

Governor's Oil Spill Prevention Advisory Committee

Final Report - December 2000



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Governor

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I. Executive Summary

On April 7, 2000 Maryland experienced one of its worst oil spills on record. Approximately 126,000 gallons of oil were released into the Patuxent River and its tributaries as a result of a rupture in an intrastate pipeline owned by the Potomac Electric Power Company (PEPCO). PEPCO was not operating the pipeline at the time but was in the process of testing it when the incident occurred. Although state and federal personnel responded quickly and coordinated response activities with PEPCO and its contractors, the oil had impacted wildlife, shorelines, marshes and waters of the State for over 15 miles (Note: Primary federal responsibility for the PEPCO facility belongs to the U.S. Environmental Protection Agency (USEPA), however, the U.S. Coast Guard (USCG), who has primary federal responsibility for the Patuxent River downstream of the facility, subsequently responded when the spill entered their jurisdictional area). Although the heaviest oil contamination has been cleaned, additional mitigation and cleanup efforts are continuing and the assessment of natural resource damages has been initiated.

The Oil Spill Prevention Advisory Committee was formed on July 7, 2000 by Governor Parris N. Glendening's Executive Order 01.01.2000.12. The Committee was asked to 1) review and assess the adequacy of state and federal laws regarding oil transport, oil spill response and the protection of Maryland's natural resources; 2) assess the adequacy and preparedness of government agencies, the oil industry, regional organizations and private oil spill response contractors to prevent and respond to oil spills; 3) identify and prioritize sensitive areas of risk that require immediate improvement; and 4) provide recommendations to the Governor regarding these issues.

Due to the time constraints outlined in the Order, the Committee met every two weeks from September through December so that the vast amount of information presented could be reviewed and assessed. As always with a large group, there were varied opinions from the members for each area of concern described in this report. This document outlines the Committee's final recommendations for addressing these concerns. A summary of the key findings is provided below:

Pipelines

- The Maryland Public Service Commission (PSC), by formal agreement with the federal Office of Pipeline Safety (OPS), has assumed jurisdiction over intrastate natural gas and certain propane pipeline systems but it does not have authority over the interstate or intrastate hazardous liquid pipelines, including those carrying oil products. The federal OPS retains this authority but provisions exist for states to receive limited program delegation. (See Report Section entitled *Pipeline Transportation of Oil* beginning on page 20).
- The State should seek delegation of regulation and enforcement authority over intrastate oil pipelines and place this responsibility with the PSC. However, this should not be done without a real commitment to providing the PSC with adequate resources to accomplish the needed level of oversight. The basis for seeking delegation is to increase the inspection frequency of these pipelines since the federal

OPS is tasked with such a large universe to inspect that the improvements the Committee is seeking will not take place unless adequate resources are dedicated at the State level.

- Even if the PSC does not obtain delegation for intrastate oil pipelines, the PSC, the Maryland Department of the Environment (MDE), and the Maryland Department of Natural Resources (DNR), need to identify sensitive areas of risk that may result in a rapid and catastrophic deterioration of public health, safety, and/or the environment in the event that an intrastate or interstate pipeline fails. This effort should be supplemented by MDE coordinating efforts with relevant Federal agencies to insure that integrated response planning occurs at all levels of government and with intrastate and interstate hazardous liquid/pipeline companies to insure adequate emergency response equipment, materials and labor is provided if spills near these identified areas were to occur.

Vessel Transport

- Approximately 31% of the oil imported into Maryland is done so via marine transportation. Primary oversight of all marine vessel activity and transportation related facilities, including the transfer of oil to marine oil storage facilities, is the responsibility of the U.S. Coast Guard (USCG). The MDE has limited regulations that address tank vessels, meaning those that carry oil in bulk cargo in a quantity of 300 gallons or more, and primarily serve to require proof of compliance with the requirements of the Oil Pollution Act of 1990 (OPA 90), implemented by the USCG's enforcement of the Code of Federal Regulations. Spills will continue to occur despite the best prevention efforts, however, the speed and adequacy of a spill response which starts with a well developed and tuned communication network, can be further enhanced by frequent training exercises and could mean the difference between a small or large spill when changing weather conditions provide a limited window for containment and control activities. (See Report Section entitled *Vessel Transportation of Oil* beginning on page 24)
- State and Federal government agencies should consider increasing the frequency and scope of training activities (i.e. drills and exercises) to maximize contingency planning capabilities for future oil spills from vessels. The use of additional resources to directly assist those agencies during the emergency response phase of a major spill, including the potential role of local governments and watermen, should also be considered.
- The USCG and MDE should evaluate if additional oversight of commercial intrastate transportation of oil by vessel and barge may be necessary. The USCG should consider the use of more stringent advisory messages with regards to operators of single hull vessels/barges during certain foul weather conditions.

Marine Oil Storage Facilities

- Although Marine Oil Storage Facilities are not involved directly in the transportation of oil, they are an important cog in the entire oil distribution network. Marine Oil Storage facilities are unique in that these facilities store millions of gallons of oil adjacent to numerous waterways and receive and send immense quantities of oil and oil products by vessel, pipeline and truck. The U.S. Environmental Protection Agency (USEPA) and the U.S. Coast Guard (USCG) are the federal agencies that have

primary federal oversight of these facilities. The USEPA has identified 41 facilities in Maryland that have the potential to cause either substantial harm or significant and substantial harm to the environment. MDE's permitting and inspection program for aboveground storage facilities include the USEPA regulated facilities and extend as well to other facilities with aboveground petroleum bulk storage. (See Report Section entitled *Marine Oil Storage Facilities* beginning on page 27).

- State and Federal government agencies should consider increasing the frequency and scope of training activities (i.e. drills and exercises) to maximize contingency planning capabilities for future oil spills at Marine Oil Storage Facilities. The use of additional resources to directly assist those agencies during the emergency response phase of a major spill, including the potential role of local governments and watermen, should also be considered as part of an overall response action.
- The MDE should review and assess its existing laws and regulations for aboveground storage tanks and associated piping to determine changes that should be implemented to insure aboveground storage tank systems are properly constructed, tested and monitored to insure they are not leaking.

Transport By Highway

- Approximately 26.5% of the oil imported into Maryland is done via truck transport over the highway system. Although the actual volume of oil released during most truck transport spill events is small, there are 20-30 truck transport accidents annually in the State that release between 2,500 and 8,000 gallons of oil products per accident into the environment. According to the USDOT, 87% of all truck incidents in the United States are caused by human error and in nine out of ten times, the error is not caused by the driver of the truck. (See Report Section entitled *Truck Transportation of Oil* beginning on page 29)
- As the majority of incidents that the MDE Emergency Response Team responds to are transportation related, the USDOT and MDOT should provide supplemental funding to assist the MDE Emergency Response Team purchase of equipment and materials. As the MDE already requires Oil Operations Permits for oil transport vehicles, it should incorporate the Maryland Motor Carrier Safety Regulations and the Hazardous Material Regulations in their entirety to allow for stricter administrative penalties for companies owning the trucks as well as the shippers of the oil products, especially habitual offenders.

Rail Transport

- Transport of oil by rail is enforced by the Federal Railroad Administration (FRA); however, the USCG has regulatory involvement relative to transfers of oil from rail to barges and vice versa. Rail cars are required to be inspected by the FRA both before loading operations are initiated and again before the car begins its journey. There is only one FRA inspector responsible for a multi-state area. Approximately one tenth of one percent of the total volume of oil transported into or out of the State is transported by rail but a suspected large amount, although unknown, of oil traverses the State annually. However, there are many miles of rail that traverse the State in many areas where access to those rails is very limited. Additionally, it must be recognized that rail routes are commonly located along waterways and, combined

with the access factor, potential for an oil spill that could affect many miles of waterways before it could be contained is high.

- MDE should further investigate oil transport and routing by rail through the State to determine which areas of the State are more vulnerable if a spill occurs. The state and federal governments should evaluate the need for additional requirements necessary for response activities, which may include the additional staging of equipment at high-risk areas. (See Report Section entitled *Rail Transportation of Oil* beginning on page 31).

Emergency Response

- The federal Oil Pollution Act of 1990 (OPA 90) shifted the focus of contingency planning and oil spill response from the national level to a regional approach. Members of the appropriate federal, state and local agencies work together on Area Planning Committees to insure a coordinated network of response resources is in place to meet the specific geographic needs of the State in the event of an oil spill. Maryland is fortunate to have both local and state resources to provide more advanced spill response containment and mitigation efforts in the time frame when a spill first occurs. These local and state resources are usually able to respond to the scene of the spill prior to the arrival of the responsible party's spill response contractor. Within MDE, the State has an emergency response team and equipment that can help contain serious spills and minimize threats to public health, safety and the environment. However, there are times when the statewide coverage by the six Hazardous Materials Specialists on MDE's Emergency Response Team, which received over 3,000 oil and chemical reports in FY2000 and responded to 607 incidents, are unable to respond due to lack of manpower. (See Report Section entitled *Emergency Response to Oil Spills* beginning on page 32)
- Federal agencies should continue to evaluate their criteria of how Oil Spill Response Organization contractors are assessed and qualified to address certain levels of spills to determine if these criteria should be strengthened. MDE should also review and evaluate its published emergency response contractor lists and the methods used for assessing the qualifications and capabilities of those contractors. An evaluation of those contractors who cannot perform as they have stated should also be completed to determine whether a penalty system should be initiated for failure to perform.
- State and federal agencies should evaluate the need for additional requirements needed for response activities, which may include the additional staging of equipment at high-risk areas.
- The State should evaluate the present status of its MDE – Emergency Response Division to determine whether additional personnel, equipment and materials are needed to address the number of spill incidents occurring in the State.

Sensitive Areas

- Sensitive Areas of Risk may be defined as any physical feature in Maryland which when impacted by a spill may result in severe and perhaps irreparable harm to public health, safety and/or the environment. These areas could include drinking water supplies, high density population areas, pipeline water crossings, archaeological and historic sites, flood plains and many other features that may not be included on

“Environmental Sensitivity Index” (ESI) maps (See Report Section entitled *Sensitive Areas of Risk* beginning on page 38).

- Environmental Sensitivity Index maps are season-specific and indicate flora and fauna likely to be present and at risk from a spill event. The development and updating of these maps are a joint effort between federal agencies (especially the National Oceanic and Atmospheric Administration [NOAA]) and each state’s environmental agencies.
- The ESI maps used for the PEPCO-Chalk Point oil spill were over 15 years old and had not been updated. Additionally, it was realized that state agencies that participated in this spill response had received only minimal training to be prepared to respond environmentally to a major spill and had to receive guidance and direction on this aspect from federal agencies during the actual response.
- Federal agencies, especially OPS, NOAA, USEPA and the USCG, should continue to work in a joint effort to combine and update information on environmentally sensitive areas, unusually sensitive areas, etc. in coordination with the State’s environmental agencies and make this information available via electronic media.
- It is extremely important that the State mapping system is accessible electronically 24 hours a day to emergency responders and is easy and fast to use. The State should review what each state government agency already has in place with respect to mapping capabilities, what duplication exists, and ultimately designate a central repository (i.e. one stop access for any State agency needing the information) for this mapping information.
- The Maryland Public Service Commission, the Department of the Environment and the Department of Natural Resources need to have NOAA provide regular training to more of their employees on the environmental aspects of spill response.

II. Introduction

Maryland, “America in Miniature”, reflects the wide variety of natural resources and wildlife that are enjoyed by not only the State’s citizens but by millions of tourists visiting the State every year. Over 17,000 miles of streams, rivers and bays can be identified for various uses in a watershed area of 64,000 square miles. It is of utmost importance that industry and the citizens of Maryland can work and relax here without jeopardizing these resources for future generations.

However, to keep the economy moving, oil products must be loaded, unloaded and transported daily throughout the State. Approximately 4-4 ½ billion gallons of oil products (Figure 1) are imported annually into Maryland by various modes of transportation. A large percentage of this volume of oil products initially transported into Maryland by pipeline and vessel is then distributed to customers by over-the-road transport trucks. Millions of gallons of additional oil products travel through the State to other destinations.

