TRAINED

The latter should apply to people at all levels who serve to coordinate, manage, or have responsibilities under the plan without being directly involved at the scene of an incident. This is the only way that they can have a full appreciation of the importance of their role and the effect that they may have on plan functions.

Following is a list of some of the more comprehensive courses available across the country. (Note: listing of these courses is for information only; no endorsement by the U.S. EPA or Rockwell International is intended or implied.) The indicated address and telephone number will allow you to contact someone for detailed information, current fees and schedules. The list is alphabetical.

Contingency Planning for Hazardous Materials. Five-day course, lecture and extensive role-playing simulation. Held at the Institute. Contact: California Specialized Training Institute, Camp San Luis Obispo, Bldg. 904, San Luis Obispo, CA 93406. Tel: 805-544-7101.

Handling Hazardous Materials Transportation Emergencies. Three-day slide-tape-exercise course. (Note: the slides, tapes, exercise books and instructor's manual may be purchased for use as a

"home study" course.) Goes to various cities. Contact: NFPA Seminars, Educational Technology Unit, 470 Atlantic Ave., Boston, MA 02210. Tel: 617-482-8755.

Hazardous Materials. Three- or four-day lecture courses. Held either at the Center or in various other locations. Contact: The Center for Professional Advancement, P.O. Box H, East Brunswick, NJ 08816. Tel: 201-249-1400.

Hazardous Materials. Both a three-day awareness lecture course and a two-week in-depth lecture, demonstration and participation course are available. The latter is sponsored by the U.S. DOT. Contact: Colorado Committee on Hazardous Materials, P.O. Box 22533, Wellshore Station, Denver, CO 80222. Tel: 303-289-4891.

Hazardous Materials Training Seminar. Five-day lecture course. Goes to various cities. Contact: Toxic Substance Control Laboratory, Vanderbilt Medical Center, Nashville, TN 37232. Tel: 615-322-4754.

Incident Management: Hazardous Materials. Two weeks, with lectures and extensive simulation and role-playing. Designed for fire officers. National Fire Academy, Route 1, Box 10A, Emmitsburg, MD 21727. Tel: 301-447-2501.

Oil Spill Control Course. Five-day lecture, demonstration and exercise course. Held at Galveston, TX. Contact: Oil and Hazardous Material Training Division, Texas Engineering Extension Services, The Texas A&M University System, F.E. Drawer K, College Station, TX 77843. Tel: 713-845-2112 or 845-7621. (Note: Workshops, conferences, and courses on other related subjects are also available.)

Oil Spill Control Training Course. Five-day lecture and demonstration course held at the School. Contact: National Spill Control School, Corpus Christi State University, 6300 Ocean Dr., Corpus Christi, TX 78412. Tel: 512-991-8692.

In addition, there are many shorter and/or more specialized courses that may be available at the State level, presented by the State Fire Academy, Police Academy, Environmental Control Agency, or other concerned groups. For instance, the State of Tennessee operates a Hazardous Materials Training Institute providing both general and specific courses on tactics in spill situations. ASK AROUND!

Many industries provide specialized training or information as a continuing part of their public relations and awareness programs. In particular, many railways will conduct familiarization and training programs for fire and emergency service personnel along their rights-of-way. Contact manufacturers, railways, and local trade associations to inquire. Fees and costs will vary. An increasing number of companies in the training business now are appearing on the spill control scene, and you may be able to find textbooks, slide/

cassette programs, or other courses/course material to fit your needs. You will have to be your own judge of cost versus benefits.

5.4 DECISION POINT #4

5.4.1 Is My Plan Any Good?

- a. Yes, because it's already functioning ☐

Skip down to 5.4.2 below and worry about incident reviews.

- b. I think so, but I'm going to have it checked by:

(1) My friend _____ (name)

(2) My colleague _____ (name)

These may not be the right people. See Peer Review (p. 5-2).

(3) Someone in another department _____ (name)

Better. Is he really suitable? See pp. 5-2 to 5-3.

(4) Someone outside our immediate government structure

Name _____

Organization _____

Does this person really know anything about spill contingency planning? Yes ☐

No ☐

Was he at the original planning meeting: (Told of role then?)

