

**An Analysis of Delaware Oil Spill Liability Exposure
and Associated Policy Recommendations**

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Executive Summary

The *Deepwater Horizon* oil spill and recent proposals to open the Mid-Atlantic coast to offshore drilling have prompted efforts by DNREC to evaluate Delaware's Oil Pollution Liability statute (7 *Del. Code.*, Ch. 62) to determine whether it, in conjunction with the federal Oil Pollution Act (OPA), is sufficiently protective of the State's environment and natural resources. This analysis provides insight into why Delaware's statute and associated regulatory policies *are not currently adequate* for protecting Delaware from a significant financial exposure in the event of a catastrophic or even large release. As a result of the knowledge gathered in this research, recommendations are provided for DNREC and the State of Delaware to consider for policy updates and expansion.

The risk of financial exposure to Delaware has always existed. While Delaware's Chapter 62 was intended to provide assurance of a minimization of State financial exposure, it has in fact only increased this risk of exposure. Prior to implementation, there were no liability limits established for releases of petroleum products in Delaware's waters. Liability limits clearly only increase exposure to the State because Delaware may not be able to recover all necessary costs from an incident. Since implementation of the statute in 1977, the financial risk to Delaware has only increased year by year. In more than 30 years since its inception, there has never been an adjustment to established liability limits to account for significant inflation. As a result, additional requirements regarding evidence of financial responsibility from owners and operators of vessels and facilities in Delaware have also fallen behind because they currently correlate with established liability limits. Additionally, there has never been supporting legislation enacted to assure requirements for Chapter 62 are appropriately implemented. Finally, while Delaware's Hazardous Substances Cleanup Act (HSCA) provides some funding for spill response activities and damage remedy, no funding mechanism was ever instituted to assure some sense of liquidity of State funds in the event of a lack of provision by the established federal Oil Spill Liability Trust Fund (OSLTF) or other immediate need to protect the State's interest in the event of a large spill. The assumption is incorrectly made that the OSLTF will cover costs that may not be incurred by a responsible party. There are multiple reasons that this is not true as outlined in this analysis, including the issue that promoted this study, that is, a catastrophic release. In fact, the National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling that was created in response to the *Deepwater Horizon* incident, stated:

in the case of a large spill, there is no certainty under current law that a company would have the financial means to fully compensate victims of the spill. Moreover, the Trust Fund [OLSTF] would likely not provide sufficient backup, and a significant portion of the injuries caused to individuals and natural resources as well as government response costs could go uncompensated (National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling, 2011: 3).

It is evident that reliance cannot be placed on federal regulation and funding and so appropriate consideration by Delaware is necessary in order to fill any potential voids in exposure and to protect State interests.

As part of this analysis, a review of twelve states outside of Delaware demonstrated that Delaware's current regulation regarding financial aspects of oil pollution *provides less assurance for the State than eleven of these twelve states* and with proposed legislation, may soon be less than all twelve. This fact includes consideration of liability limits, financial responsibility, and spill prevention and response funding mechanisms. As a result of this research, the following recommendations are made in order to fill voids in Delaware's financial exposure:

1. ***Remove liability limit provisions from Delaware Code 62.*** There is no public benefit to maintaining liability limits and the imposition of liability limits simply opens the State up for financial risk exposure. Unlimited liability limits are already used in multiple other states so this would not be a new concept to the petroleum and petrochemical industry.
2. ***Increase financial responsibility to up to \$1 billion.*** Establishing a \$1 billion financial responsibility requirement for vessels greater than 300 tons would be met with evidence of P&I Club membership. Appropriate increases to smaller vessels / non-tank vessels and facilities should also be established but will need to be below \$1 billion based upon the fact that the expense could be too great for the vessel or facility owner to afford. Appropriate specific values should be the subject of a future quantitative cost-benefit review.
3. ***Create an enhanced focus on oil spill prevention within the State.*** There is no integrated and centralized effort for preventing oil spills within the State at this time. Expanding focus on this area could include multiple prevention activities such as training, education, and outreach, enhancement of or monitoring of EPA written programs, facility and vessel inspection, more detailed root cause and statistical

analysis of releases and corresponding targeted prevention programs for higher risk/frequency situations, and other forms of integrated data management.