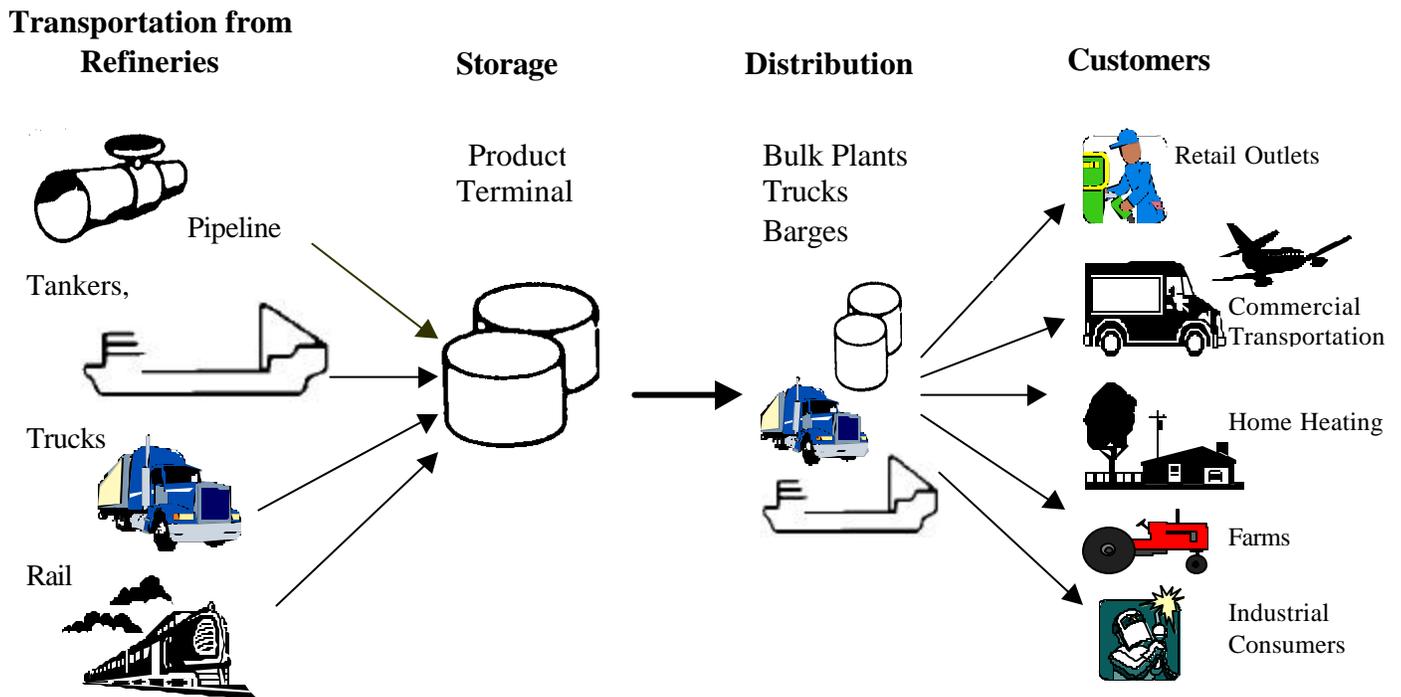
Figure 1
OIL PRODUCTS TRANSFERRED INTO MARYLAND
(in gallons)

July 1, 1999 - June 30, 2000

TYPE OF PRODUCT	NET TO FEE
Gasoline	2,487,995,131
Gasohol	551,953
Kerosene	77,891,655
Diesel	451,411,612
Aviation	263,275,979
No. 2	373,784,695
No. 4	423,972
No. 5	3,961,385
No. 6	312,715,760
Asphalts	377,254,467
Hydraulic Oil	1,555,858
Lubricating Oil	150,175,806
Total Gallons	4,500,998,273
Total Barrels (42 gal/bbl)	107,166,626

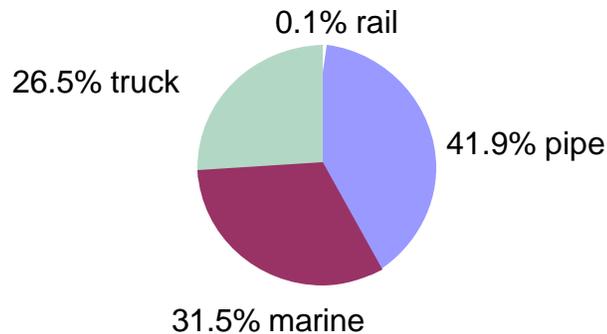
The oil distribution network (See Figure 2) allows for crude oils to be refined, distributed to storage terminals and ultimately delivered to a variety of on-site users. Maryland does not have any refineries and therefore, depends on refined oil to be transported to and distributed from aboveground storage terminals located throughout the State.

Figure 2 The Oil Distribution Network in Maryland



Pipelines, vessels, trucks and rail cars are the four methods of oil transport used in insuring that movement from one facility to another can continually occur (Figure 3). Most of the time, this movement of oil occurs without incident. However, this distribution network is not perfect. Spills, some small with little or no consequences and some large that can result in long term interruption of lifestyle for those affected, happen.

**Figure 3: Maryland Petroleum Transportation by Method
FY 2000 Total (107,166,626 Barrels)**



However, the State for many years has been proactive in developing and establishing various preparedness actions and participating with numerous organizations to enhance spill prevention and spill response capabilities. The Maryland Emergency Management Agency has developed procedures for coordinating statewide agency responses to catastrophic incidents. The Department of the Environment continues the tradition that had its beginnings within the Department of Natural Resources of maintaining an exceptionally trained oil and chemical spill response team. The Ad Hoc Committee on Oil was organized over 20 years ago and continues to provide a forum for State, federal and local governments, oil industry, and contractors to meet, coordinate and openly discuss issues pertaining to oil spill prevention. Several cooperative oil and chemical organizations (e.g. the Salisbury Mutual Aid Group and the South Baltimore Industrial Mutual Aid Plan) have been long established and work with State, federal and local government agencies to enhance their working relationships through various preparedness activities. The federal Oil Pollution Act of 1990 has provided for Area Planning Committees and Area Contingency Plans to allow a more regional effort, in coordination with state and federal agencies, to examine and develop procedures as well as identifying resources for responding to spills. The Maryland Clean Marina Initiative was developed by the Department of Natural Resources in 1998 as an effort to assist marina and boatyard operators to protect the resources that provide their livelihood: clean water and fresh air.

Considering the quantity of oil moving into and through the State on an annual basis, major oil spills have occurred relatively infrequently in Maryland. However, the larger the spill when it occurs, the more damage that will result. Maryland has been affected in the past 10 years by two major oil pipeline (one interstate and one intrastate)

spills. In March of 1993, an interstate pipeline owned and operated by Colonial Pipeline, ruptured in Virginia and released 400,000 gallons of oil of which a large quantity ultimately entered the Potomac River. The most recent spill occurred on April 7, 2000 when an intrastate pipeline, that transports oil from the ST Services storage terminal (St. Mary's County) to PEPCO's Chalk Point electrical generating facility (Prince George's County), released approximately 126,000 gallons of oil into Swanson Creek and the Patuxent River and affected many property owners, wildlife and natural resources as well as PEPCO's ability to operate its facility. To date, the pipeline remains closed while PEPCO is implementing the requirements in the "Return to Service" Plan, as approved by the federal Office of Pipeline Safety.

On July 7, 2000, Governor Glendening signed an Executive Order establishing two Advisory Committees "to assist the State in effecting a coordinated cleanup and mitigation of the oil spill from the pipeline at the Chalk Point Power Plant, and to make recommendations for improving oil transport safety and spill response."

The Governor's Executive Order 01.01.2000.12 requested the Oil Spill Prevention Advisory Committee to perform the following duties and report to the Governor by December 31, 2000:

- Review and analyze the adequacy of federal policy, laws and regulation, related implementing legislation and administrative actions regarding oil transport and oil spill response
- Assess the adequacy of state laws and regulation addressing oil transport and oil spill response for protecting the Chesapeake Bay and the State's other natural resources
- Assess the adequacy of federal, state and local government resources and plans, and private contractor support available to prevent and respond to oil spills
- Review and analyze the preparedness of federal, state and local government agencies, private businesses, regional organizations and the oil industry to respond to oil spills
- Recommend options to the Governor for addressing issues, concerns or problems surfacing through the review process
- Identify and prioritize sensitive areas of risk which are targets for immediate improvement

The Oil Spill Prevention Advisory Committee met every two weeks from September through December to examine each of the four methods of transport. As stated previously, the methods of transport (pipeline, vessel, truck and rail) all work together to deliver petroleum product to the on-site user. For the purpose of the Committee's deliberations, the review of the transport methods ended upon the delivery to the on-site users of the oil products. Additionally, aboveground oil storage tanks (ASTs) at oil terminals were briefly reviewed as part of the

transportation system, with over 300 ASTS in Maryland identified as having individual storage capacities of 100,000 gallons or greater. The four methods of petroleum transport within Maryland fall subject to requirements imposed by various combinations of federal, state and local laws and regulations. These requirements share the common goals of preventing spills from happening and when they do occur, insuring adequate response to contain and cleanup the spill as soon as possible.

For each of the transportation methods reviewed, the Committee sought to identify the following:

1. Adequacy of Spill Prevention Requirements: Do they reflect best management practices in use today? Have advances in technology raised the standard of what is achievable? What have we learned since the regulations were finalized? What are the inspection frequencies of the implementing agency? Are the regulatory exclusions still appropriate? Have the prevention programs been successful? Are the spills and releases avoidable?
2. Adequacy of Preparedness of Oil Spill Response Requirements and Programs: What have we learned since regulations were finalized? Have the responses to actual spills been adequate? To what extent do weather conditions (natural disasters) hinder the response to spills? Are response times adequate for all areas at risk? What are the weak links in the current system and are they acceptable?

As a final task to meet its responsibilities, the Committee sought to identify the sensitive areas of risk along the petroleum transportation corridors. These sensitive areas can include public drinking water supplies, wetlands, sensitive habitat, historical and archaeological sites and many other high-risk features such as transportation crossings over and under streams and rivers. Does the addition of the sensitive area designation significantly raise the expectation that a spill or release should be prevented under all but the most unavoidable circumstances? Does the addition of the sensitive area designation significantly raise the expectation that a spill or release in these areas should receive a higher level of response and spill preparedness than would otherwise exist under the current regulatory requirements?

III. Responsibilities By Jurisdiction

COUNTY RESPONSIBILITIES

- Local ordinances vary among counties with respect to construction/building codes and zoning restrictions and may or may not address prevention, preparedness or sensitive areas.
- County agencies may or may not have the inspection and/or enforcement capability to inspect and penalize facilities involved in the transport of oil. However county police departments are the primary enforcer of commercial transport vehicles.
- Depending on the County, emergency services may only be minimally trained to respond to oil spills or may have a highly trained contingent of responders as well as specialized equipment to respond to oil spills.
- Currently – Allegany County/Cumberland, Anne Arundel County, Baltimore City, Baltimore County, Frederick County/Fort Detrick, Harford County, Howard County, Montgomery County, Prince George’s County and Washington County have trained HAZMAT Emergency Response teams.

STATE RESPONSIBILITIES

Maryland Public Service Commission (PSC)

- The PSC presently has no jurisdiction over intrastate or interstate hazardous liquid pipelines. The federal Office of Pipeline Safety (OPS) may delegate its inspection and enforcement authority for intrastate pipelines to a State agency. Delegation of authority for interstate pipelines to a state agency is extremely limited.
- Formal agreement presently in place with the OPS for the PSC to assume jurisdiction over intrastate natural gas and certain propane pipeline systems (COMAR 20.55.02.02A; 20.56.01.04; 20.57).
- The PSC is evaluated annually by OPS to assess the effectiveness of the gas pipeline safety program. Based on the results of this evaluation, OPS will reimburse the State General Fund up to 50% of the annual program costs.

Department of Natural Resources (DNR)

- Shares responsibilities with certain federal agencies and the MDE as a natural resource trustee. DNR by federal and state law is empowered to protect and restore natural resources that have been threatened by releases of oil or hazardous substances. Federal law authorizes trustees to
 1. ensure that cleanup actions protect natural resources from injury;
 2. restores the injured resources; and
 3. obtain compensation for the public for their losses.

Department of Environment (MDE)

PREVENTION:

Under Title 4, Subtitle 4 of the Environment Article, MDE has the authority to develop regulations for the transfer, treatment, separation, removal, storage, transport and disposal of oil to prevent pollution of waters of the State.

Pipelines - Both inter-and-intra state pipelines are subject to federal requirements. MDE has no authority to regulate hazardous liquid pipelines.

Vessels - Vessels are subject to limited Code of Maryland Regulation (COMAR) requirements, but are primarily regulated by the U.S. Coast Guard (USCG).

Under COMAR, vessels (barges or tankers) must:

- Have approved federal response plans.
- Display an up-to-date certificate of inspection issued by the USCG.
- Be escorted by an all-weather vessel to continually check for oil discharge.
- In lieu of an escort vessel, have a State approved plan for visual inspection of load lines or markings that would signal an oil discharge or be equipped with a cargo level monitoring system or have double-hull construction.
- Have financial security of \$500 per gross ton vessel or a USCG Certificate of Financial Responsibility (COFR) Note: Since there is no insurance company willing to insure for \$500/gross ton for unlimited liability, most vessels have a COFR.

Vehicles – MDE authorizes the intrastate transport as well as the loading or unloading of oil in Maryland via an Oil Operations Permit. MDE has a Hazardous Materials Compliance Section that inspects commercial vehicles transporting oil and responds to investigate accidents involving the transportation of hazardous materials by motor vehicle.

- Permit requirements apply to any vehicle used in the transport or transfer of oil that has a capacity of greater than 500 gallons.
- Permit requirements include the use of proper transfer hoses, fittings and connections.
- Requires an operator (i.e. the driver) to be within 10 feet of nozzle, valves and emergency shutoff during transfer.
- Requires spill cleanup material to be carried on the vehicle for small spills.

- MDE monitors 381 permits for intrastate and interstate vehicles loading or unloading oil in Maryland.

Oil Storage Facilities – MDE authorizes the storage of oil and non-marine transfer of oil in Maryland via an Oil Operations Permit.

- Individual Oil Operations permit requirements apply to AST bulk storage facilities with 10,000 gallons or more and to facilities with loading racks.
- Permit requirements include secondary containment around the tank farm, management of drainage from the containment area, proper emergency venting, proper tank construction, and spill notification plans.
- Marine Transfer Facilities: Additionally, these facilities must have federally approved response plans, monitor oil transfer operations, have automatic shutdown systems or high-level alarms.
- MDE monitors 685 permits for bulk storage facilities across the state with almost 1,300 aboveground storage tanks (ASTs) having 10,000 gallons or more capacity. Presently over 2,500 ASTs with less than 10,000 gallons capacity have been identified but it is estimated that this number is much higher.
- A general oil operations permit requiring proper tank construction, venting, and spill reporting requirements.