Yes ☐ No ☐

This person is qualified because _____

(5) The planning committee ☐ (p. 5-3)

(6) My boss ☐ (see p. 5-3)

- c. The person/people I've selected above is/are the right one(s), because this plan is a

Telephone Roster ☐

Action Guide/Checklist ☐
 Equipment/Resource List ☐
 Response Plan ☐ See p. 5-1 for
 Coordination Plan ☐ recommendations
 Ad Hoc Plan ☐

- d. I'm going to check it myself. Yes ☐ No ☐
 e. I'm going to use/provide the checklist (p. C-1). Yes ☐ No ☐

If not, why not?

Plan is too simple ☐

Plan is only a roster ☐

I know exactly what should be there ☐

I don't want to influence the reviewer(s) ☐

These are not necessarily good reasons, and you may be making a mistake! The checklist is a useful tool. At least take time to look at it.

f. After the review is complete, I will (choose one):

- (1) Make every change the reviewer(s) want(s) ☐
- (2) Ignore the obviously erroneous ☐
- (3) Submit the review results for comment ☐
- (4) Get the committee back together to hash out any disagreements ☐
- (5) None of the above ☐ . (See p. 5-4.)

This is the preferred answer. Make sure you know why.

5.4.2 How Do I Correct and Improve the Plan?

- a. That will occur as a normal and routine function of my department ☐

Don't bet on it.

- b. The boss will take care of it ☐

We thought he assigned the job to you.

c. I told _____ to see to it
(name)

OK, does he know what to do?

d. The following person/branch/department has been identified as
responsible:

Make sure they have seen pp. 5-1 and 5-7.

Sounds good -- keep going.

e. Are there provisions for:

(1) Regular review periods? Yes ☐ No ☐

How long? _____

(2) "Record of Changes" in plan? Yes ☐ No ☐

(3) Plan holders know where and how to report suggested changes?
Yes ☐ No ☐

(The plan should tell them!)

(4) Critiques after actual incidents? Yes ☐ No ☐

(5) Exercises and tests? Yes ☐ No ☐

(6) Opportunities for training? Yes ☐ No ☐

f. After incidents or exercises, we will

(1) Identify plan deficiencies, and act on them ☐

(2) Identify personnel deficiencies, and act on them ☐

(3) Identify department deficiencies, and act on them ☐

(4) Always hold review meetings ☐

(5) Send questionnaires ☐

(6) Try to get everything wrapped up the same day ☐

(7) This is a trick question ☐ Right!

If you don't know why, see pp. 5-4 to 5-7.

PLAN CHECKLIST

Be sure you are familiar with the content of the Planning Guide before using this checklist. (See Decision Points 1 through 4.)

A. PLAN IDENTIFICATION/TITLE

1. Plan is clearly identified (Yes ☐ No ☐) as: (check one)

Telephone Roster ☐

Action Guide/Checklist ☐

Resource/Capabilities List ☐

Response Plan ☐

Coordination Plan ☐

Ad Hoc ☐ (may be unwritten)

2. Source of responsibility for plan is clearly shown. Yes ☐ No ☐

(e.g., agency, county, city, state, department, name of industry)

3. Area to which plan applies clearly shown. Yes ☐ No ☐

(e.g., city of, highways of, region))

4. Application of plan clearly shown. Yes ☐ No ☐

(e.g., hazardous chemicals, oil spills, etc.)

All answers should be "yes."

B. PLAN VISIBILITY/ACCESSIBILITY

1. Identify plan type.
2. Enter "yes" or "no" in column under plan type opposite rating factor.

Plan Type: (see A)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rating Factor	Telephone Roster	Action Guide- Checklist	Resource- Capabilities List	Response Plan	Coordination Plan	Ad Hoc
Major sections easily identified:	R	R	R	R	R	If plan is written, check under type it most closely resembles.
Large, clear headings?	R	R	R	R	R	
Pages numbered?	R	R	R	R	R	
Total pages shown? (e.g., 1 of 3, 2 of 3, etc.)	R	R	R	O	O	
Table of Contents/Index?	NA	NA	O	R	R	
Tabs/dividers for each section?	O	O	O	R	R	
Easy to add/replace sections?	R	R	R	R	R	
Appendices identified and purpose clear?	NA	NA	NA	R	R	

JUSTIFY ANY "NO" answer in an "R" box!

R = Recommended
O = Optional
NA = Not Applicable

C. PLAN CONTENT

1. Plan Sections

a. Identify plan type.

b. Enter "yes" or "no" in box under plan type to indicate sections found.

