

US EPA ARCHIVE DOCUMENT

# Preparing For Oil Spills: Contingency Planning

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## INTRODUCTION

**OIL SPILLS ARE**, unfortunately, common events in many parts of the United States. Most of them are accidental, so no one can know when, where, or how they will occur. Spills can happen on land or in water, at any time of day or night, and in any weather condition. Preventing oil spills is the best strategy for avoiding potential damage to human health and the environment. However, once a spill occurs, the best approach for containing and controlling the spill is to respond quickly and in a well-organized manner. A response will be quick and organized if response measures have been planned ahead of time.

## THE ROLE OF CONTINGENCY PLANS

A **CONTINGENCY PLAN** is like a “game plan,” or a set of instructions that outlines the steps that should be taken before, during, and after an emergency. A contingency plan looks at all the possibilities of what could go wrong and, “contingent” upon actual events, has the contacts, resource lists, and strategies to assist in the response to the spill.

## ELEMENTS OF A CONTINGENCY PLAN

**AT FIRST GLANCE**, an oil spill contingency plan may appear complicated because it provides many details about the numerous steps required to prepare for and respond to spills. It also covers many different spill scenarios and addresses many different situations that may arise during or after a spill. Despite its complexity, a well-designed contingency plan should be easy to follow. Although they are different in many respects, contingency plans usually have four major elements in common:

- Hazard identification
- Vulnerability analysis
- Risk assessment
- Response actions

Planners use hazard identification and vulnerability analysis to develop a risk assessment. The risk assessment is then used as the basis for planning specific response actions. Each of the four elements is described below.

### Hazard Identification

It is impossible to know when an oil spill is going to happen and how much oil is likely to be spilled. However, it is possible to identify where oil is stored, the corridors through which it travels, and the industries that use large quantities of oil.

Different situations can affect the ability of response personnel to contain and clean up an oil spill, such as weather conditions, geographic isolation, and spill size. Private companies and local, state, and federal agencies design their contingency plans to address spills from many locations and under many different conditions. The following information is usually collected as part of the hazard identification:

- Types of oils frequently stored in or transported through that area
- Locations where oil is stored in large quantities and the mode of transportation used to move the oil, such as pipelines, trucks, railroads, or tankers
- Extreme weather conditions that might occur in the area during different times of the year
- The location of response equipment and personnel trained to use the equipment and respond to the spill

### Vulnerability Analysis

The vulnerability analysis section of a contingency plan provides information about resources and communities that could be harmed in the event of a spill. This information helps personnel involved in cleaning up a spill make reasonable, well-informed choices about protecting

public health and the environment. Vulnerability analysis information might include the following:

- Lists of public safety officials in the community
- Lists of facilities such as schools, nursing homes, hospitals, and prisons
- Lists of recreational areas, such as campgrounds
- Lists of special events and when they take place
- Identification of parts of the environment that are particularly susceptible to oil or water pollution

## Risk Assessment

Contingency planners compare the hazard and the vulnerability in a particular location to see the kind of risk that is posed to a community. The plan then addresses those problems by determining how best to control the spill, how to prevent certain populations or environments from exposure to oil, and what can be done to repair the damage done by the spill.

## Response Actions

Response actions are developed to address the risks that are identified in the risk assessment. A carefully designed contingency plan will describe major actions that need to be taken when a spill occurs. These actions should take place immediately following a spill so as to minimize hazards to human health and the environment. The following response actions should be included in a contingency plan:

- Notifying all private companies or government agencies that are responsible for the cleanup effort
- Getting trained personnel and equipment to the site quickly
- Defining the size, position, and content of the spill; its direction and speed of movement; and its likelihood of affecting sensitive habitats
- Ensuring the safety of all response personnel and the public
- Stopping the flow of oil from the ship, truck, or storage facility, if possible, and preventing ignition
- Containing the spill to a limited area
- Removing the oil
- Disposing of the oil once it has been removed from the water or land

## TESTING THE PLAN

**AFTER THE PLAN** is developed, it is important to test it to see if it works as anticipated. Testing usually takes the form of an exercise or drill to practice responding to a spill. Exercises can range from a discussion around a table about how things would occur to a full-scale deployment of equipment and mobilization of staff. Exercises can take a

few hours or several days. Exercises provide the following benefits:

- Training of response staff in the procedures developed for the plan
- A test of the plan to see what needs to be improved
- A low-stress environment where new techniques and procedures may be tried without adverse consequences

Exercises are also a time for responders from different organizations to meet in a low-stress environment. This builds familiarity and teamwork, which can make response more effective during real spills.