RESPONSE:

Under Environment Article 4-406, MDE is responsible for developing a program to respond to emergency oil spills. MDE's Emergency Response Division:

- Responds to intermediate scale spills (426 spills last year)
- Supports federal response on major spills
- Serves as State on-scene coordinator
- Draws upon other state, local agencies and private staff and resources depending on nature of the spill
- Provides public information and outreach during events in cooperation with other supporting agencies.
- Participates in training exercises with federal agencies, adjacent states and local response organizations.
- Emergency Response Division resources include:
 - Six hazmat response officers with fully equipped response vehicles
 - four small boats (22-25 feet) for boom deployment
 - spill response trailers equipped with boom, sorbent, small "jon" boats and other equipment placed around the State for use by local emergency response personnel
 - database tracking of approximately 2,700 oil spills reported each year

RESTORATION:

- Under 4-405 of the Environment Article, the MDE has the authority to require the discharger of oil to restore injured natural resources. The MDE also has

the authority to assume control, if the responsible party is not acting promptly, and restore the injured natural resources and then seek repayment of the reasonable costs of the rehabilitation and restoration of natural resources. The DNR establishes monetary values for tidal and non-tidal aquatic animals and wildlife by regulation.

- Environment Article 4-411(f) provides that a permissible use of the Oil Fund is for the restoration of natural resources damaged by discharge.
- Although MDE has the authority to restore natural resources, utilization of the federal OPA 90 Natural Resources Damage Assessment (NRDA) process is more advantageous to the State. The federal agencies involved have more resources (experience and monetary), State funds are not being depleted and the risk of seeking cost recovery and not being able to recover all of the expended costs is relatively low. However, because of State law, Maryland has the ability to opt out of the OPA-NRDA process if it so chooses.

ENFORCEMENT:

Under 4-417 and 4-418 of the Environment Article, Maryland has strong enforcement authority, including:

- Administrative penalty up to \$10,000 per violation not to exceed \$100,000.
- Civil penalty not to exceed \$25,000 per violation (Note: Each day of violation may be considered a separate offense).
- Criminal violations are a misdemeanor and upon conviction violators may be subject to fine or imprisonment or both. Fine cannot exceed \$50,000, imprisonment cannot exceed one year however both may be imposed.
- MDE can additionally assess a civil penalty of up to \$100 for each gallon of oil discharged for spills exceeding 25,000 gallons.
- All penalties are paid to the Maryland Oil Fund to support prevention and response programs.

Department of Transportation (MDOT)

- Under Transportation Act 22-409 of the Maryland Motor Vehicle Law, the Administrator of the Motor Vehicle Administration and the Secretary of MDE are required to jointly adopt regulations pertaining to the transport of hazardous materials. Regulations supporting this law can be found in Code of Maryland Regulations (COMAR) 11.16.
- Under 25-111 of the Maryland Motor Vehicle Law, MDOT has adopted the Federal Motor Carrier Safety Regulations that provide for the proper operation and maintenance of commercial motor vehicles as well as addressing driver requirements to safely operate these vehicles. Regulations supporting this law can be found in COMAR 11.21
- Enforcement of violations of either of these laws and their corresponding regulations is addressed only by traffic citations via the District Court.

FEDERAL RESPONSIBILITIES

U.S. Department of Transportation (USDOT)

Office of Pipeline Safety (OPS)

- Natural Gas Pipeline Safety Act (NGPSA) of 1968 as amended authorizes USDOT to regulate pipeline transportation of natural gas and other gases as well as the transportation and storage of liquefied natural gas (LNG).
- Hazardous Liquid Pipeline Safety Act (HLPSA) of 1979 as amended authorizes USDOT to regulate pipeline transportation of hazardous liquids, including crude petroleum and oil products.
- The Federal pipeline safety regulations (1) assure safety in design, construction, testing, operation and maintenance of pipeline facilities and in the siting, construction, operation, and maintenance of LNG facilities; (2) set out parameters for administering the pipeline safety program; and (3) delineate requirements for onshore oil pipeline response plans.

U.S. Coast Guard (USCG)

- Ports and Waterways Safety Act (PWSA) of 1972 authorizes the USCG to regulate tank vessels through the reduction of risk of collisions, groundings or other accidents in U.S. ports, waterways and coastal waters.
- Clean Water Act (CWA) of 1972 as amended is the primary federal law that protects U.S. waters. The main objective of this Act is to restore and maintain the integrity of the nation's waters. The two fundamental national goals of this Act are 1) eliminate the discharge of pollutants in the nation's waters and 2) achieve water quality levels that are fishable and swimmable.
- Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) of 1980 as amended created a tax on the chemical industries and provided broad Federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. The Act authorizes both short-term removals for releases requiring prompt response and long-term remedial response actions that permanently or significantly reduce the dangers associated with releases that are serious but not immediately life threatening.
- Oil Pollution Act of 1990 (OPA 90) as amended addresses oil spill prevention and response and provides guidance on prevention, mitigation, cleanup, liability and research and development. The Act makes companies ultimately responsible for their actions and charges government agencies on all levels with a more direct role.
- Facility Response Plans (FRP) requires certain facilities that have the potential to cause substantial harm to the environment to prepare a plan to address how to respond to a worst case catastrophic discharge and submit the plan to EPA.

Federal Motor Carrier Safety Administration (FMCSA)

- Hazardous Materials Transportation Act (1975) authorizes the USDOT to regulate the transportation of hazardous materials by road, air, water and rail.
- Surface Transportation Assistance Act (1982) authorizes the USDOT to establish a motor carrier safety assistance program.
- Hazardous Materials Transportation Uniform Safety Act (HMTUSA – 1990) authorizes USDOT “to protect the nation against the risks to life and property which are inherent in the transportation of hazardous materials in commerce.”
- Motor Carrier Safety Improvement Act (1999) established the Federal Motor Carrier Safety Administration. The primary mission of this administration is to prevent motor vehicle-related fatalities and injuries.
- The Federal Hazardous Materials Regulations provide for the safe transportation of hazardous materials by highway and for the manufacture and maintenance of cargo tank motor vehicles.
- The Federal Motor Carrier Safety Regulations provide for the proper operation and maintenance of commercial motor vehicles. The Motor Carrier Safety Assistance Program is a Federal Grant Program that provides states with financial assistance for roadside inspections and other commercial motor vehicle safety programs. It promotes detection and correction of commercial motor vehicle safety defects, commercial vehicle driver’s deficiencies and unsafe motor carrier practices before they become contributory factors to accidents and hazardous materials incidents.

Federal Railroad Administration (FRA)

- Federal Railroad Safety Act of 1970 – The Federal Railroad Administration has responsibility for ensuring railroad safety throughout the United States. This includes the promotion of safety in every area of railroad operations, the reduction of railroad-related accidents and incidents and the safe transportation of hazardous materials by rail.
- The FRA regulations provides for safety in rail car construction and transportation.

U.S. Environmental Protection Agency (USEPA)

- Clean Water Act (CWA) of 1972 (see discussion under USCG, p.16)
- Comprehensive Environmental Response, Compensation and Liability Act of (CERCLA) of 1980 (see discussion under USCG, p. 16)

- Oil Pollution Act of 1990 (OPA 90) (see discussion under USCG, p. 16)
- Spill Prevention, Control and Countermeasure Plans (SPCC) establishes procedures, methods and equipment needed to prevent oil discharges into or upon the navigable waters of the U.S. or adjoining shorelines. It provides requirements that address onshore bulk storage tanks, secondary containment, transfer operations, inspections and recordkeeping, security, planning and spill prevention procedures.
- Facility Response Plans (FRP) requires certain facilities that have the potential to cause substantial harm to the environment to prepare a plan to address how to respond to a worst case catastrophic discharge and submit the plan to EPA.
- National Oil and Hazardous Substances Pollution Contingency Plan (NCP) establishes the national blueprint for oil spill planning and response by outlining a national response system which includes the pre-designation of a Federal On-Scene Coordinator and the establishment of national and regional response teams and area committees to support local, state and federal responders prior to and during a spill event.

IV. Discussion Points/Recommendations

The committee was tasked to examine oil transport safety and spill response capabilities in Maryland. Additionally, the Committee was asked to identify and prioritize sensitive areas of risk that could be severely impacted should an oil spill occur.

Transportation of oil and oil products in Maryland occurs through one of four modes – pipeline, vessel, truck and rail. When oil is not being transported, it is being stored in aboveground and underground storage tank facilities. Although no crude oil is processed in Maryland, billions of gallons of refined oil are annually stored in and transported into and through the State. This refined oil includes lighter distillates such as gasoline, aviation fuel and kerosene as well as heavier residual products such as #4 and #6 heating oils used by industry. Pipelines and vessels are the two most common means of oil transport in Maryland.

There are many federal and state laws and regulations already in place addressing many facets of the oil transportation and distribution network. Specifically, the Committee looked at each mode of transportation as well as the distribution network by examining the requirements in place to address spill prevention and spill response. Over the course of their discussion and research, the Committee determined that the two key areas that will minimize or eliminate spills are the reduction of human error and to insure the proper and adequate testing, maintenance and inspection of equipment to assure it is structurally sound, in good working order and that engineering control systems are functional and appropriate.

On the following pages, each of the modes of oil transportation as well as marine storage facilities, emergency response and sensitive areas of risk are presented along with recommendations from the Committee. Through this review and ensuing discussions by the Committee members, recommendations were developed. These recommendations, it is believed, will enhance the State's overall effectiveness in spill prevention and spill response.

Pipeline Transportation of Oil

In testimony provided in October, 2000 to the Maryland Senate Economic and Environmental Affairs Committee, Mr. William Gute, Eastern Regional Director for the USDOT Research and Special Programs Administration (RSPA), Office of Pipeline Safety (OPS), stated that 60% of the crude oil and petroleum products that fuel our industry, our economy, and our households are transported via pipelines. The OPS has regulatory responsibility for more than two million miles of pipelines involving 2,400 different operators. The regulations address the design, construction, inspection, testing, operation and maintenance of pipeline systems. Compliance with the regulations occurs through a federal/state partnership. State agencies can assume regulatory and enforcement functions primarily as they apply to **intrastate** pipeline transportation while the federal government exercises these responsibilities for interstate pipelines. The OPS regulations establish a uniform minimum standard for all pipelines; however, states are permitted to establish more stringent requirements on **intrastate** hazardous liquid pipelines.

Although legislation was introduced in the 1990's for Maryland to accept **intrastate** pipeline responsibilities, it did not pass. Accordingly, OPS presently still maintains authority over both **intrastate** and interstate hazardous liquids pipelines.

Presently in Maryland there are approximately 250 miles of interstate pipelines owned and operated by Colonial Pipeline Company and 55 miles of **intrastate** pipeline of which almost 52 miles are located in Southern Maryland that were owned and operated by PEPCO and ST Services when the spill occurred. The remaining three miles of **intrastate** pipeline are located in Baltimore and owned and operated by the APEX Oil Company. There is a second interstate pipeline of concern to the State that is owned and operated by the Plantation Pipeline Company. This interstate pipeline terminates in Virginia but traverses many miles in close proximity to the Potomac River. The Committee has developed a map showing the locations of these pipelines (See Figure 4).

The Maryland Public Service Commission (PSC), by formal agreement with the OPS, has assumed jurisdiction over **intrastate** natural gas and certain propane pipeline systems. The Commission's Engineering Division implements a thorough inspection program for these gas pipeline systems to evaluate them for compliance with both the OPS regulations and applicable Code of Maryland Regulations (COMAR). Enforcement is accomplished through COMAR. As part of the federal/state partnership, the OPS evaluates the PSC to assess the effectiveness of the State gas pipeline safety program. Based on the results of this evaluation, the State's General Fund is reimbursed up to 50% of the program costs (historical reimbursement has been approximately 45%).

In order for the State to extend the delegation of **intrastate** pipelines to include hazardous liquids, legislation is necessary. The delegation would authorize the State to enforce the authorities of 49 CFR 195, which prescribes safety standards and reporting requirements for hazardous liquids pipeline facilities. To fully meet the delegation requirements, the State must demonstrate that they have qualified inspectors.

Figure 4. Interstate and Intrastate Oil Pipelines Affecting Maryland

Additionally, the State would need to develop a comparable penalty program for this inspection and enforcement delegation.

If the State wanted to also extend the delegation to include interstate hazardous liquids pipelines there are several limiting factors. Initially, a State must have **intrastate** delegation. When interstate delegation is received, the OPS considers the delegation to be a coordinated approach to pipeline facility inspections in which OPS approves the inspection plan, provides input into the review of that plan and finally requires the delegated State to coordinate inspections with the OPS. Enforcement and penalty authorities for interstate pipelines is not delegated to a State nor is approval of Oil Spill Response Plans that interstate pipeline facilities develop.

According to the OPS there are approximately 15 states that have delegated authority for hazardous liquids **intrastate** pipelines oversight. Only four of these states (VA, NY, CA, MN) have pursued and received the limited interstate delegation.

Recommendations:

1. The State should seek delegation of regulation and enforcement authority over **intrastate** oil pipelines to insure thorough inspections and compliance with all applicable safety requirements of those pipelines. It is further recommended that the State agency responsible for oversight and development of this **intrastate** program should be the PSC.
2. The PSC needs to determine additional engineering and support resources, including training and budgetary support to provide complete coverage for this delegated authority since only limited funding is available from the OPS.
3. In three years, the PSC needs to evaluate the feasibility of receiving delegation of authority for interstate pipelines. As part of this evaluation, the number, frequency and type of inspections conducted by OPS during that time period will be taken into consideration.
4. The MDE needs to receive copies of all hazardous liquid pipeline response plans which are filed with the USDOT by facilities that could detrimentally affect “Waters of the State”.
5. The MDE, DNR and PSC need to identify sensitive areas of risk that may result in a rapid and catastrophic deterioration of public health, safety and/or the environment in the event that an **intrastate** or interstate pipeline fails. The identification of sensitive areas should be coordinated with relevant Federal agencies to insure that integrated response planning occurs at all levels of government.

