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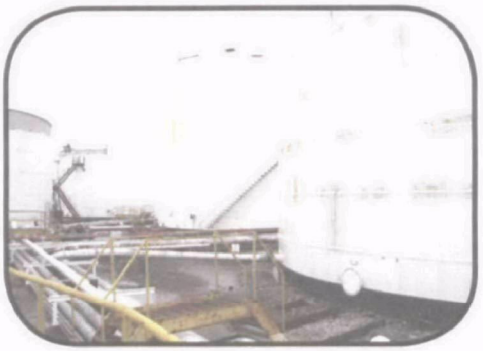
An Introduction to EPA New England's Oil Program



EPA United States Environmental Protection Agency New England

September 2007

Oil Program

Introduction

The EPA New England Oil Program works to prevent oil spills in the six New England states. The program requires that facilities that store over a certain amount of oil write plans and operate facilities in a manner that will avoid spills.

The New England region uses billions of gallons of oil and petroleum products each year, though, and spills can happen at any point in the process: during production, distribution or consumption. When spills do occur, EPA's Oil Program works to minimize the impact on lakes, streams, rivers and other environmentally sensitive areas.

Federal regulations require facilities that store oil to follow procedures and use equipment set out in their plans. The oil program works with other government agencies as well as with the regulated industry to ensure that responses to spills comply with the regulations. EPA staff offer technical support and expertise, either as participants or as leaders, in the response to an oil spill. EPA also runs and participates in spill and disaster practice drills.

Once released into the environment, oil immediately begins to move and break down. As a result, a spill of only one gallon of oil can contaminate a million gallons of water. Americans spill 180 million gallons of oil each year into our nation's waters. About 1.4 million gallons a year spill into the waters of New England.

On-Scene Coordinators (OSCs):

On-scene coordinators are the federal officials charged with coordinating and directing responses to all actual or threatened releases of oil that may harm the public health or the environment.

The OSCs from EPA New England monitor oil spills in the six New England states and respond to spills that require federal help or oversight. OSCs provide support and information while coordinating all federal efforts with local, state and regional agency responders.

EPA has primary responsibility for spills and releases to inland areas and waters, while the U.S. Coast Guard, which also has on-scene coordinators, is responsible for coastal water.

An OSC is available 24 hours a day to take incident reports and to send a coordinator to the scene of a spill, if necessary. Two OSCs are on call and can respond to incidents that occur after working hours.

Reports of spills and hazardous substance releases should be called into the National Response Center at 800-424-8802.

Oil Spill Prevention - Control and Countermeasure Plans

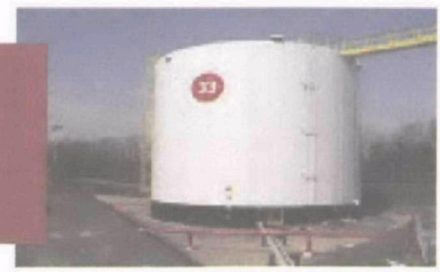
For more than three decades, EPA's Spill Prevention, Control and Countermeasure program has worked at thousands of storage facilities to prevent discharges of oil.

Operators of certain facilities that store oil are required to draft SPCC plans that must be updated every five years. In New England, EPA has conducted about 75 inspections a year since 2004 to be sure the plans comply with federal regulations. A facility must prepare these plans if it could possibly release oil into navigable waters or adjoining shorelines and it has the capacity to store a total of more than either 1,320 gallons of oil above ground or 42,000 gallons of oil underground (and is not already regulated under the underground storage regulations).

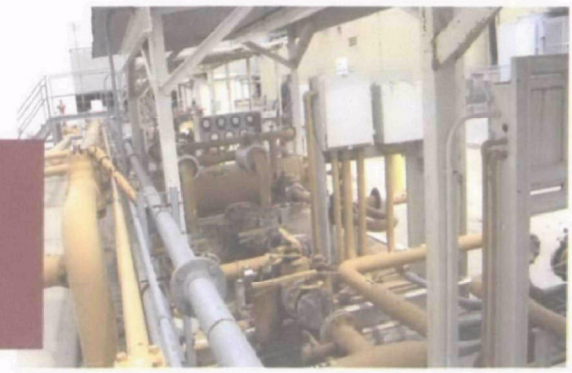
Each plan must include measures detailing how the facility works to prevent a spill, and how it would address a spill. This must include detailed descriptions of:

- operating procedures for preventing spills and a description of control measures installed to prevent oil from entering navigable waters,
- countermeasures to contain, clean up and mitigate the effects of an oil spill that could affect navigable waters or adjoining shorelines,
- secondary containment or diversionary structures, and
- loading and unloading requirements for tank trucks.