## IMPROVING CONTINGENCY PLANS

**AFTER AN OIL SPILL** has been controlled and cleaned up, or after an exercise, the companies, as well as the local, state, and federal agencies that were involved in the emergency or exercise, should assess the usefulness of their contingency plans. Information gathered during the assessment, such as problems that had not been considered in the original plan and the successes or failures of cleanup techniques used, is used to revise and improve contingency plans.

Lessons learned during oil spills and exercises are also shared with other private, state, regional, and federal agencies so that they too may learn from oil spills to improve their contingency plans.

## Improving Plans with GIS

Contingency planners in EPA and other response organizations are now using geographic information systems (GIS) to make contingency plans better and easier to use. GIS make electronic maps that can focus attention on the locations of things that are important to planners and oil spill responders. For example, planners can make maps that show the locations of sensitive environments, drinking water intakes, roads, oil storage and production facilities, pipelines, and boat launches. GIS can also provide detailed information about each of the items shown on a map, such as how large an oil storage facility or pipeline is, whether a road is paved, or the times of the year that sensitive species are in the area.

Having all of this data easily accessible in one place and being able to see these things in relation to each other can make planning more effective. It allows planners to know where spills are most likely to happen and how bad they might be and lets them prioritize actions to protect the most sensitive resources first. It can also help planners know what kind of resources (booms, skimmers, vacuum trucks, etc.) they may need in a given area and how much of a specific resource may be needed. GIS can also help to determine the best way to get to potential spill sites and identify areas that responders might have difficulty accessing.

## EXAMPLES OF CONTINGENCY PLANS

**SOME CONTINGENCY** plans are designed to deal with oil spills that might occur at specific places, such as oil storage or refining facilities. Others are designed to address spills that might occur anywhere within a large geographic region. In fact, the federal government has designed a national plan that establishes the process for dealing with any spill that occurs in the United States.

### The National Contingency Plan

The federal government has designed a spill response plan, called the National Oil and Hazardous Substances Pollution Contingency Plan, also called the *National Contingency Plan* or NCP. The NCP ensures that the resources and expertise of the federal government would be available for those relatively rare, but very serious, oil spills that require a national response. This plan was designed primarily to assist with coordinating the various federal agencies that are responsible for dealing with oil spill emergencies. The following chapter discusses the roles of the different federal agencies and how the NCP fits in with the *National Response System*.

### Area Contingency Plans

Because a single plan cannot address the unique conditions of all areas, EPA and other organizations have developed many plans for smaller areas. These plans, known as Area

Contingency Plans, may cover only a few counties. These plans describe the area covered by the plan; describe the responsibilities of an owner or operator and of government agencies in removing, mitigating, or preventing a discharge; and list all equipment, dispersants, or other mitigating substances and devices available to an owner or operator and government agencies to ensure effective and immediate removal, mitigation, or prevention of a discharge.