6. The MDE needs to determine if the **intrastate** and interstate oil pipeline companies have already sufficiently addressed emergency response capabilities in those areas of high risk. It is further recommended that MDE works in a coordinated manner with all oil pipeline companies to insure adequate emergency response equipment, materials and labor is provided should a spill near these identified areas occur.
7. The PSC and MDE will work with pipeline owners and local governments to assure that additional outreach efforts on where pipelines are located and the inherent dangers of construction activities near these pipelines will be made.

Vessel Transportation of Oil

Americans are consuming nearly 19 million barrels (42 gallons per barrel) of oil every day. Approximately 54% of this oil is imported from other countries and most of this delivery is by marine vessel¹. In Maryland, approximately 31% of the oil is imported via marine transportation. Primary oversight of all marine vessel activity and transportation related facilities, including the transfer of oil to marine oil storage facilities, is the responsibility of the U.S. Coast Guard (USCG). There are approximately 80 fixed and mobile marine transfer related facilities within the USCG Captain of the Port-Baltimore Zone that handle, store or process petroleum products or chemicals.

The Maryland Department of the Environment has limited regulations that address tank vessels (defined as constructed to carry oil in bulk as a cargo in a quantity of 300 gallons or more). Maryland law addressing tank vessels and marine storage facilities was enacted in 1990. However, with the passage of the federal OPA 90, only minimum regulatory requirements were promulgated in 1995. Specifically, COMAR 26.10.23-.24 required that each tank vessel shall:

1. Have an approved response plan under 33 CFR 155 (USCG) and that the plan is available for review by MDE;
2. Have a certificate of inspection displayed and issued as per 46 USC and 46 CFR 2;
3. Have either an all-weather escort vessel, a cargo level monitoring system, double hull construction or have a State approved plan for the visual or other method of inspection to detect oil discharges; and
4. Post a bond or other security of \$500 per gross ton of vessel or offer proof to the Department of a current Certificate of Financial Responsibility issued by the USCG under 33 CFR 130.

As was presented by the federal agency Committee members, the OPA 90 fundamentally and profoundly impacted all oil transportation that serves the United States. Specific requirements within OPA 90 (See Appendix 3) expanded oil spill prevention and preparedness activities, improved response capabilities, ensured that entities responsible for oil spills pay for spill costs, increased penalties and enhanced enforcement capabilities, established an expanded research and development program and established the Oil Spill Liability Trust Fund to financially assist local, state and federal agencies during oil spill response activities. OPA 90 does not pre-empt state laws, which may impose additional liability, penalties, or cleanup requirements provided that the laws do not interfere with interstate commerce.

¹ Source: API – An Environmental, Health and Safety Report

Topics relative to state and federal oversight of maritime activities included two broad areas: prevention and mitigation capabilities. The Committee's deliberations and concerns focused on the human factor involvement (training) and equipment issues (both adequacy and availability) with regard to the highest levels of risk for discharges or releases of petroleum product. The USCG has identified three specific concerns with respect to greatest risks of oil pollution. These concerns are 1) the importance of prevention in managing/preventing the cumulative effects of multiple small spills (e.g. marinas and commercial transfer activities); 2) the region's limitations and capabilities with respect to removing/salvaging a large vessel that runs aground or sinks; and 3) the ability to assemble sufficient response resources from within and out of the area should two nearly-simultaneous serious/major spill events occur. There were also discussions relative to seasonal requirements for vessels, i.e. single hull barge operations in winter ice conditions. The following paragraphs summarize those areas of discussion.

The USCG has an extensive training, testing and certification program. The quality control of this aspect of the program involves continual drill exercises, both tabletop and in the field events. There are many layers of personnel involved in a response operation, including state and federal governments, facility operators and private contractors. The Committee discussions centered more on the communication aspects of these different entities during an oil spill event rather than on an individual's capabilities. There were extensive discussions regarding notification procedures during a spill event. The committee was interested in who gets a call, what order the calls are made and what the respective roles are of those called. The USCG has a formal protocol for notification and responsibility; however, the local government authorities are unclear. Similarly, the USEPA has protocols for inland waterway spill events.

The maintenance and design of the maritime aspects of barges and ships is well established, however, the Committee raised cargo containment issues. Single hulled vessels still traverse the Bay, although they are being phased out over the next 15 years. Ships entering the Bay go through numerous control inspections but barges, or intrastate vessel activities, may not receive this same stringent oversight. Additionally, there were concerns raised as to the amount and location of emergency response equipment and the capability for fast deployment in a spill event.

Recommendations:

1. State and federal government agencies should consider increasing the frequency and scope of training activities (i.e. drills and exercises) to maximize contingency planning capabilities for future oil spills from vessels. The use of additional resources to directly assist those agencies during the emergency response phase of a major spill, including the potential role of local governments and watermen, should also be considered.
2. Notification procedures as described in the Area Contingency Plans should continue to be evaluated for the possible inclusion of other agencies, including local governments and volunteer organizations. This review should be conducted on a prioritized basis with emphasis given to high-risk areas involving large oil transport activities or state identified Sensitive Areas of Risk (see page 38 for further discussion).

3. The USCG and MDE should evaluate if additional oversight of commercial intrastate transportation of oil by vessel and barge may be necessary. This oversight may include more frequent inspections and unannounced drills.
4. The USCG should consider the use of more stringent advisory messages with regards to operators of single hull vessels/barges during certain foul weather episodes.
5. The Area Planning Committees should annually review their inventory of and contacts for all oil spill response equipment and materials located in their plans. As the State determines additional Sensitive Area of Risk, the staging of additional equipment near to some of these areas should be considered.

Marine Oil Storage Facilities

Although Marine Oil Storage Facilities are not involved directly in the transportation of oil, they are an important cog in the entire oil distribution network. Marine Oil Storage facilities are unique in that these facilities store millions of gallons of oil adjacent to numerous waterways and receive and send immense quantities of oil and oil products by vessel, pipeline and truck (Maryland has little if any rail transportation involved at these facilities).

The Environmental Protection Agency (USEPA) and the US Coast Guard (USCG) are the agencies that have primary federal oversight of these facilities. There are two plans required for most of these facilities that address oil pollution prevention and oil spill response.

The Spill Prevention, Control and Countermeasure (SPCC) Plan, under jurisdiction by the USEPA, requires non-transportation related facilities to prepare and implement a plan to prevent any discharge of oil into navigable waters or adjoining shorelines of the United States. Facilities required to prepare an SPCC Plan must have 1) an aboveground storage capacity greater than 600 gallons in a single container or an aggregate aboveground storage capacity greater than 1,320 gallons, or 2) a total underground storage capacity greater than 42,000 gallons, and 3) a reasonable expectation of a discharge to navigable waters or adjoining shorelines of the United States. The three general areas that must be addressed in the Plan are 1) operating procedures the facility implements to prevent oil spills; 2) control measures installed to prevent a spill from entering navigable waters or adjoining shorelines; and 3) countermeasures to contain, cleanup, and mitigate the effects of an oil spill that impacts navigable waters or adjoining shorelines of the United States.

The Facility Response Plan (FRP) requires on-shore non-transportation related facilities that have the potential to cause “Substantial” harm or “Significant and Substantial” harm to the environment to prepare a plan to address how to respond to a worst case, catastrophic discharge. The USCG oversees all coastal zone FRPs while the USEPA has jurisdiction for inland facilities. The determination of the two levels of harm is based on the following: total oil storage capacity, type of transfer operations, secondary containment, proximity to sensitive environments, proximity to public drinking water intakes, and reportable spill history. The USEPA has identified forty-one facilities in Maryland meeting either the “Substantial” Harm or “Significant and Substantial” (SIG and SUB) Harm criteria. All SIG and SUB facilities are required to be inspected by the USEPA every five years.

Maryland has a permitting and inspection program within MDE that specifically addresses aboveground oil storage facilities meeting certain criteria. Oil Operations Permits address oil spill prevention through proper engineering, construction and control measures and are required of all facilities having either 1000 gallons or greater of used oil storage or 10,000 gallons are greater storage capacity of other oils (excluding vegetable and animal fat oils). During discussions, it was identified that aboveground storage tanks (ASTs) in direct contact with the ground have the largest potential to cause a release

without detection by the facility. Not only do all marine facilities, due to the AST storage capacity, have this potential but many similar distribution terminals throughout Maryland have ASTs similarly constructed. It was further observed that the State's regulations (COMAR 26.10.01) have not been updated since the 1980's.

Recommendations:

1. The MDE should review and assess its existing laws and regulations for aboveground storage tanks to determine changes that should be implemented to insure aboveground storage tanks are properly constructed, tested and monitored to prevent leaks and structural failures.
2. State and federal government agencies should consider increasing the frequency and scope of training activities (i.e. drills and exercises) to maximize contingency planning capabilities for future oil spills. The use of additional resources to directly assist those agencies during the emergency response phase of a major spill, including the potential role of local governments and watermen, should also be considered as part of an overall response action.

Transportation of Oil By Highway

The Hazardous Materials Transportation Act, effective January 1975, initiated federal programs that regulated the transportation of hazardous materials by road, air, water and rail. The Surface Transportation Assistance Act of 1982 caused the USDOT to establish the Motor Carrier Safety Assistance Program and regulations to insure commercial vehicle safety. The Hazardous Material Transportation Uniform Safety Act of 1990 provided the USDOT extensive authority to regulate intrastate as well as interstate hazardous materials shipment, packaging, operations, training and enforcement.

Regarding commercial trucks, the Maryland Department of Transportation (MDOT) has adopted both the federal Hazardous Materials regulations and the federal Motor Carrier Safety regulations. MDOT funds the Maryland Motor Carrier Program. MDE, the Department of Maryland State Police (DMSP) and several county governments provide for inspection and enforcement for truck transportation of oil products as it relates to the federal regulations. Although the USDOT can impose administrative penalties, MDOT does not have the ability to administer penalties for violations of the federal regulations. Enforcement is only accomplished through the issuance of traffic citations to the drivers of the trucks for violations of the Maryland Motor Vehicle laws and regulations. Fines currently range from \$45 - \$1,020 per violation. Maryland law does not have any mechanism to penalize the owner of the truck or the shipper of the product if the inspections are conducted at roadside facilities.

However, MDE requires trucks having greater than 500 gallons storage capacity, and which load, unload or deliver oil in Maryland, to be authorized to conduct such activities under an Oil Operations Permit. In the event that there is a violation, MDE can issue Administrative, Civil or Criminal penalties to both the drivers of the truck and the company owning the truck.

The Committee focused on two areas of transportation: the high number of truck transport incidents that occur and the need for better data on truck accidents. Although the actual volume of oil released during most spill events is small, there are 20-30 truck transport accidents that occur in Maryland each year that releases 2,500-8,000 gallons of oil products in a single incident. According to the USDOT, 87% of all truck incidents in the United States are caused by human error and in nine out of ten times, the error is not caused by the driver of the truck. When a truck incident does occur in Maryland, the USEPA or the USCG may respond, however, the majority of these responses are performed by local emergency services, the MDE Hazardous Materials Compliance Section and/or the MDE Emergency Response Division. The USDOT through its Hazardous Materials registration program, can provide funds to local emergency services, but not to MDE, even though the majority of their responses are transportation related.

It was presented to the Committee that the USDOT has stated that by FY 2007, Maryland needs to reduce serious injury accidents by 20% and by FY 2009, States should reduce truck accidents by 50%. Maryland must use 1998 accident data as their baseline. Failure to accomplish this reduction could mean a loss of federal funding to Maryland. Presently all State accident information is directed to the DMSP and a database is

maintained by the State Highways Administration (MDOT). However, the database may not be presently capable of providing substantial and reliable information on truck accidents.

Recommendations:

1. As the majority of incidents that the MDE Emergency Response Team responds to are transportation related, the USDOT and MDOT should provide supplemental funding to assist the MDE Emergency Response Division purchase equipment and materials.
2. The MDE Hazardous Materials Compliance Section should continue to be funded by MDOT and the State should evaluate if additional personnel are needed for this Section to enhance inspection frequency of commercial vehicles.
3. The associated penalty provisions for violations of Maryland Motor Vehicle Laws should be evaluated in comparison to USDOT sanctions.
4. As the MDE already requires Oil Operations permits for oil transport vehicles, it should incorporate the Maryland Motor Vehicle regulations pertaining to Hazardous Materials and Motor Carrier Safety Regulations to allow for stricter administrative penalties on the companies owning the trucks as well as the shippers of the oil products, especially habitual offenders.
5. MDOT and all agencies that use the State's accident database need to establish a workgroup to investigate ways to improve reporting of accident information so that this information, especially for commercial vehicles, is reliable and accurate. If the database is accurate, it may be possible to identify trends in truck accidents to assist the State in reducing truck accidents. It may also be useful in providing trend data for those transporters carrying oil products in close proximity to highly sensitive areas of risk.
6. The State should evaluate if additional personnel should be trained so that more inspections of trucks and drivers can occur, including 24-hour coverage at one or more of the fixed inspection facilities located throughout Maryland.

Rail Transportation of Oil

Transport of oil by rail is enforced by the Federal Railroad Administration (FRA); however, the USCG has regulatory involvement relative to transfers of oil from rail to barges and vice versa. Rail cars are required to be inspected by the USDOT both before loading operations and again before the car begins its journey. There is only one FRA hazardous materials inspector responsible for a multi-state area however, there are more inspectors available for rail safety inspections. Very little oil is transported by rail either into or out of Maryland. However, it is believed that a large quantity of oil traverses the State annually to other destinations.