Under an SPCC Plan, oil storage tanks like the one pictured here are required to have appropriate secondary containment or diversionary structures.



Pipes to and from oil storage tanks are inspected as part of the SPCC Plans.



Preparing

Through Planning

Larger facilities must also have a Facility Response Plan that documents how the facility will contain an oil spill, as well as an SPCC plan. About 130 facilities in New England must file these Facility Response Plans due to their location and the amount of oil on site. Since 2004, EPA New England has reviewed about 25 of these plans a year.

Facilities that are required to have these plans include:

- non-transportation related facilities that have the capacity to store 42,000 gallons or more, where operations transfer oil over water to or from a ship.

- facilities that can store a million gallons or more and either
  1) lack adequate secondary containment
  2) are located where a discharge could injure fish and wildlife environments or other sensitive environments
  3) are located where a discharge would shut down a public drinking water source or
  4) have experienced a reportable oil spill greater than or equal to 10,000 gallons within the past five years

Through Training

EPA New England's Oil Program conducts eight unannounced exercises each year to test how well facilities can respond to spills and put in place emergency response procedures. The exercises are done in accordance with the guidelines of the national Preparedness and Response Exercise Program.

During each exercise, a facility is required to respond to a simulated spill of 2,100 gallons. EPA personnel evaluate how quickly and effectively the facility contains the simulated spill and confirms that emergency response procedures are followed, including equipment deployment and notification protocols. Oil recovery must be underway within two hours of the time EPA presents the scenario to the facility. After the exercise is complete, EPA reviews the facility's written plan. Facilities that satisfy the objective of the exercise do not face another simulation exercise for at least 36 months. Facilities that don't satisfy the objectives must correct deficiencies and may face another exercise at any time. EPA conducts these exercises jointly with the U.S. Coast Guard and the appropriate state response agency.

During unannounced facility exercises, boom like these shown above are deployed.

Oil recovery efforts must be underway within two hours.

Responding - National Contingency Plan

The National Contingency Plan, the federal government's blueprint for responding to oil spills and hazardous substance releases, gives EPA the authority to respond to oil and hazardous substance releases. EPA is charged with leading the federal response to hazardous substance releases, including those caused by natural disasters. In coordinating activities, EPA New England shares its expertise and resources with other government agencies, private industry and other organizations to minimize the effects of oil spills and hazardous substance releases. EPA New England and the U.S. Coast Guard co-chair a team of representatives from 16 federal agencies, six states, and nine federally-recognized tribes in New England that participate in the National Response Team.

The National Response Center, the only national point of contact for reporting oil, chemical, radiological, biological and etiological discharges, gathers and distributes spill data and serves as the communications and operations center for the National Response Team. The center receives information 24 hours a day on a toll-free line (800-424-8802). The information goes directly into a data system and is sent out as part of the Regional Response System.

Hurricane Katrina

EPA New England responds to about a dozen oil spills each year in New England. Although most of the spills addressed by EPA New England are anywhere from 1,000 to 10,000 gallons, the devastation caused by Hurricane Katrina in Louisiana, Alabama and Mississippi led to millions of gallons of spilled oil and required EPA staff from across the country to participate in the cleanup. Nearly 100 employees from EPA New England responded over time to this natural disaster in the south.

Louisiana suffered dozens of major oil spills in the wake of Hurricane Katrina. Staffers from EPA worked with the U.S. Coast Guard to respond to one of the largest spills, a release of more than one million gallons of crude oil from the Murphy Oil Refinery in Saint Bernard Parish. This spill affected not only the environment, but also many nearby homes.

