

Oil spill essay



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The worst imaginable environmental catastrophe that could occur in Maryland has just become a reality. The lifeblood of Southern Maryland's Watermen has been forever affected.

The ecosystems of the Patuxent River and Chesapeake Bay have been irreversibly contaminated. The Three Mile Island and Chernobyl Nuclear Accidents have affected the world ecosystems; but the Chalk Point oil spill has reached us here in Southern Maryland. The ethical considerations with generating electricity from fossil fuels, specifically oil, has a profound impact on us all. We all use electricity to make our lives easier and more productive. By using this electricity have we given our permission for the oil companies free reign in order to provide us with the service we demand?? Are we just as responsible for the oil spill as the corporate leaders who run the companies? As citizens we are in a position to develop and enforce regulations to protect ourselves.

Do we also protect the environment; or is the environment just something for us to use? These and many other moral dilemmas exist for modern man. The world wide oil industry supplies mankind with many life improving products and services.

At the same time these technological advances challenge us with numerous ethical considerations. Electricity is one of the chief products of the oil industry. We use oil to heat our homes and businesses.

We use oil to produce electricity to light our homes and businesses also. Transportation is another benefit of oil. Of course we all know that we use oil to run our vehicles, but that is not the only benefit. Oil is also used in

combustion engines. The oil industry has a big impact on the environment. These impacts are not always good.

Oil spills and contamination of the environment are the largest immediate impact. There are two different types of oil spills: crude oil spills and refined oil spills. Crude oil spills are very sticky and break down much faster than refined oil does. Refined oil is very thin and harder to clean up. Oil spills during off shore drilling are the first spill source.

These spills are not the only sources, there are many spills during transportation and shipping. Clean up of an oil spill is very important and must be done in a quick, efficient, and ecologically sound manner.

What are the effects? What are some response techniques? Is location a factor? What is used to clean up the spills? These are some common questions asked when a spill occurs. There are also positive and negative aspects to consider. Many oil spills occur at sea. This oil immediately begins to move and weather, breaking down and changing its physical and chemical properties.

(1) When this happens the oil threatens the surrounding areas. Animals and plant life may be seriously injured. (1) There are many response techniques used in controlling the spread of oil spills. One of the most effective ways to fight spills is the careful selection and the proper use of the equipment and materials best suited to the type of oil and the conditions of the spill site. (2) Most spill response equipment and materials are greatly affected by such factors as conditions at sea, water currents, and the wind.

Quick actions and proper use of equipment can reduce damage to shorelines and other areas. There are four types of responses.

(2) The first response technique is mechanical containment or recovery. It is the primary line of defense against oil spills in the U. S. The containment and recovery equipment includes a variety of booms, barriers, and skimmers.

There are also natural and synthetic sorbent materials. Mechanical containment is used to capture and store the spilled oil until it can properly be disposed of. The second response technique is chemical and biological methods. They can be used in conjunction with mechanical means for containing and cleaning up oil spills. Dispersants and gelling agents are most useful in helping to keep oil from reaching shorelines and other sensitive habitats.

The third response technique is physical methods. They are used to clean up shorelines. Natural processes such as evaporations, oxidation, and biodegradation can begin the clean up process, but are usually too slow to help the environment recover properly.

Physical methods, such as wiping with sorbent materials, pressure washing, and raking and bulldozing can be used to assist these natural processes. The fourth and final technique is scare tactics.

They are used to protect birds and animals by keeping them away from oil spill areas. Devices such as propane scarecans, floating dummies, and helium-filled balloons are often used, particularly to keep away birds. (2) Location is an important factor when it comes to clean up. Different factors

affect the ability to contain and clean up an oil spill. Standing water such as marshes or swamps with little water movement are likely to incur more severe impacts than flowing water because spilled oil tends to “ pool” in the water and can remain there for long periods of time.