Historically, it is usually the locomotive(s) that have released oil when a train incident occurs. Each locomotive carries approximately 1500-2000 gallons of fuel. Rail cars carrying oil products have capacities of 20,000 – 30,000 gallons each. Incidents involving rail cars have occurred in Maryland but these cars have involved hazardous materials other than oil products. However, there are miles of rail that cross the State in many areas where access to those rails is very limited. Additionally, it must be recognized that rail routes are commonly located along waterways and, combined with the access factor, there is a high potential for an oil spill affecting many miles of waterways before it could be contained.

Recommendations:

1. MDE should further investigate rail traffic into and through the State to better understand oil transport and routing by rail and determine which areas of the State have a higher degree of vulnerability should a spill occur.
2. The state and federal governments should evaluate the need for additional requirements needed for response activities, which may include the additional staging of equipment at high-risk areas.

Emergency Response to Oil Spills

The National Oil and Hazardous Substance Pollution Contingency Plan (NCP), established in 1968, and amended several times including extensive changes after the passage of OPA 90 is the federal government's primary guide for preparing for and responding to oil spills. It was developed as a result of the need for a national response capability and to establish a coordinated hierarchy of responders and contingency plans. OPA 90 instituted a shift in contingency planning from the national level to a regional approach. It mandated that Area Contingency Plans (ACPs) be developed with input largely provided by Area Planning Committees. The Area Planning committees are made up of members of appropriate federal, state and local agencies. In Maryland there are three of these committees.

The contingency plans are tailor-made to fit the geographic regions of each Committee. The primary goals of establishing ACPs is to have a coordinated network of response resources to allow responders to be aware of and use the best available personnel and equipment in the event of a spill (See Figure 5).

Depending on the complexity of a spill incident the incident response can become very involved (Figure 6). An initial response may occur by local government (emergency fire, rescue and medical support and a HAZMAT team in some jurisdictions) and/or by MDE. Local government may request State resources (primarily the MDE Emergency Response Division Spill Response Team) and if required the State would request federal support. When a spill incident is elevated to this level, the Federal On-Scene Coordinator (FOSC) will direct all federal containment, removal and disposal efforts and will provide a point of contact (known as the Incident Command System) for coordination of federal efforts with private, local and state responders (See Figure 7).

One of the most serious challenges when a significant oil spill occurs is for the responsible party to activate its response plan and insure a timely response by its spill cleanup contractors. If necessary, the responsible parties should be capable of deploying boom within one hour of the spill. Depending on circumstances it is generally expected that an adequate response by private contractors will occur within two to six hours, and oil recovery operations would begin within two hours for what is defined as the "average most probable discharge."

The USCG has developed an Oil Spill Response Organization (OSRO) contractor list that categorizes and approves spill response contractors according to their capabilities (labor, training, equipment, materials) to respond to and mitigate a spill. The OSRO contractors are regularly assessed by the National Strike Force Coordination Center who maintains a comprehensive database of nationwide spill response equipment available for use. The Center conducts reviews of these contractors via USCG Strike Teams, local USCG Marine Safety Offices and State agencies to verify equipment and training.

Some of the national response contractors, such as the Marine Spill Response Corporation (MSRC) and the National Response Corporation (NRC), are cooperative organizations that will provide services only to those responsible parties that are paying members. It is possible during a spill event, that even if the cooperative's equipment and materials are located nearby but the spiller is not a member of the coop, this equipment may be unavailable for use unless the USCG/USEPA directs them to respond.

Maryland is fortunate to have both local and state resources to provide more advanced spill response containment and mitigation efforts in that time frame when the spill first occurs and before the responsible party can have its Oil Spill Response Organization (OSRO) contractor(s) on-site. Several local jurisdictions have trained HAZMAT teams that can respond quickly to an incident. Within MDE, the State has an emergency response team and equipment that can help contain serious spills and minimize threats to public health, safety and the environment.

Figure 5: Coordinated Response Network Relationships

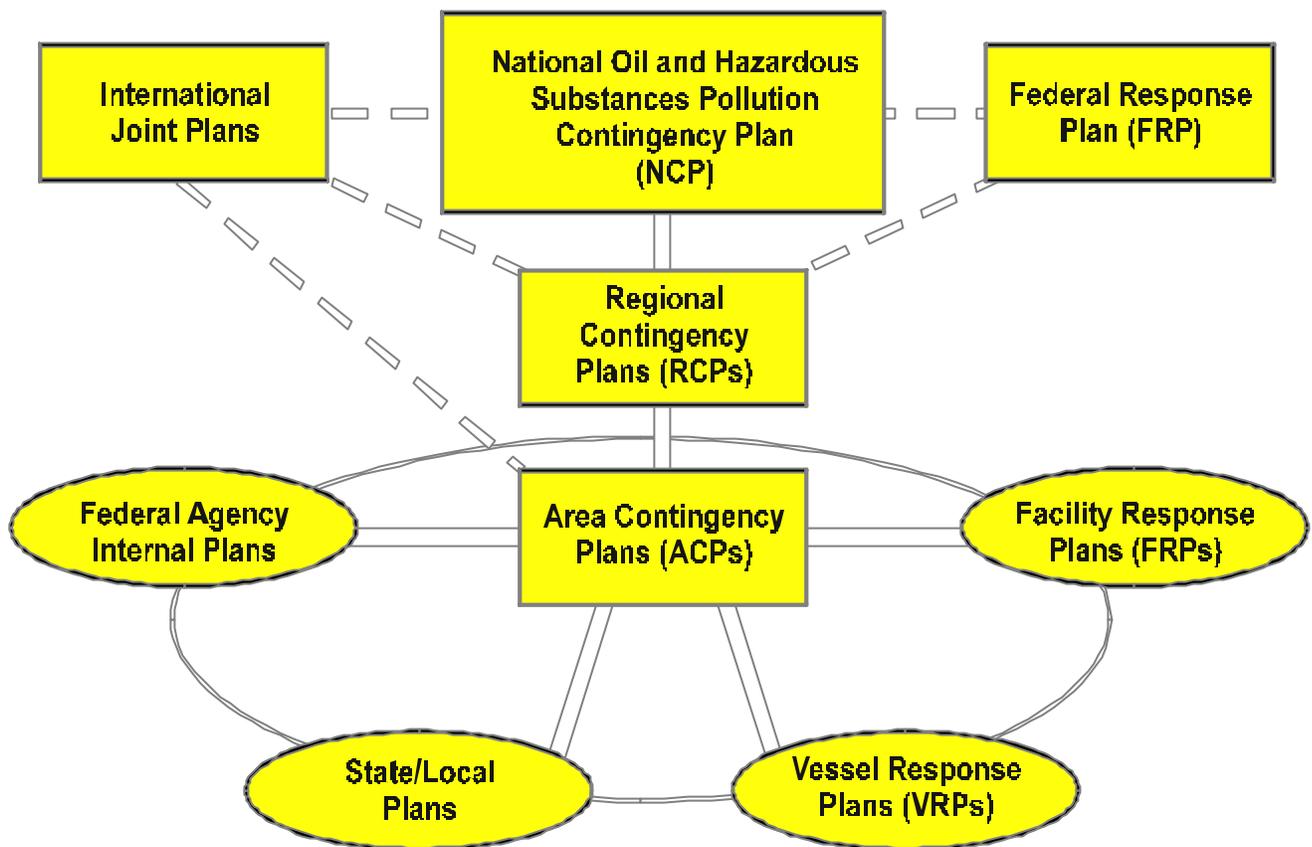
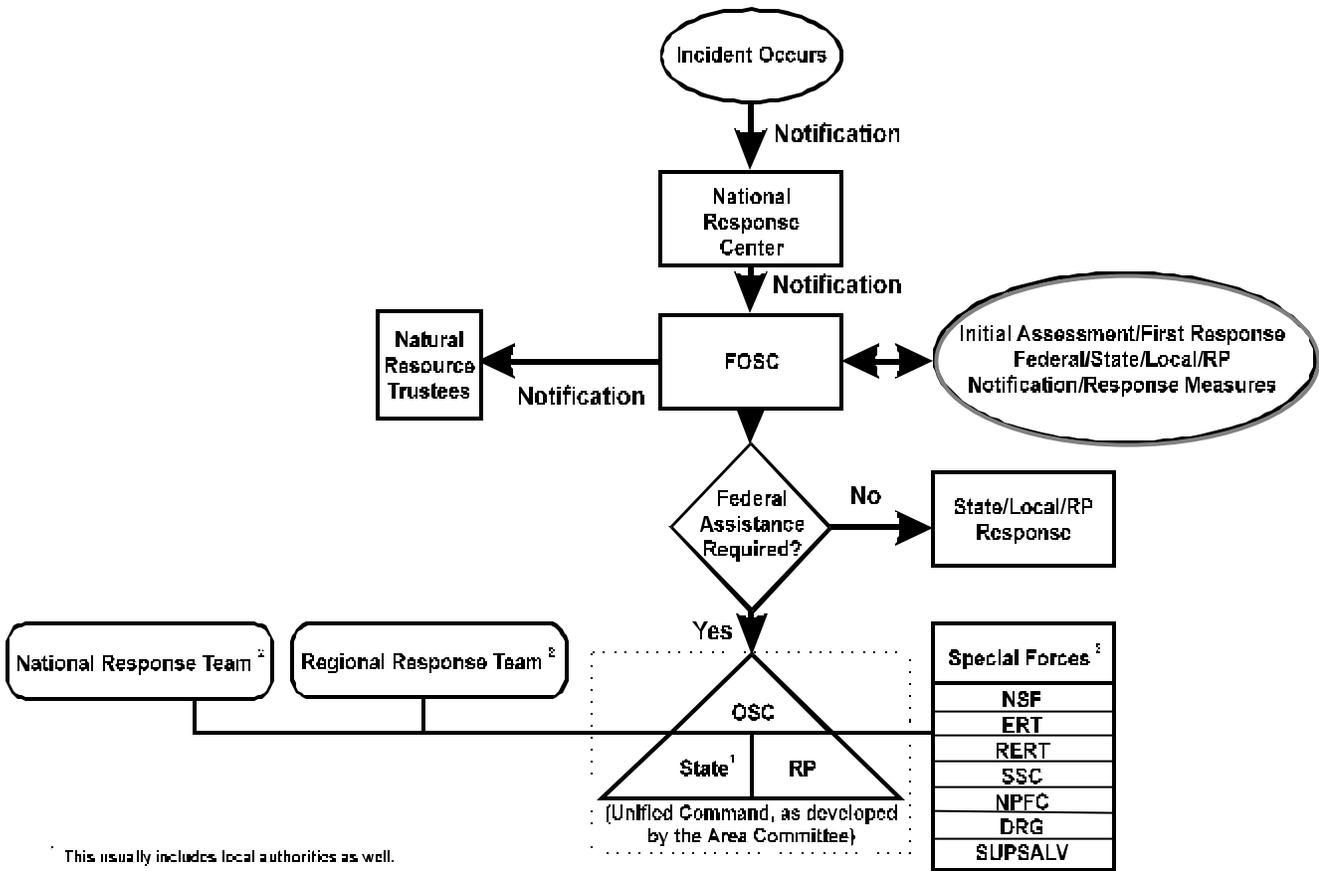


Figure 6: Incident Response

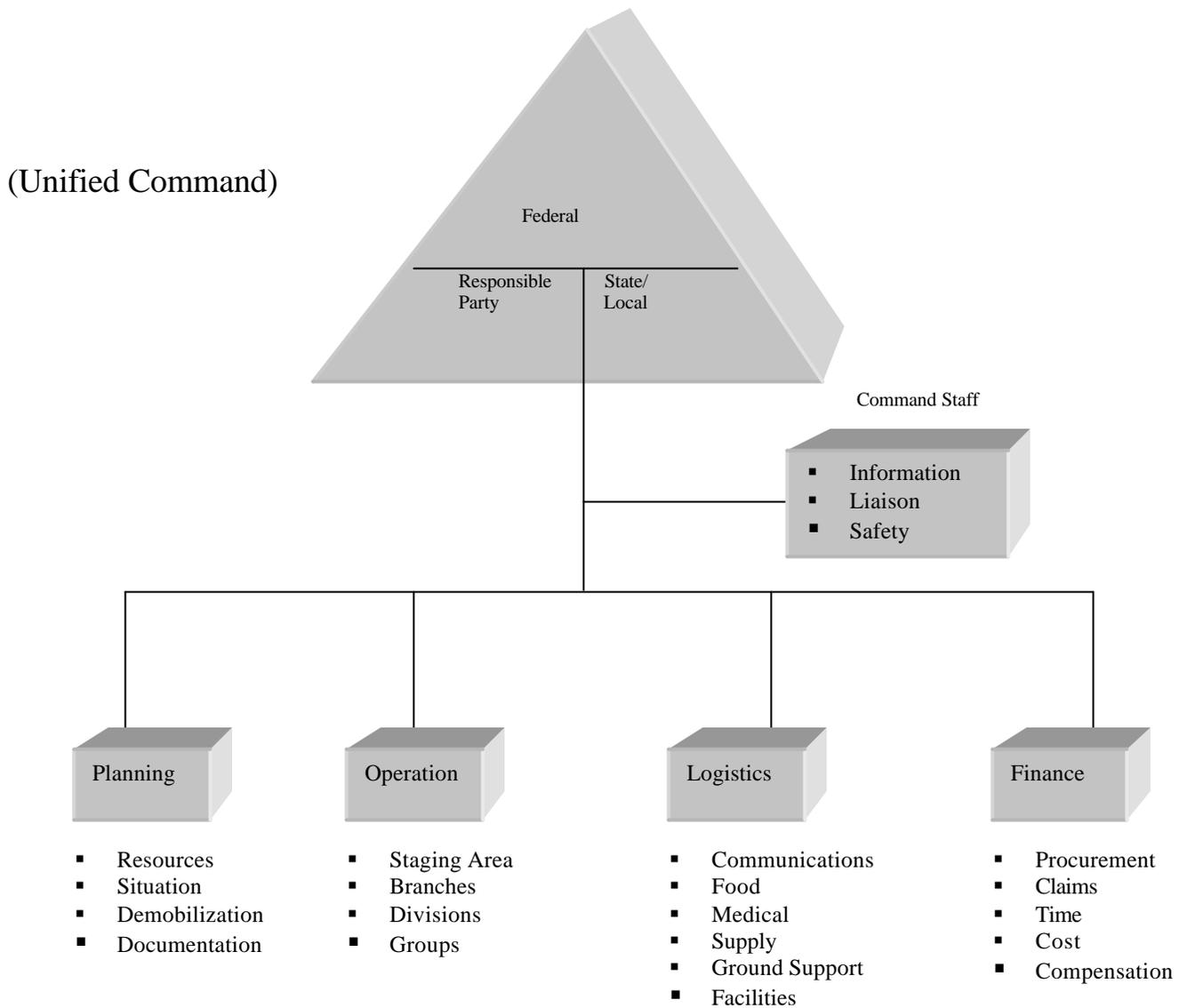


¹ This usually includes local authorities as well.