Plan Type: (see A)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rating Factor	Telephone Roster	Action Guide- Checklist	Resource- Capabilities List	Response Plan	Coordination Plan	Ad Hoc
Emergency Response Notification	R	R	NA	R	R	If plan is written, check under type it most closely resembles.
Record of Changes or Amendments	R	R	R	R	R	
Letter of Promulgation	NA	NA	NA	O	O	
Foreword/Preface	NA	NA	NA	O	O	
Acknowledgment	NA	NA	NA	O	O	
Table of Contents	NA	NA	O	R	R	
Introduction	NA	NA	NA	R	R	
Emergency Response Operations	NA	R	NA	R	O	
Emergency Assistance Telephone Roster	R	NA	R	R	O	
Legal Authority and Responsibility	NA	NA	NA	O	R	
Disaster Assistance & Coordination	NA	NA	NA	R	R	
Procedures for Changing or Updating Plan	O	O	O	R	R	
Plan Distribution	O	O	O	R	R	

JUSTIFY ANY "NO" answer in an "R" box!

R = Recommended
O = Optional
NA = Not Applicable

Plan Type: (see A)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rating Factor	Telephone Roster	Action Guide- Checklist	Resource- Capabilities List	Response Plan	Coordination Plan	Ad Hoc
Spill Cleanup Techniques	NA	NA	NA	R	O	If plan is written, check under type it most closely resembles.
Cleanup/Disposal Resources	R	NA	R	R	O	
Laboratory & Consultant Resources	R	NA	O	R	O	
Technical Library or Bibliography	NA	NA	NA	R	R	
Hazards Analysis	NA*	NA*	NA*	R	R	
Documentation of Spill Events	NA	NA	NA	R	R	
Hazardous Materials Information	NA	NA	NA	R	O	
Training Exercises	NA	NA	NA	R	R	

JUSTIFY ANY "NO" answer in an "R" box!

R = Recommended

O = Optional

NA = Not Applicable

* While a Hazards Analysis is not included in these simple plans, it should still be carried out prior to preparing them. Consider distributing the hazards analysis in an accompanying letter when the plan is distributed.

2. Section Content

- a. Identify planning level (see p. 4-7).
- b. Enter "yes" or "no" in box under plan level to indicate sections found.

Section	Content	Plan Level:		
		<input type="checkbox"/> Minimum Plan	<input type="checkbox"/> Major Plan	<input type="checkbox"/> Comprehen- sive Plan
Emergency Response Notification	24-Hour Emergency Telephone Number	R	R	R
	Emergency Reporting Information	R	R	R
Record of Amendments	Change Record Page	R	R	R
Letter of Promulgation	Statement of Plan Authority	O	O	R
Foreword/Preface	Preliminary Remarks	O	O	O
Acknowledgement	Identification of Plan Contributors	O	O	O
Table of Contents	Table of Contents	R	R	R
Introduction	Abbreviations & Definitions	R	R	R
	Purpose/Objectives	R	R	R
	Scope	O	O	R
	Policy	O	O	R
	Assumptions/Planning Factors	O	O	R

JUSTIFY ANY "NO" answer in an "R" box!

R = Recommended
O = Optional
NA = Not Applicable

Section	Content	Plan Level:		
		<input type="checkbox"/> Minimum Plan	<input type="checkbox"/> Major Plan	<input type="checkbox"/> Comprehen- sive Plan
Emergency Response Operations	Notification of Spill	R	R	R
	Required Federal Notification	R	R	R
	Initiation of Action	R	R	R
	Coordination of Decision Making	R	R	R
	Containment and Countermeasures	O	R	R
	Cleanup and Disposal	O	R	R
	Restoration	O	R	R
	Recovery of Damages	O	R	R
	Followup	O	R	R
	Special Response Operations	O	R	R
	Agent-Specific Considerations	O	O	R
Emergency Assistance Telephone Roster	Local Assistance	R	R	NA
	Response Personnel	R	R	R
	Bordering Political Regions	R	R	R
	Industry	R	R	R
	Volunteer Groups	O	R	R
	Media	O	R	R
	State Assistance	R	R	R
	Federal Assistance	O	R	R
Legal Authority & Responsibility	Emergency Technical Assistance	R	R	R
	Authorizing Legislation	O	R	R
	Mandated Agency Responsibilities	O	R	R

JUSTIFY ANY "NO" answer in an "R" box!