At least 1,700 homes around the refinery were impacted and the crude oil release reached several nearby canals. The EPA focused on removing oil from residential areas, parks, school, sidewalks and other publicly accessible areas, including commercial facilities, roads, and highway medians. The Coast Guard focused on removing oil in nearby canals, the tank farm containment area and neighborhood storm drains.

Lonsdale Bleachery Site

EPA has removed more than 3,200 tons of soil saturated with oil from the Lonsdale Bleachery Site along the historic Blackstone River in Lonsdale, Rhode Island.

Oil was initially reported on July 30, 2004, coming from the former textile mill site into the Blackstone River. EPA and the Rhode Island Department of Environmental Management (DEM) responded to the reported release of oil, and immediately began the work to prevent the oil from migrating downriver and to identify the source of the oil.

Initial tests found large amounts of oil-saturated soils and oil floating on the water table within 10 feet of the riverbank. EPA and DEM determined that the oil was coming from three underground concrete bunkers storing fuel. (continued on next page)

Responding

EPA and its contractors demolished the former underground bunkers in 2006, then installed barriers and removed oil and oil-saturated soils from beneath the former bunker area. This area has since been filled and planted with grass.

DEM and its contractor continue to monitor the site and maintain containment boom and sorbents to protect against residual oil between the excavation area and the river seeping into the river.

Roosevelt Drive Site in Derby, Connecticut

EPA has overseen removal of more than 160,000 gallons of oil and oil/water mix from the Roosevelt Drive Site in Derby, Connecticut, since 1994 when the agency received reports of oil on the nearby Housatonic River. The site on the Housatonic River, home of the former Hull Dye facility, includes two water-driven turbines that produce electricity that goes into the local power grid.

EPA's initial response, in coordination with the Connecticut Department of Environmental Protection (DEP), was to excavate 1,500 cubic yards of soil and river sediment saturated with oil, then install a trench to intercept the oil and an oil recovery well. The well system continues to operate, collecting oil and transferring it into a nearby storage tank for periodic disposal.

When new oil sheens were spotted on the river in 1999, EPA and DEP investigated and found that the oil originated from a historic leak in an oil line linking a 20,000-gallon oil tank with the facility boiler room. A second oil recovery system with five recovery wells within a trench was constructed in 2000 and has been operating since. The turbines were taken off line because their operation was contributing to more oil flowing into the river, due to vibration and scouring issues.

EPA constructed a dam in 2007 to effectively cut off the tailrace—the place where discharged water from the turbines exits—from the Housatonic River. A skimmer was installed that has been collecting oil as it leaches into the tailrace.

EPA is designing horizontal wells that would extend from the source area through the underground oil plume. These wells should act as a pathway, moving the oil to a collection point. At the same time, the owners of the turbines are working to get the turbines running, so they can generate power while oil collection continues.

River floods and changes need to be made to the collection system.

Collection boom deployed.

Oil Spill Enforcement, Compliance and Outreach

Enforcing the Law

EPA's Oil Program enforces laws and regulations that aim to prevent oil pollution. Facilities that are out of compliance or have violated the Clean Water Act may settle with EPA by paying financial penalties into the Oil Spill Liability Trust Fund. Funds from the trust are used to respond to oil spills at abandoned facilities or in situations where the responsible party is not willing or able to respond.

In addition to enforcing the law, EPA works with business and industry to ensure that regulated parties understand and follow the law. The program also helps the regulated community find cost-effective ways to go beyond compliance with the law and reduce its regulatory burden through the use of pollution prevention measures, environmental management systems and effective environmental technologies.

Outreach

EPA New England's Oil Program works with federal, state, local and tribal partners to reduce the risk and impact of oil spills in this region. In recent years the program has reached out to the regulated community as well, conducting workshops that guide representatives of facilities in preparing Spill Prevention Control and Countermeasure or Facility Response plans. EPA has also done workshops on the requirements of "government-initiated unannounced exercises," drills that are held under the National Preparedness for Response Exercise Program. Finally, EPA is reaching out to elementary, middle and high schools as well as wastewater treatment plants throughout New England to advise them of applicable oil storage requirements.

Industry co-op praticing boom deployment

Many different companies working together and using ICS