² Resources available to support the FOSC upon request.

Source: Federal Register, Sep. 16, 1994, Vol. 69, No. 178, p. 47426 (NCP Final Rule)

Figure 7 Incident Command System Structure



The MDE Emergency Response Division (ERD) in FY 2000 received over 3,000 oil and chemical spill reports (See Figure 8) and responded to 607 incidents, of which 70% were oil related. The team also provides training and support to local government responders, represents Maryland on the Regional Response Team and participates in training, drills and exercises with federal agencies, adjacent states and local response organizations. The MDE-ERD also has specialized equipment (including boats and spill trailers) and containment materials available for a variety of spill incidents. The team provides statewide coverage twenty-four hours a day, seven days a week, three hundred sixty five days a year with a staff of only six Hazardous Materials Specialists. Unfortunately, the team has limited capability to respond to multiple simultaneous incidents due to its lack of manpower.

Recommendations:

1. Federal agencies should continue to evaluate their criteria for how OSRO contractors are assessed and qualified to address certain levels of spills to determine if these criteria should be strengthened. MDE should also review and evaluate its published emergency response contractor lists and the methods used for assessing the qualifications and capabilities of those contractors. An evaluation of those contractors who cannot perform as they have stated should also be completed to determine whether a penalty system should be initiated for failure to perform.
2. State and federal agencies should evaluate the need for additional requirements needed for response activities, which may include the additional staging of equipment at high-risk areas.
3. The State should evaluate the present status of its MDE –ERD to determine whether additional personnel, equipment and materials are needed to address and respond to the number of spill incidents occurring in the State.
4. MDE should evaluate the benefits of using Memorandums-of-Understanding (MOU's) with counties that have established and qualified HAZMAT teams to insure additional resources are available to assist the State response during a major spill.
5. The USCG and EPA should review their procedures to respond to spills to insure that both agencies are providing a coordinated response effort when a spill occurs near to the demarcation line between what is deemed an inland spill (USEPA) or a coastal zone spill (USCG).
6. DNR and MDE should evaluate present public outreach efforts to recreational boaters to insure that this group has clear and concise notification information for the reporting of oil spills and other water pollution incidents to the proper state and federal authorities.
7. To the extent possible, the State should consider the use of other qualified technical experts with regards to Corrective Action cleanup activities.

FIGURE 8
MDE'S - Emergency Response Team
Fiscal Year 2000 Activities*

County	Oil	Chemical	Other	Reported Total	ERD Responses
Allegheny	17	4	3	24	2
Anne Arundel	253	36	31	320	99
Baltimore City	848	68	81	997	130
Baltimore County	336	41	67	444	158
Calvert	52	2	2	56	6
Caroline	23	0	5	28	5
Carroll	31	6	5	42	11
Cecil	68	6	13	87	35
Charles	57	2	7	66	7
Dorchester	22	1	3	26	6
Frederick	51	2	5	58	11
Garrett	13	4	2	19	1
Harford	125	17	16	158	22
Howard	83	11	13	107	38
Kent	11	4	4	19	6
Montgomery	172	8	16	196	11
Prince George's	280	15	15	310	29
Queen Anne's	50	0	4	54	12
Somerset	15	0	0	15	0
St. Mary's	71	3	8	82	3
Talbot	36	2	6	44	5
Washington	30	6	6	42	5
Wicomico	40	0	6	46	2
Worcester	40	0	7	47	3
Federal Facilities	49	0	2	51	0
Totals	2773	238	327	3338	607**

About 6% of the reported incidents are not included here because the original reports either do not indicate jurisdictions or spilled material. **426 ERT responses were for oil releases.

Sensitive Areas of Risk

As part of the federal and state response activities to the PEPCO oil spill, the National Oceanic and Atmospheric Administration (NOAA) provided a Scientific Support Coordinator from its HAZMAT Program to work with state and local government responders as well as with PEPCO to establish scientific and economical cleanup plans. The NOAA HAZMAT Program, established in 1976, has accumulated a vast amount of knowledge and expertise from its 20 years of spill response. NOAA personnel are responsible for assisting the Federal On-Scene Coordinator (FOSC) in addressing the multiple and complex scientific issues that occur during a response.

In addition to participating in the response effort, NOAA HAZMAT is involved in many other activities, such as training and drills to enhance preparedness to respond to spills. It has been instrumental in the identification of environmentally sensitive areas in the coastal zone regions of the United States as well as the ranking and mapping of these areas on “Environmental Sensitivity Index” (ESI) maps. These maps are season-specific and indicate flora and fauna likely to be present and at risk from a spill event. The development and updating of these maps are a joint effort between NOAA and each State’s environmental agencies.

Several issues of concern were brought forth during review of the PEPCO response by NOAA and from information provided to this Committee by the MDE and DNR. First, the ESI maps used for the PEPCO spill were over 15 years old and have not been updated. Second, state agencies had minimal training to be prepared to respond environmentally (i.e. natural resources damage) to a major spill and had to receive guidance and direction on this aspect from the federal agencies during the actual response. And finally, there are many other Sensitive Areas of Risk specific to Maryland that need to be identified and readily available so that priorities for those areas can be rapidly established when a spill occurs.

The Oil Spill Prevention Advisory Committee (OSPAC) was asked to identify and prioritize Sensitive Areas of Risk which are targets for immediate improvement. It must be understood by the public that the ESI maps discussed previously are only one part of what the Committee defines as Sensitive Areas of Risk. In a general perspective, Sensitive Areas of Risk may be defined as any physical feature in Maryland which when impacted by a spill may result in severe and perhaps irreparable harm to public health, safety and/or the environment. These areas could include public water resources, wetlands, historical and archaeological features, and sensitive species habitats and many other features in addition to what is presently outlined on the ESI maps. More specifically, it is of the utmost importance when a major spill occurs that federal and especially state response groups have immediate access to both federal and state mapping information that easily identifies and prioritizes these Sensitive Areas of Risk. From the preliminary information used by the Committee to examine pipeline risk areas, it is readily apparent that those agencies responding to any major spill that occurs in or adjacent to Maryland must be extremely cognizant of multiple priority risk areas. If the agencies are aware of these areas during the early stages of a spill, then best available practices to minimize the public health and environmental harm to these areas can be employed.

The Maryland Department of Natural Resources (DNR) has previously established a mapping system known as the Maryland Environmental Resources and Land Information Network (MERLIN). It is a digitized system that will allow multi-layering of sensitive areas with other significant data and has numerous feature selections already in place. To demonstrate how MERLIN could be developed further, information was provided to DNR on both the intrastate and interstate pipelines and combined with four identified areas of risk (public water resources, wetlands, historical and archaeological features, and sensitive species habitat). Figure 9 is the result of this effort.

Recommendations:

1. Federal agencies, especially OPS, NOAA, USEPA and USCG, need to work in a joint effort to combine information on environmentally sensitive areas, unusually sensitive areas, etc. and make this information readily available via electronic mapping to State government agencies. This information should be reviewed by each State before it is finalized.
2. During the October 3, 2000 hearing before the Senate Economic and Environmental Affairs Committee on pipeline safety and the PEPCO spill, NOAA representatives stated that pending 2001 federal budget appropriations, NOAA will work on updating the Maryland ESI maps. The Maryland delegation to Congress should be briefed by the Governor to insure that the necessary federal appropriations are directed toward completing this task during FY 2001.
3. There are additionally identified Sensitive Areas of Risk in Maryland that are not included as part of the federal mapping responsibilities. The DNR presently utilizes a digitized mapping system for which these sensitive areas can be identified and incorporated. The DNR should continue this effort in coordination with MDE.
4. It is extremely important that the State mapping system is electronically accessible 24 hours a day to emergency responders and is easy and fast to use. The State should review what each state government agency already has in place with respect to mapping capabilities, what duplication exists, and designate a central repository for this mapping information. The State should further insure that there are no copyright problems which could regulate the use of some of this mapping data.
5. The State should seek federal money, which may be available in the form of grants, to develop the State mapping system.
6. The Department of the Environment and the Department of Natural Resources need to have NOAA provide regular training to more of their employees on the environmental aspects of spill response.

Figure 9. Oil Pipelines and Sensitive Areas of Risk

V. Conclusions

This report recommends a number of options for addressing issues, concerns and problems that have been identified by the Committee in the process of executing the duties assigned by Governor's Executive Order 01.01.2000.12. The findings and recommendations of the Committee are structured to enhance the State's ability to be better prepared in the event of a future release or incident. The Committee members appreciate the opportunity to serve and participate in the deliberations on this important topic. Much was learned from, and by, the various state, federal, local and private entities, who all share the common interest in and the goal of protecting Maryland's precious resources. We believe that these report findings will help to establish and enhance safety standards and practices in the State for future generations.

APPENDIX 1
EXECUTIVE ORDER

EXECUTIVE ORDER

01.01.2000.12

Patuxent River Oil Spill Citizens Advisory Committee and Oil Spill Prevention Advisory Committee

WHEREAS, On April 7, 2000, the State was notified that a leaking pipeline at the PEPCO Chalk Point Generating Station had discharged oil into a tidal marsh on Swanson Creek, a tributary of the Patuxent River;

WHEREAS, This oil has since migrated into the Patuxent River, its tributaries, marshes and beaches, causing immediate damage to the natural resources in and around the Patuxent River, and may have longstanding negative effects on the Patuxent River ecosystem;

WHEREAS, The Patuxent River provides many valuable ecological, recreational and economic services to the environment and citizens of Maryland;

WHEREAS, Calvert, Charles, Prince George's and St. Mary's Counties (the affected counties) are most affected by the damage caused by the spill;

WHEREAS, Under state and federal law, the Departments of Natural Resources and the Environment, as co-trustees of Maryland's natural resources, together with the National Oceanic and Atmospheric Administration and the Department of the Interior, are responsible for developing and implementing a natural resources damage assessment plan and restoration/mitigation plan in response to the spill;

WHEREAS, Effective coordination and communication among the involved government agencies, local elected officials and citizens of the affected counties, as well as meaningful input from PEPCO, are all critical to the success of continued cleanup, damage assessment, restoration and mitigation efforts; and

WHEREAS, This incident dramatically illustrates the fragile nature of estuaries, the unique vulnerability of the Chesapeake Bay, and the special need for Maryland to evaluate the adequacy and effectiveness of the programs, standards and resources devoted to oil spill prevention and response.

NOW, THEREFORE, I, PARRIS N. GLENDENING, GOVERNOR OF THE STATE OF MARYLAND, BY VIRTUE OF THE AUTHORITY VESTED IN ME BY THE CONSTITUTION AND THE LAWS OF MARYLAND, HEREBY PROCLAIM THE FOLLOWING EXECUTIVE ORDER, EFFECTIVE IMMEDIATELY:

A. Established. Two Advisory Committees are established to assist the State in effecting a coordinated cleanup and mitigation of the oil spill from the pipeline at the Chalk Point Power Plant, and to make recommendations for improving oil transport safety and spill response. They are:

(1) Patuxent River Oil Spill Citizens Advisory Committee; and

(2) Oil Spill Prevention Advisory Committee.

B. Membership, Duties and Operation. The Advisory Committees shall be structured and directed in the following manner:

(1) Patuxent River Oil Spill Citizens Advisory Committee

(a) Composition. The Advisory Committee shall be comprised of members appointed by the Governor to represent government, environmental interest organizations, the scientific community, business, community associations, watermen, fishermen, boaters and the general public. The Governor shall name a Chair and Vice Chair to serve at his pleasure.

(b) Duties. The Advisory Committee shall perform the following duties:

(i) Hold local meetings to inform the public about the status of the cleanup and restoration projects; help educate the public on the benefits and limitations of cleanup and restoration methods; and obtain citizen input about steps which should be considered to restore natural resources;

(ii) Assist the Departments of Natural Resources and the Environment in the development of the natural resources damage assessment plan and the restoration/mitigation plan;

(iii) Advise the Departments of Natural Resources and the Environment regarding issues such as priorities for cleanup and the criteria for the completion of the cleanup of the oil spill; and

(iv) Periodically provide reports at the request of the Governor or the Departments of Natural Resources and the Environment.

(v) The Advisory Committee shall not become involved in matters related to private claims relating to damage from the oil spill.

(vi) The Advisory Committee may seek input from PEPCO and the appropriate Federal agencies on issues under its consideration.