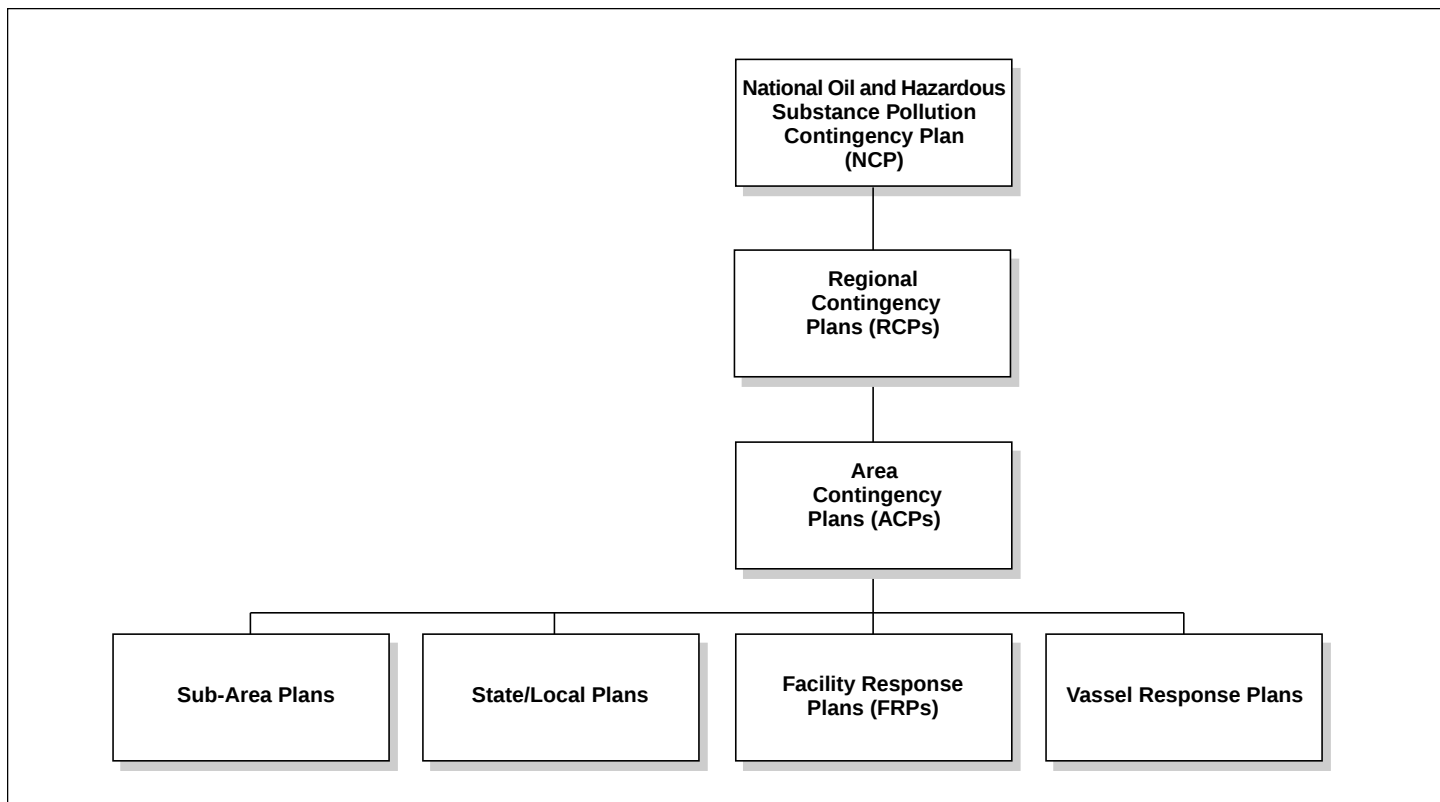
Area Contingency Plans may be broken into sub-areas based on higher risk, such as busy transportation corridors and environmentally sensitive areas.

Area and sub-area contingency plans are prepared with the involvement of the local, state, and federal governments, as well as with state and federal Natural Resource Trustees. Natural Resource Trustees are federal, state, or tribal officials who act on behalf of the public for resources under their control. They are important to contingency planning because they often have special knowledge about areas where oil might be spilled and resources that might be affected.

### Facility Contingency Plans

Every facility in the United States that stores or refines oil products, whether owned by a private company or operated by a government agency, is required to develop a plan for dealing with an accidental release of oil on its property.

Contingency plans range from general to very specific.



## SUMMARY

**PLANNING FOR** an oil spill emergency helps to minimize potential danger to human health and the environment by ensuring a timely and coordinated response. Well-designed local, state, regional, and national contingency plans can assist response personnel in their efforts to contain and clean up oil spills by providing information that the response teams will need before, during, and after spills occur. Developing and exercising the plan provides opportunities for the response community to work together as a team and develop the interpersonal relationships that can mean so much to the smooth functioning of a response.

Because the approaches and methods for responding to oil spills are constantly evolving and each oil spill provides an opportunity to learn how to better prepare for future incidents, contingency plans are also constantly evolving and improving—ensuring increased protection for human health and the environment from these accidents.