4. ***Expand and/or create new taxes and/or fees associated with spill prevention and response.*** Maintaining a State fund from such a tax or fee will greatly reduce Delaware's financial exposure risk in the event of a spill. The exact recommendation for such a mechanism should be the subject of further internal discussion at DNREC and within the State. Options include:
 - Raising the current HSCA tax on petroleum;
 - Creating a separate tax for oil spill prevention activities;
 - Imposing a tax or fee on all hazardous substances;
 - Imposing a lightering fee at Big Stone Beach Anchorage; or
 - Some combination of the above.
5. ***Update Delaware Code 62 and create supporting regulation.*** Delaware Chapter 62 should reflect current needs regarding the above issues. Another area of definite need for update on this end is to assure that the definition of "oil" in the State statute is equivalent to or more inclusive than that established by OPA. This will amend Delaware law so that oil pollution regulation automatically includes biofuels, which are currently not included in associated regulation.
6. ***Miscellaneous Recommendations:***
 - a. Consider a regional funding mechanism for the Delaware Bay region in which similar regulation or other approaches for spill prevention and response could be created in collaboration amongst Delaware, New Jersey, and Pennsylvania.
 - b. Consider the idea of "prospective environmental restoration" in which money from a spill tax or fee and associated fund could be used to proactively secure and complete restoration sites that would be used as compensatory restoration in the event of a spill.
 - c. Consider improving State understanding of pipeline spill risk, prevention, and response.
 - d. Further review approaches that provide an integrated focus regarding liability and funding for oil spill and hazardous substance spills.

1.0 Introduction

In 2010, the *Deepwater Horizon* oil spill unleashed an estimated 4.9 million barrels, or more than 205 million gallons, of oil into the Gulf of Mexico (Achenbach and Fahrenthold, 2010). At the same time, total costs for cleanup, damages, penalties, and lawsuit settlements have been projected to rise to \$40 billion. While payout of many of the damage claims to individuals, businesses, and state and local governments will likely take years to settle completely, it is very fortunate for the nation that the organization responsible for most of the damages is BP rather than a smaller corporation. In this case, the smaller company would most likely have gone bankrupt and been unable to fulfill obligations for the settlement of damages and perhaps even the cleanup itself (National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling, 2011).

The issue of liability, associated financial assurance of vessel and facility owners, and funding mechanisms for response, removal, damage cost recovery, and restoration have become a focal point of federal and state regulators. On the federal side alone, there have been more than 150 bills proposed for updating federal oil spill regulations since the *Deepwater Horizon* incident, though no significant updates have been made and no new legislation has been enacted to date as a result of these bills (Ramseur, 2011a). This document highlights Delaware's financial risk surrounding current federal and state regulation in the event of a large oil spill, reviews other associated state regulatory approaches for purposes of comparative analysis, and makes recommendations for Delaware policy updates based on the results of the overall research.

1.1 Delaware Risk

Since there is currently no drilling locally offshore of the Delaware Bay region, it is extremely unlikely at this time for a catastrophic release the size of the *Deepwater Horizon* spill to impact the Delaware Bay region. However, the risk of a devastating release to the Delaware River and/or Bay is real. *The Delaware Bay is the number one destination for crude oil cargo ships in the U.S. Nearly 1 million barrels or 42 million gallons of crude pass by the Delaware Bay's Capes towards Philadelphia-area refineries every day* (Miller, 2010). This is evident by an estimated 900 oil tankers that make stops in the Delaware Bay region each year (based on the

most recent five years of data with approximately 700 in 2010). This includes approximately 400 lightering operations at Big Stone Beach Anchorage in Southern Delaware, which accounted for nearly 85 million barrels of product that were lightered each year for 2006 and 2007. The average lightering operation is 212,500 barrels (nearly 9 million gallons) with the largest operation lightering 360,000 barrels (more than 15 million gallons).¹ At the same time, significant quantities of these materials flow through pipelines or are stored at onshore facilities that could impact the Delaware Bay and/or River.