In calm water conditions, the affected habitat may take years to restore. Flowing water is less impacted by oil spills than standing water because the currents provide a natural cleaning mechanism.

(3) There are also positive effects to oil spills. When there is a spill workers are needed to help with the clean up effort. This in turn provides jobs for people.

Due to the amount of people needed to clean up the spill, the surrounding community can bring in large sums of money for the local hotels and restaurants. The workers that come into the area utilize these facilities. A negative effect of an oil spill is the Watermen’s loss of employment. With an oil spill closing down the waterways and boat ramps they lose money. They are not able to go out and fish, or do boat rentals and tours. Restaurants that rely on seafood, and are positioned beside the water also suffer money losses.

Thomas Edison (1847-1931) once quoted “ There ain’t no rules around here! We’re trying to accomplish something!” Today there are stiff fines, penalties, civil lawsuits, and criminal prosecution associated with the production, transportation, and use of hazardous materials. The Environmental Protection Agency (EPA) or local authority can enforce laws and regulations

regarding any use and disposal of hazardous substances that can affect natural resources and human life.

The PEPCO Chalk Point oil pipeline spill leaked approximately 139, 000 gallons of crude oil into the Patuxent River. PEPCO may be charged \$70 million to \$75 million in fines (PRNewswire).

In a similar case of a pipeline burst, one owned by Olympic Pipe Line, which exploded in Bellingham, Washington. This explosion killed three teenagers and released over 200, 000 gallons of gasoline into a city park was facing \$3.05 million in fines (Seattle Times). Although the cases of both pipeline accidents have different factors, the fines are steep. The minimum fine for a corporation is \$1 million (EPA).

The Federal government regulates pipeline operations through agencies such as the Office of Pipeline Safety and the EPA to ensure maximum control of corporations. Each time an accident occurs state lawmakers push Congress to implement tougher laws towards use of hazardous materials and waste.

The PEPCO oil spill and others like it has forced the legislation to conduct stricter inspections on pipelines and execute higher operating costs (Washington Post). The oil spill at Chalk Point has cost PEPCO over \$60 million so far to clean up Swanson Creek and 17 miles of shoreline on the Patuxent River (Washington Post). These costs cover containment crews and equipment used to hold back the ill-fated spill. Wildlife in and around the water has had to be cleaned up and rehabilitated.

These personnel are specialized in cleaning and treating traumatized animals. Furthermore, companies involved with hazardous material operations can also be held liable with lawsuits from individuals seeking compensation of damages from oil spill accidents. A class action lawsuit has been filed against PEPCO and Terminal Support Services by the Patuxent River watermen, several local businesses, and property owners affected by the April 7 spill (e-journal). The suit alleges that the companies acted negligently and failed to respond properly to the spill (e-journal).

A good example of compensation to private organization is that of the Exxon Valdez oil spill. An Alaska jury ordered the Exxon Corporation to pay \$5 billion to the native residents of Prince William Sound for crippling their main food supply, seafood (e-journal). There are many risks involved with operation of any power industry. On top of high operating costs set by the Federal Government, the company and shareholders assumes responsible for accidents and must pay fines and compensation to the resident home owners and businesses in the area affected. It doesn't matter, where you are, what you do, or who you are; in today's society you must not overlook ethical decisions and behaviors. This is true with big industry, especially the oil companies.

We can break this down into two simple categories: Uses of Oil and Risks of using oil. So what are the uses of oil? What does oil offer us? Most know that oil is refined in large amounts to create gasoline and diesel fuel. Both of which are slightly different in nature, but are used in internal combustion engines. This is the most common source of power for all automobiles.

Another by-product of the refining process is grease, and other high viscosity materials that are used as lubricants for all types of machines.

One of the biggest production needs aside from gasoline, is heating oil. The need for this oil is in high demand, especially for homes and businesses. The most common material encountered today is plastic? Ever wonder what plastic is made of? You guessed it, oil.