(vii) The Advisory Committee may provide comments and suggestions on future preventative measures as part of its advice to the Departments of Natural Resources and the Environment.

(c) Staffing. Staff support for the Patuxent River Oil Spill Citizens Advisory Committee will be provided by the Departments of Natural Resources and the Environment.

(d) Duration. The Patuxent River Oil Spill Citizens Advisory Committee shall operate through, and make a final report by June 30, 2002, unless otherwise extended by subsequent Executive Order.

(2) Oil Spill Prevention Advisory Committee

(a) Composition. The Advisory Committee shall be comprised of members appointed by the Governor to represent government, environmental interest organizations, the oil transport and utility industries, emergency response organizations, the scientific community; and the general public. The Governor shall name a Chair and Vice Chair to serve at his pleasure.

(b) Duties. The Advisory Committee shall perform the following duties:

(i) Review and analyze the adequacy of federal policy, laws and regulation, related implementing

legislation and administrative actions regarding oil transport and oil spill response;

(ii) Assess the adequacy of state laws and regulation addressing oil transport and oil spill response for protecting the Chesapeake Bay and the State's other natural resources;

(iii) Assess the adequacy of federal, state and local government resources and plans, and private contractor support available to prevent and respond to oil spills;

(iv) Review and analyze the preparedness of federal, state and local government agencies, private businesses, regional organizations and the oil industry to respond to oil spills;

(v) Recommend options to the Governor for addressing issues, concerns or problems surfacing through the review process, prioritizing sensitive areas of risk which are targets for immediate attention;

(vi) The Advisory Committee should identify and prioritize sensitive areas of risk which are targets for immediate improvement;

(vii) The Advisory Committee shall not become involved in matters related to private claims arising out of damages incurred from oil spills; and

(viii) The Advisory Committee may seek input from appropriate state and federal agencies, officials or experts on issues under its consideration.

(c) Staffing. Staff support for the Oil Spill Prevention Advisory Committee will be provided by the Department of the Environment and the Maryland Public Service Commission.

(d) Duration. The Oil Spill Prevention Advisory Committee shall operate through, and make a final report by December 31, 2000, unless otherwise extended by subsequent Order.

GIVEN Under My Hand and the Great Seal of the State of Maryland, in the City of Annapolis, this 7th Day of July, 2000.

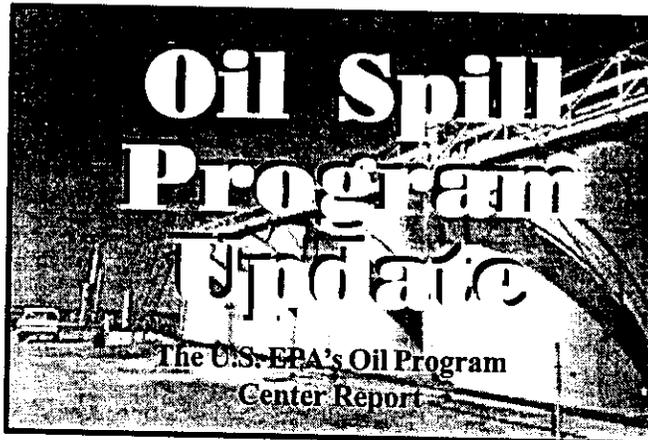
Parris N. Glendening
Governor

ATTEST:

John T. Willis
Secretary of State

APPENDIX 2
OIL SPILL PREVENTION ADVISORY COMMITTEE

APPENDIX 3
USEPA OPA 90



Office of Emergency and Remedial Response
Oil Program Center 5203G
Volume 3 Number 5 (Special Edition)

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THE OIL POLLUTION ACT AT 10

The Oil Pollution Act of 1990 (OPA 90) celebrates its 10th anniversary on August 18, 2000. OPA 90 is a landmark piece of legislation addressing oil spill prevention, preparedness, and response, and providing guidance on prevention, mitigation, cleanup, and liability. This legislation was borne out of response to spills such as the Ashland and *Exxon Valdez* spills of 1988 and 1989, respectively, which demonstrated how costly and damaging oil spills can be. OPA 90 was the culmination of 15 years of debate about the need to improve U.S. laws regulating oil spill prevention, preparedness, and response.

In the ten years since OPA 90 was enacted, EPA, in cooperation with other federal, local, and state agencies, as well as private industry, has worked to prevent, prepare for, and respond to oil spills in the United States. These efforts include inspections of facilities to ensure compliance with oil pollution prevention regulations, preparation of area contingency

plans, simulated spill response exercises, outreach activities, and response to oil spills to mitigate damage to human health and the environment. This special issue of the Oil Spill Program Update presents some of the events leading up to OPA 90, EPA's progress in implementing the law, and future directions in preventing oil pollution.

Events Leading to OPA 90

The Ashland and *Exxon Valdez* oil spills helped galvanize support for OPA 90. Proponents of more stringent standards and prevention measures had been arguing for action for years, but it was widely believed that pre-OPA 90 liability was a sufficient incentive for prevention. The catastrophic events at Floreffe, Pennsylvania and Prince William Sound, Alaska showed the shortcomings of that belief.

Ashland

On January 2, 1988, a major oil spill occurred in Floreffe, Pennsylvania, when a 4-million gallon

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storage tank owned by the Ashland Oil Company, Inc., split and collapsed, releasing over 3.8 million gallons of No. 2 diesel fuel (enough to fill 430 tanker trucks). The fuel surged over containment berms, through an adjacent parking lot, and a storm sewer, which sent 750,000 gallons of oil into the Monongahela River. From there, the oil flowed directly into the Ohio River, resulting in the shut-down of 15 municipal drinking water intakes and disrupting water supplies of over 2.7 million residents of Pennsylvania, Ohio, and West Virginia. EPA, in cooperation with other agencies, monitored the cleanup process and river conditions, and performed follow-up activities, such as facility compliance and Spill Prevention Control and Countermeasure (SPCC) plan inspections.

Several key problems hampered response efforts and led to a call for reform. First, a central command post was not rapidly established onsite and the Regional Response Team was not dispatched until two days after the spill occurred. In addition, the response effort was crippled by a lack of containment and monitoring equipment. A final problem was that water suppliers did not have contingency water supplies and equipment on hand in anticipation of such an incident. As a result of those major problems, more preparation prior to future spill responses was considered a priority.

Exxon Valdez

The largest and most notable oil spill in U.S. history occurred on March 28, 1989. The *Exxon Valdez*, a 987-foot oil tanker, ran aground in Prince William Sound,

Alaska, releasing 11 million gallons of oil. The spill caused extensive damage to the environment, archaeological sites, and recreational areas. Local residents were deeply impacted by the spill, in that the fishing industry, their main source of income, declined severely following the incident.

Like the Ashland Spill, the *Exxon Valdez* spill was an illustration of how a lack of preparedness can hinder a response. Oil spill response equipment was neither readily available, nor sufficient to handle such an expansive spill. When the equipment finally arrived, it had to be transported nine hours by truck from the closest airport large enough to accept the equipment. Response teams were not able to find housing near the site, further hampering response efforts.

The spill eventually spread as far as 600 miles southwest of the site and contaminated 1,100 miles of shoreline, causing \$2.1 billion in damage. According to a report released by the *Exxon Valdez* Oil Spill Trustee Council in February 1999, only two species of wildlife affected by the spill have fully recovered. The long-term impacts are still not fully known. This incident, more than any other, instigated the call for revised spill control legislation. Together, the Ashland and *Exxon Valdez* spills demonstrated a national need for better prevention and preparedness measures.



Remains of collapsed four million gallon storage tank.

National Oil and Hazardous Pollution Contingency Plan

Before the passage of OPA 90, the National Oil and Hazardous Substance Pollution Contingency Plan (NCP) was the federal government's primary guide for preparing for and responding to oil spills. Established in 1968, the NCP is the federal government's blueprint for responding to both oil spills and hazardous substance releases. Developed by a team of federal agencies, this regulation established the background and framework for most of the response and preparedness measures enacted in the U.S. It was developed as a result of the need for a national response capability and to establish a coordinated hierarchy of responders and contingency plans. OPA 90 instituted a shift in contingency planning from the national level to a more regional approach. Rather than attempting to rely on a national plan, OPA mandates the development of several area contingency plans with input from state and local representatives.

The NCP was revised in 1973, following enactment of the Clean Water Act of 1972 (CWA), to include information for responding to hazardous substance spills. Then, after the passage of Superfund in 1980, the NCP was modified to include releases at hazardous waste sites requiring emergency removal actions. The latest revision was published in 1994 to reflect the provisions of OPA 90.

What is the Oil Pollution Prevention Act of 1990?

The Oil Pollution Act of 1990 (OPA 90), landmark legislation addressing oil spill prevention and response and providing guidance on prevention, mitigation, cleanup, and liability, was signed into law on August 18, 1990. For several years, similar proposals had been unsuccessful in garnering support, but the widely publicized Ashland and Exxon Valdez spills and their effects solidified support for the legislation. OPA 90 expanded oil spill prevention and preparedness activities, improved response capabilities, ensured that entities responsible for oil spills pay for spill costs, provided an additional economic incentive to prevent spills through increased penalties and enhanced enforcement, established an expanded research and development program, and established the Oil Spill Liability Trust Fund administered by the U.S. Coast Guard. The targets of OPA 90 are to reduce the number of spills and the quantity of oil

spilled, increase response effectiveness, and reduce the magnitude of damage caused by oil spills.

OPA 90 has several major provisions. The first is an increase in the liability limits and penalties for oil spills in an attempt to provide a financial incentive for the oil industry to improve spill prevention and preparedness. The second component is to ensure that the federal response system is prepared to respond to spills of any size. Finally, OPA 90 mandates implementation of prevention and preparedness measures.

Expanded Liability

Before OPA 90 was written into law, responsible parties were only liable for response costs that the federal government incurred in responding to and cleaning up a spill. The Act expanded liability to include costs and damages incurred by local governments, agencies, and private parties. OPA 90 adopts the liability provisions of the CWA. It states that the owner or operator of a vessel or facility from which oil is discharged, or which poses the substantial threat of discharge of oil, when defined as a responsible

party, is liable for damages and any removal costs incurred in a manner consistent with the NCP. Responsible parties may be liable for six categories of damages under OPA 90:

- 1) Natural resource damages including the reasonable costs of assessing these damages;
- 2) Real or personal property damages;
- 3) Substantial loss of natural resources;
- 4) Net loss of tax and other revenue;
- 5) Loss of profits or earning capacity; and
- 6) Net cost of additional public services provided during or after removal actions.

OPA 90 also extended the liability limits and financial obligations of responsible parties that were set by the CWA. It provided for larger fines for discharges of oil or other hazardous substances, or for failure to comply with a federal removal order. OPA 90 set liability limits for tank vessels from \$2 million to over \$10 million, depending on the size of the vessel. Maximum liability for offshore facilities is the total of removal costs plus \$75 million, while liability for onshore facilities and

OPA 90 does establish the following conditions under which liability is unlimited:

- Discharges caused by gross negligence, willful misconduct, or violation of applicable federal safety, construction, or operating regulation;
- Failure to report a spill; and
- Failure or refusal to cooperate in a removal action.

OPA 90 does not preempt state laws, which may impose additional liability, penalties, or cleanup requirements.

deepwater ports is \$350 million.

Extended Spill Prevention and Preparedness Measures

Along with increased financial liability, OPA 90 also mandated that some vessels and inland oil facilities develop individual response plans. These plans require the owners or operators of vessels and non-transportation-related oil storage facilities to plan for the worst case spill scenario and develop strategies for responding to the spill and the threats that it may pose to human health and the environment. EPA has implemented this requirement by mandating facility response plans (FRPs) for certain oil facilities. If an oil spill from a facility might cause substantial environmental harm, it must have a plan that demonstrates that the facility is prepared to respond to a worst case scenario spill event. By raising oil spill planning and response awareness, FRPs can aid in identifying problems and help to prevent spills. EPA has jurisdiction over non-transportation-related facilities for preparation and implementation of response plans; DOT has jurisdiction over vessels and transportation-related facilities.

OPA 90 mandated enhancements to the National Response System and the National Response Center (NRC) to keep track of oil spill response equipment, provide technical assistance in the event of a spill, and perform administrative functions related to other requirements of the Act. The NRC is the



Skimmers, like the one pictured here, are used to collect spilled oil.

sole federal point of contact for reporting oil and chemical spills and is under U.S. Coast Guard (USCG) oversight. Regionally, OPA 90 required the formation of USCG District Response Groups to maintain the equipment and provide technical assistance during spill events.

In addition, OPA 90 required Area Contingency Plans (ACPs) and Area Planning Committees. These Committees are made up of members of appropriate local, state, and federal agencies and are responsible for developing the contingency plans that apply to their geographic region. The goal of establishing ACPs is to create a coordinated network of response resources to allow responders to be aware of and use the best available personnel and equipment in the event of a spill.

Additional OPA 90 Provisions

OPA 90 also established an Oil Spill Liability Trust Fund administered by the USCG to pay for removal costs and damages not recovered from responsible parties. Fund monies are acquired from a five-cent per barrel tax on oil. This tax is not currently in

effect, because the fund balance is large enough to meet current needs. However, it may be reinstated in the future if there is a need for additional funds. On-Scene Coordinators (OSCs), who are responsible for overseeing federal activities at spill sites, have access to these funds in the event of a spill. Other federal, state, and local government agencies hired by the OSC are eligible for reimbursement of their costs. The Fund will pay contractors through the federal procurement process, but both federal trustees and claimants must submit claims to the Fund for adjudication.