Table 1 highlights that there is no real trend in the number of oil spills in the State of Delaware. While national spill trends overall have declined since the inception of federal oil spill legislation in 1990 (Ramseur, 2010), the trend at the state level for Delaware is not so apparent. Additionally, the *severity* of the spill is a more important consideration for this analysis because of the focus on financial exposure to the State of Delaware. For this consideration, the major risk for Delaware is found not only within Delaware waters but around the waters of the Delaware River and Bay that ultimately could impact Delaware. Table 1 also provides annual spill volume data, including maximum volume released each year. Like the total number of spills in the state of Delaware, the severity of spills shows no real apparent trend. The largest release of 630,000 gallons in Delaware waters (not Delaware River or Bay²) was in 1978 (U.S. Coast Guard, 2011).

Table 1: Delaware State Oil Spill History (1973-2009)

| Year | # Spills | Volume Spills (gals) | Max Spill Volume (gals) |
|-------------|-----------------|-----------------------------|--------------------------------|
| 1973 | 28 | 95,262 | 90,000 |
| 1974 | 37 | 5,040 | 1,000 |
| 1975 | 32 | 8,431 | 4,700 |
| 1976 | 25 | 2,797 | 900 |
| 1977 | 27 | 4,266 | 3,000 |
| 1978 | 17 | 630,762 | 630,000 |
| 1979 | 17 | 12,706 | 6,000 |

¹ Based on personal communication on August 22, 2011 with Dr. Tayfur Altiok, Alper Almaz, and Amir Ghafoori of the Rutgers University Laboratory for Port Security, Center for Advanced Infrastructure and Transportation. Data discussed were from a draft report that was prepared by this Laboratory and sponsored by the NJ DOT.

² The Coast Guard Spill Compendium showed this value of 630,000 gallons as worst historical case of spill in Delaware (U.S. Coast Guard, 2011). However, details were not able to be discovered during this study period. It is simply assumed that this spill was not in Delaware River or Bay because other record searches for data on spills to the Delaware River and Bay did not show this 630,000 gallon spill in 1978.

| Year | # Spills | Volume Spills (gals) | Max Spill Volume (gals) |
|-------------|-----------------|-----------------------------|--------------------------------|
| 1980 | 21 | 1,880 | 1,200 |
| 1981 | 18 | 21,604 | 8,000 |
| 1982 | 13 | 10,532 | 10,000 |
| 1983 | 13 | 583 | 400 |
| 1984 | 7 | 272 | 200 |
| 1985 | 5 | 1,040 | 500 |
| 1986 | 22 | 4,144 | 1,500 |
| 1987 | 18 | 893 | 252 |
| 1988 | 21 | 21,625 | 16,800 |
| 1989 | 31 | 311,146 | 306,000 ³ |
| 1990 | 23 | 153,535 | 152,000 |
| 1991 | 28 | 909 | 500 |
| 1992 | 17 | 1,368 | 600 |
| 1993 | 17 | 4,336 | 4,000 |
| 1994 | 12 | 289 | 126 |
| 1995 | 27 | 1,012 | 500 |
| 1996 | 17 | 41,557 | 40,000 |
| 1997 | 5 | 153 | 100 |
| 1998 | 11 | 2,172 | 2,100 |
| 1999 | 20 | 4,284 | 4,000 |
| 2000 | 15 | 1,155 | 1,000 |
| 2001 | 36 | 1,621 | 1,000 |
| 2002 | 1 | 10 | 10 |
| 2003 | 16 | 1,288 | 719 |
| 2004 | 10 | 628 | 500 |
| 2005 | 7 | 63 | 50 |
| 2006 | 15 | 1,787 | 1,700 |
| 2007 | 13 | 171 | 126 |
| 2008 | 8 | 45 | 20 |
| 2009 | 12 | 6294 | 6000 |