These are all modern uses for oil. Petroleum has been used for centuries. In England during the middle ages, when possible, oil was spread on battlefields, when the enemy was in the right position, the field and enemy were set ablaze. Boiling oil was often thrown over the sides of castles that were under siege.

Later oil was thought to have magical powers due to its nature. It was thought to have medicinal powers at that time. So now what are the risks of oil? What dangers does it pose to me? To begin with, oil is a volatile substance. And the only way to get to oil in an efficient manner is to drill. Throughout the world there are millions of oil drillings and pumping stations. Companies drill a hole several miles into the ground, and pump the oil from the saturated ground.

This seemingly simple process is very dangerous.

There is the constant risk of the oil “blowing out” of the pipe. Fire is always on the workers mind. Oil itself is a liquid and therefore can be spilled if not properly collected.

Once pumped from the earth's crust, the oil must be shipped. The most popular way to distribute oil around the world is by a supertanker. These are huge specially designed ships, that hold millions of barrels of oil. These supertankers are huge in size but, just as any other ship or boat, they are susceptible to sinking, or running aground. This inevitably happens from time to time. The oil is then spilled into the oceans and waterways.

The effects can be devastating on the environment. Even in an uneventful trip, the oil still has to be offloaded on shore. This is where the majority of spills occurs. However it is the small, frequent spills that do the most damage to the environment. They often are not reported and therefore no remediation occurs. After being offloaded, the oil is soon refined.

This process involves the heating of the crude oil in large tanks where the oil is settled into layers of different products.

The heating of an already combustible material has its inherent dangers. To further refine the products, the use of caustic chemicals is a common practice. Once the chemical compounds are separated, they are transported once again. This opens up another risk of spilling, fire, and environmental problems. Now once delivered to the gas stations, the consumer, mainly you, pumps gasoline into your car.

The reason gasoline is used is the combustibility factor, that is its high ignition speed. So essentially, you have just filled your car with about 15 gallons of explosive liquid. This is a danger to the consumer in the fact that automobiles have defects, that go many years undiscovered. In the early 1960's it took 3 years for the Ford motor corporation to realize the defects in

the Mustangs fuel tanks and correct them. These fuel tanks were mounted behind the rear seat, and even in minor collisions, the tanks had a tendency to leak, if not explode or catch fire.

As many as 50 people lost their lives in accidents like this. Oil may come from nature, but that does not mean that it cannot harm humans. Oil is nothing more than millennia old plant and animal remains. Buried over time under heat and pressure, these remains change in chemical structure. These new chemicals are what raises the flash point. But also some of the chemicals cause cancers in humans.

Chemicals like benzene and toluene are two very toxic chemicals that are not only carcinogens, but can cause reproductive harm, and other genetic damage. As can be seen, the dangers and harm that may come from the uses of oil can far outweigh the positive good it brings to society. It is the workers and the environment that are in the most danger, not the everyday consumer. So how can the consumer help? As of now technology is being developed but not implemented to switch energy sources. So in the mean time the consumers can help by conserving energy in the home.

Lighting is a big category under the conservation subject.

During the summer, keep lights off when at all possible. Lights emit heat when they are on and can counteract the air conditioner. Consider switching your incandescent lights to fluorescent lighting that uses less electricity and produces less heat. During the summer when you have your air conditioner on, use it only when necessary. Where applicable, sign up with your electric utilities power conservation program.

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If you leave your windows open, it can be very cost effective. It is the simple things that count. Run the dishwasher and do clothes in the early morning and evening. Then, only run them when they are full. This saves power and water.

Also minimize the time that refrigerator doors are open, as well as turn TVs off when unattended. During the winter there are other special tips for saving electricity and heat. Replace your old windows with new, multi-pane, insulated windows. This helps keep warm air in, and cold air outside.