Research and Development

Aiming to improve oil spill response in the long term, OPA 90 established provisions for an interagency research and development (R&D) program in oil pollution and spill response. Some of the topics that the OPA 90 R&D program have covered include technologies, such as booms and skimmers; chemical and biological treatments; and remote sensing and monitoring of spills and spill response activities via Geographic Information Systems and other innovations.

FIRST 10 YEARS OF OPA 90

Since the passage of OPA 90, EPA has worked with states, local governments, tribes, and the oil industry to implement the provisions of the Act. These efforts have been in three major areas: prevention, preparation, and response.

Area Contingency Plans

Area Contingency Plans (ACPs) are the cornerstone of preparedness efforts under OPA 90. The ACP provisions require Federal, State, and Local agencies to prepare for a worst case discharge with the intent of mitigating such a discharge or preventing it from reaching navigable waters of the United States. These plans were mandated in order to identify and plan for joint response efforts, including appropriate procedures for mechanical recovery, dispersal, shoreline cleanup and protection of sensitive environmental areas.

Under OPA 90, ACPs are developed by Area Committees made up of representatives of federal, state, and local government agencies. ACPs are developed under the direction of a Federal On-Scene Coordinator working with State Emergency Planning Committees (SERCs), and Local Emergency Planning Committees (LEPCs). Each ACP contains information necessary to focus on preparedness and response activities in its specific area. The process for developing ACPs ensures that the concerns and resources of many localities are accounted for in the plan. For example, LEPCs are concerned

with smaller areas than Area Planning Committees are, but the planning process takes input from, and integrates the contributions of multiple LEPCs. Local participation also allows local planners to make their plans consistent with the ACP that covers their locality. The goal of coordinated planning is to prepare federal, state, and local agencies, as well as private sector responders for response. The planning process helps each involved agency understand the skills, resources, and procedures of other agencies.

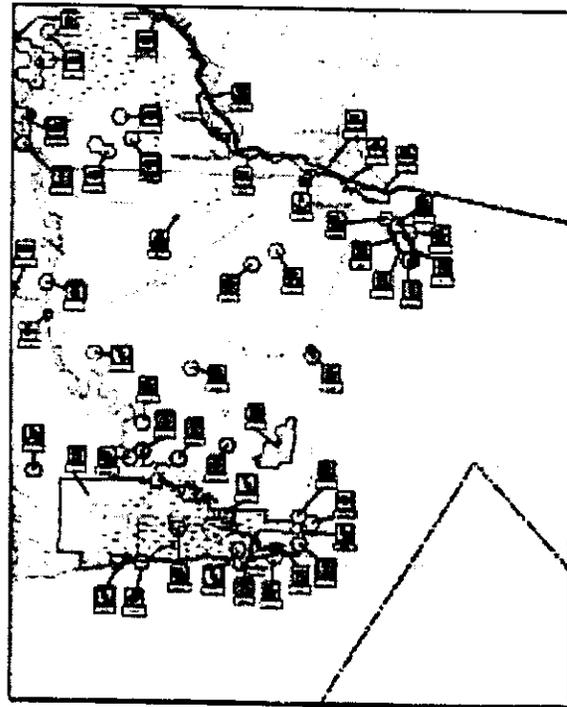
SPCC Expedited Enforcement Program

As EPA continues to implement OPA 90, it develops innovative prevention methods. Because enforcement of Oil Pollution Prevention Regulations and promoting compliance are EPA's primary prevention tools, the Oil Spill Program has worked to make enforcement more efficient through the SPCC Expedited Enforcement Program (SEEP I) and the Spill Expedited Enforcement Program (SEEP II). SEEP I allows non-negotiable, reduced penalties (\$400 to \$2,500) for violations identified during SPCC inspections. The program allows for prompt resolution of easily correctable violations, and utilizes the much

more resource intensive traditional administrative enforcement procedures only when warranted by more serious violations. Under SEEP II, the same expedited process is used for smaller spills (less than 100 Bbls) where an adequate or superior clean-up has been completed. The streamlined enforcement process allows prompt action on spills with minimal cost and aggravation to both the owner/operators and EPA.

Both programs were originally piloted in Region 6 and have proven highly effective for achieving higher compliance rates in the regulated community. Over 100 Expedited Enforcement Actions were issued in Region 6 during FY 1999 and 130 more are expected by the end of FY 2000. Overall, the OPA Expedited Enforcement

Maps help to identify areas sensitive to oil spills.



pilots have demonstrated a practical, low cost alternative to traditional enforcement, and have potential for use across the Regions.

Preparedness Exercises

Oil spill training is a vital element in EPA's oil spill prevention and preparedness efforts. EPA has utilized the National Preparedness for Response Exercise Program (PREP) to provide guidelines for compliance with OPA 90's pollution response exercise requirements. In 1994, they began requiring oil spill response training for facilities that are required to prepare a facility response plan. Facilities are required to develop and implement an oil spill drill/exercise program that includes both announced and unannounced tabletop and deployment exercises, as well as participation in larger area drills and exercises. In addition, EPA has been conducting periodic unannounced drills at facilities across the country. During the drills, they work with the facility to roll out equipment, contact response contractors to ensure their readiness, and ensure that personnel are familiar with the components of their facility response plan.

Technology

EPA Oil Spill Program staff in Regional offices and at headquarters have adopted new technologies to serve the program's needs and further the goals of OPA 90. One of EPA's ongoing planning and response roles is to manage the NCP Product Schedule which

lists chemical and biological agents that can be used in oil spill response. EPA regularly updates the NCP Product Schedule.

In addition, EPA participates in research efforts to advance planning and response capabilities and drafts technical papers analyzing response technologies. EPA's technology improvement efforts have addressed issues such as bioremediation—using microbes to break down spilled oil; in-situ burning—burning spilled oil off surface waters; and, mechanical containment devices, such as booms, skimmers, and sorbents.



Response teams work together on a cleanup effort.

In addition, the Oil Spill Program employs up-to-date information technologies, such as Geographic Information Systems (GIS), and Internet/Intranet technology to advance planning and response. Rather than relying solely on paper maps and documents, most EPA regions have developed GIS applications to aid their planning and response. These systems help planners and responders locate potential spill sources, sensitive environments, access routes to spills, and other important geographic features more quickly.

Finally, the Oil Spill Program has developed an Internet web site to support its outreach efforts and Intranet web sites to facilitate communication and collaboration among the Regions.

Response Efforts

Shortly after the enactment of OPA 90, a Colonial Pipeline Company pipeline ruptured in Fairfax County, Virginia, releasing more than 400,000 gallons of oil. The March 1993 Colonial Pipeline spill was one of the largest inland oil spills in recent history, affecting

nine miles of Sugarland Run and the Potomac River. However, the spill response closely followed the guidelines set forth by OPA 90, in that the National Response Center was contacted immediately to coordinate with the Regional Response Team and the Responsible Party to implement Colonial Pipeline's response plan.

Colonial Pipeline hired contractors to perform the containment and recovery actions, which involved placing booms to try to contain the oil, then using skimmers, vacuum trucks, sorbents, and a temporary pipeline to recover the oil. During cleanup, EPA received citizen complaints about fuel odors in the area. As a result of these complaints, they closed Great Falls National Park and temporarily evacuated 41 residents while monitoring air quality to identify and remedy any health risks.

The response demonstrated the smooth operation of the National Response System, in which

federal, state, and local authorities cooperated to use personnel and equipment efficiently. A suggestion made after this incident was that personnel communicate better with those downstream of a release. This spill also provided the opportunity to examine and improve response technology.

More recently, Maryland's worst oil spill in over a decade occurred when PEPCO's Chalk Point power plant experienced a pipeline rupture, releasing 110,000 gallons of petroleum near the Patuxent River. PEPCO officials notified EPA of the spill and initiated cleanup on the night of the spill, beginning to place containment booms around the creek. Three EPA OSCs were dispatched to the site early the following morning, but initial cleanup efforts were hampered by a shortage of equipment, such as the proper type of booms and drum skimmers to remove floating oil.

The Chalk Point Spill is the most extensive cleanup effort in Region III's history. EPA dispatched six OSCs, two community involvement coordinators, the removal program section chief, and various other officials to the scene to oversee cleanup efforts. The spill illustrates the need for coordinated, planned response.

Outreach

In order to keep stakeholders and the public informed of Oil Spill Program activities and to encourage partnership among all interested parties, the Oil Spill Program engages in a variety of outreach activities. These include publication of newsletters and develop-

ment of guidance documents to facilitate industry compliance with oil pollution prevention rules. These documents are featured on the Oil Spill Program web site, www.epa.gov/oilspill.

Sponsorship of the biennial Freshwater Spills Symposium provides a forum for discussion of issues regarding inland oil spills and the opportunity to exchange information on the unique problems of spills in freshwater environments. The Symposium brings together representatives of state, tribal, and local governments, other federal agencies, industry, environmental groups, academia, and members of the international community to share ideas and innovations in preventing, preparing for, and responding to inland area oil spills.

Core Oil Spill Program

In order to ensure that the provisions of OPA 90 are applied consistently throughout all EPA Regions, EPA has developed a Core Oil Spill Program. The program is a joint effort of EPA headquarters and all ten Regions to help define fundamental Oil Spill Program activities nationwide and to ensure that EPA maintains a well-trained, dedicated staff with the necessary resources to prevent, prepare for, and respond to oil and hazardous substance incidents which threaten the waters of the United States.

NEXT 10 YEARS OF OPA

Although the EPA Oil Spill Program has made significant gains in implementing OPA 90, many challenges remain. The program

faces aging oil storage and transportation infrastructure, and an ongoing need to ensure compliance at regulated facilities. Over the next several years, the Oil Spill Program will continue to address these needs despite limited resources.

Aging Infrastructure

During the 1990s, lower oil prices and other market forces have led the oil industry to merge many of its facilities into increasingly large corporations. As a result, the oil industry frequently leaves its most unprofitable facilities to be run by smaller and perhaps more marginal operators. Further, as the cost of plugging wells becomes prohibitive, many of these sites will require EPA intervention.

Additionally, many aging facilities are in need of repair, thereby increasing spill risk. Likewise, the transportation infrastructure (e.g., railways, tank cars, etc.) is aging. Many major spills in recent years have been pipeline spills, indicating that aging infrastructure is a critical problem.

Continued Cooperation with the Office of Pipeline Safety

Although EPA responds to spills from all sources, the Department of Transportation's (DOT) Office of Pipeline Safety (OPS) regulates most pipeline operations. Five major pipeline spills have occurred within the past year, alerting EPA, lawmakers, and the industry that changes are needed. The most recent spill occurred in April 2000 when a PEPCO pipeline released 129,000 gallons of oil into a marsh at Chalk Point, Maryland. Just a



Workers repair a pipeline following an oil spill.

month earlier, a spill of 564,000 gallons of unleaded gasoline contaminated one-third of Dallas, Texas' public water supply. In February, 67,000 gallons of crude oil seeped from a pipeline onto Pennsylvania's John Heinz National Wildlife Refuge, threatening some of the nation's most severely endangered species. Yet another pipeline ruptured in January, releasing 500,000 gallons of crude oil near the Kentucky River, which provides water to the Town of Lexington. As the result of a pipeline rupture, in June 1999, 277,000 gallons of gasoline were released, leading to an explosion and fire in Bellingham, Washington. The incident resulted in three deaths, severe environmental damage, disruptions in local water supplies, and millions of dollars in property damage.

The Office of Pipeline Safety has reported a 38 percent increase in the amount of oil spilled from 1996 through 1999, compared to 1991 through 1995. EPA has a long history of cooperation with OPS as evidenced by a series of agreements covering areas of shared jurisdiction. EPA will continue to work with OPS to promote safety and preparedness for spills.

Maximization of EPA Resources

EPA's Oil Spill Program budget has been straightlined at \$15 million for the past several years, but the program has also experienced an increase in its oil spill response workload. Oil spill response costs, which

should be paid from the reimbursable emergency portion of the Oil Spill Liability Trust Fund, have in recent years required about 20 percent of the Oil Spill Program's personnel resources. However, in recent years EPA has in part funded its personnel costs for oil spill response work from its annual appropriations, thus diminishing the resources available for oil spill prevention and preparedness activities. Beginning in FY2001, EPA plans to maximize the use of OSLTF reimbursable funds for oil spill response work, thereby freeing funding for its appropriated prevention and preparedness activities.

Innovative Approaches

The Program's main priority continues to be response to spills or threats of spills. The Program will work to keep all program areas viable, and continue to explore innovative approaches to oil spill prevention, response, and enforcement. One new approach is fuels management. Fuels management focuses on the entire oil life cycle from production, through refining, storage, and distribution. It encourages regulatory agencies that address differ-

ent parts of the life cycle to understand each other's functions; promotes better understanding of the oil industry among all regulators; and helps to identify regulatory gaps, inconsistencies, and shortcomings in implementation.

Increased Program Awareness

Another Program priority is to help the program grow and prosper via an increase in internal and external awareness of Program responsibilities and accomplishments. The goal is to improve the Oil Spill Program's outreach on program accomplishments to EPA management, elected officials, state and local governments, the public, and other stakeholders. Headquarters and Regional managers will work together to ensure that each Region works toward the overall goals of the Oil Spill Program, while addressing specific Regional priorities and issues in prevention and preparedness activities. Through OPA 90, EPA is finding the best ways to ensure maximum prevention, preparedness, and response to oil spills.

About The Update

EPA's *Oil Spill Program Update* is produced quarterly, using information provided by EPA Regional staff, and in accordance with Regions' information needs. The goal of the Update is to provide straightforward information to keep EPA Regional staff, other federal agencies and departments, industries and businesses, and the regulated community current with the latest developments. The Update is available on the Oil Program homepage at www.epa.gov/oilspill.

APPENDIX 4

GLOSSARY