R = Recommended
O = Optional
NA = Not Applicable

Section	Content	Plan Level:		
		<input type="checkbox"/> Minimum Plan	<input type="checkbox"/> Major Plan	<input type="checkbox"/> Comprehensive Plan
Response Organization Structure/ Responsibilities	Federal Level	NA	O	R
	State Level	NA	R	R
	Local Level	O	R	NA
Disaster Assistance and Coordination	Sources of Disaster Assistance	R	R	R
	Mutual Aid Agreements	O	O	R
Procedures for Changing or Updating Plan	Responsibility	O	R	R
	Notification Procedures	O	R	R
Plan Distribution	Federal Agencies	NA	O	R
	State Agencies	O	R	R
	Interstate Agencies	NA	O	R
	County Agencies	O	R	R
	Municipal Agencies	O	R	R
	Volunteer Groups	O	R	R
	Industry	O	R	R
	Spill Cooperatives/ Mutual Aid Groups	O	R	R
	Bordering Political Regions	O	R	R

JUSTIFY ANY "NO" answer in an "R" box!

R = Recommended
O = Optional
NA = Not Applicable

Section	Content	Plan Level:		
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Minimum Plan	Major Plan	Comprehensive Plan
Spill Cleanup Techniques	Description of Cleanup and Containment Methods	O	R	R
Cleanup/Disposal Resources	Cleanup/Disposal Contractors	O	R	R
	Cleanup Material and Equipment	R	R	R
	Communications Equipment	R	R	R
	Emergency Vehicles	R	R	R
	Cleanup Personnel	O	R	R
	Personal Protective Equipment	R	R	R
	Approved Disposal Sites	O	R	R
Laboratory and Consultant Resources	Colleges/Universities	O	R	R
	Local Health Departments	R	R	R
	Private/Industry Laboratories	O	R	R
	Private Consultants	O	R	R
	Government-Supported Laboratories or Research Institutes	O	R	R
Technical Library or Bibliography	List of Technical References	O	O	R
	List of Maps	O	O	R

JUSTIFY ANY "NO" answer in an "R" box!

R = Recommended
O = Optional
NA = Not Applicable

Section	Content	Plan Level:		
		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
		Minimum Plan	Major Plan	Comprehensive Plan
Hazards Analysis	Pollution Sources	R	R	R
	Vulnerable Locations	R	R	R
	Sensitive Environmental Areas	R	R	R
Documentation of Spill Events	Initial Pollution Incident Report	O	R	R
	Chronological Log	O	R	R
	Final Pollution Incident Report	O	R	R
	Spiller's Report	O	O	R
	Investigative Report	O	O	R
	Report Formats	O	R	R
Hazardous Materials Information	Listing of Local Hazardous Materials	O	R	R
	Hazardous Material Definitions	O	O	R
	Technical Information	O	R	R
	Shipping Regulations	O	O	R
Training Exercises	Training Criteria	O	R	R


JUSTIFY ANY "NO" answer in an "R" box!

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NA = Not Applicable

D. GENERAL PLAN QUALITY

1. Rank the plan by marking the scale as you think appropriate.

Scale: 1 . . . 2 . . . 3

 e.g., a mark here would mean "a little above average"

Item No.

- | | | |
|---|-------------------|------------------------------------|
| a | 1 . . . 2 . . . 3 | Plain language; no excess verbage |
| b | 1 . . . 2 . . . 3 | Minimum jargon |
| c | 1 . . . 2 . . . 3 | Technical terms defined/understood |
| d | 1 . . . 2 . . . 3 | Well written; readable |
| e | 1 . . . 2 . . . 3 | Communicates its message |
| f | 1 . . . 2 . . . 3 | Usable as intended |
| g | 1 . . . 2 . . . 3 | Consistent from section to section |
| h | 1 . . . 2 . . . 3 | Well laid out and organized |
| i | 1 . . . 2 . . . 3 | Large type, dark print |
| j | 1 . . . 2 . . . 3 | Free of errors and typos |
| k | 1 . . . 2 . . . 3 | Any maps, illustrations clear |
| l | 1 . . . 2 . . . 3 | Easy to find things |

Identify any specific reason(s) for ranking below 2.

Item _____ Page No. _____ Reason _____

Item _____ Page No. _____ Reason _____

Item _____ Page No. _____ Reason _____