Another cheap trick is to add extra insulation to your attic if applicable. Also consider replacing all oil and wood burning appliances with natural gas appliances. The advantages of natural gas is the BTU value, availability, price and the fact that there are virtually no emissions from burning this gas.

As far as transportation goes, there is a guideline for that as well. First off, only drive when necessary. Make one trip, excessive driving wastes gas as well as adding miles and wear and tear to your car.

Also you should keep your car serviced. Have the engine tuned up at the recommended time, and check the tire pressure regularly. If the tire pressure is off by 2 pounds, your mileage can drop up to 3 miles per gallon. With today's gas prices, that is an expensive proposition for such a common and easily corrected problem.

Another thing is to drive sensibly. Avoid fast starts and heavy acceleration. This wastes gas and your dollars. Car pool when possible, everyone saves money when you carpool and it benefits traffic and the environment. Even

when it comes to recreation there are things that the everyday person can do.

For boaters, keep your engine serviced and running properly. A tuned engine is an efficient one, and boats are not by nature efficient as compared to other transportation methods to begin with. Also keep your boat, clean and free of oil and grease.

Since the boat runs on water, it is very easy for extra grease and oil to leak directly into the water, therefore directly polluting the waterways you enjoy. Everyone in today's society can help contribute to maximize global efficiency. But it is often up to the governments to help assist the people in conservation.

If the governments would pass legislature requiring stricter requirements, the wheels would be set in motion. If people would take some initiative to save themselves money and contribute to the environment then they would be making a sound ethical decision.. There is still the alternative view, the one of the anti-environmentalist.

The oil spill at the Chalk Point Power Station was unfortunate, however the environmental impact was not as bad as some would lead us to believe. The oil came from the ground and is being returned to nature. The oil will be naturally broken down and the watershed returned to a normal condition during due process. The oil will replace some nutrients that are being striped from the water.

The American oil industry provides for 1. 5 million jobs (Facts about Oil).

A small environmental impact is surely worth the prosperity that the industry affords us. Oil provides at least 40% of the energy used in this country; we would be a lot worse off if it were not for this energy source (Facts about Oil). The Petroleum industry already spends Billions of dollars a year to protect the environment (Frequently Asked Questions). If there is blame and liability to assign then it surely is not with the Oil Industry.

The Electric Industry's job is to generate and distribute electricity not to control and regulate the flow of oil. The electric industry is charged with supplying a constant reliable source of power for the ever-growing power hungry society. The environment may be impacted slightly; but the important thing is that we humans are comfortable. The environment is here for us to use. It is the Federal Government's job to police Environmental Safety. The Federal Government is designed to provide for the common defense and good of the American Citizens (United States.

Cong. Constitution of the United States of America).

The Federal Government is not supposed to monitor every little oil spill and control big business. The community in which it has occurred should coordinate the clean up.

The businesses are self-monitoring and the local community and officials should police them. The local Government is not large enough or powerful enough to control the big businesses. The local Government's job is to provide for schools, roads and other such necessities. The Oil spills and clean up is simply too expensive and large a responsibility to be controlled by the

local officials. The liability obviously lies with the shareholder. The stockholder controls the corporation.

These shareholders must enforce and direct the actions of the company in which they invest. By investing in the company then they agree with the operation and management of the organization. This implies that they are ready to take on the financial risk of the operation. The insurance carrier must be able to enforce regulations and requirements on the company.

They can raise the rates and enforce changes or else cancel the policy.

This is a very strong weapon for enacting environmental friendly operations. The Watermen are also to blame. Had they invested a little effort then they also would have insurance to cover the loss of revenue and income. It is this short sightedness that has caused the most local damage.

As demonstrated above each group identified has a chance to police and control the operation of these facilities. They all can choose to pass the buck and blame someone else; or they can step up and take control. We all have an ethical responsibility to do what is right. We need to protect the environment while ensuring human prosperity. The Government is here for us, they work for us and we must ensure that they do what we want, not what is best for industry or big business.

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