(Data from U.S. Coast Guard, 2011)

However, there were larger spills in the Delaware River or Bay that were outside of Delaware borders but impacted Delaware. It is important to recognize that Table 1 above only provides data for the state of Delaware. However, Delaware can also be significantly impacted

³ This maximum value was added into the U.S. Coast Guard data as the original data did not appear to include the *Presidente Rivera* spill. Information received from the DNREC Environmental Response team and the original DNREC incident report document this spill as having occurred in Delaware waters, just before the vessel was about to dock at Marcus Hook, PA. Coast Guard and NOAA information conflicts with this information and simply shows the incident as having occurred at Marcus Hook.

from upstream spills in New Jersey and Pennsylvania waters. For example, there was a 6 million gallon spill in the Schuylkill River in 1972 and an 11 million gallon spill at Marcus Hook, PA in 1975 that resulted in downstream impacts to Delaware (Corbett, 2004; Delaware River and Bay Oil Spill Advisory Committee, 2010). Appendix A provides a table that lists known larger spills to the Delaware River and Bay since 1972. While there have been no more recent spills that were more than a few hundred thousand gallons directly to the Delaware River or Bay, the risk of a multi-million gallon spill remains real. For example, the *Athos I* was the source of a 265,000 gallon spill in 2004 had a total cargo capacity of 19,439,574 gallons (U.S. Coast Guard, 2006a). Larger capacity vessels travel into the Delaware River and Bay area. In fact, there are vessels that are more than double the size of the *Athos I* that enter Delaware waters. The worst case scenario of a release within Delaware waters or the Delaware River or Bay area would be a complete release of one of these large vessels or an accident involving the release of more than one vessel simultaneously.⁴ There were nearly 700 crude oil deliveries in the Delaware Bay region in 2010 alone.⁵ Considering that the Delaware River channel is currently undergoing a deepening by the Army Corps of Engineers so that the channel depth is increased from 40 feet to 45 feet (U.S. Army Corps of Engineers, 2010), the risk of a larger spill will only likely increase in the future. Some recent research has forecasted that the frequency of deliveries will actually decrease as a result of decreased vessel traffic due to decreased lightering activities once the channel is deepened. One model predicts that there will be a drop in lightering frequencies from the current 400/year to approximately 293 as a result of the dredge.⁶ However, because larger vessels would then have the ability of entering the Delaware River and Bay, in the event of a spill, there is clearly the risk that the release could be larger than historical spills.

There is also a risk from an onshore facility as in the case of the Indian River Power Plant. Pipelines are another significant concern, particularly for the reason that some petroleum pipelines cross under the Delaware River into New Jersey. Studies of the nation's pipeline

⁴ Based on a phone interview with Mr. Jerry Conrad of the U.S. Coast Guard Sector Delaware Bay on August 16, 2011.

⁵ Based on data from the Maritime Exchange for the Delaware River and Bay secure database, Maritime On-line®.

⁶ Based on personal communication on August 22, 2011 with Dr. Tayfur Altiok, Alper Almaz, and Amir Ghafoori of the Rutgers University Laboratory for Port Security, Center for Advanced Infrastructure and Transportation. Data discussed were from a draft report that was prepared by this Laboratory and sponsored by the NJ DOT.

infrastructure have already demonstrated that many pipelines are “operating well beyond their intended service life” (Ramseur, 2010: 26). While this may or may not be the case with the pipelines in Delaware, there remains a risk of release. The aforementioned pipeline network that crosses the Delaware River is represented in Appendix B, which shows a map of the major interstate pipelines that cross through Delaware in New Castle County. (No other oil pipelines appear on the interstate map for Delaware with the exception of those servicing jet fuel to the Dover Air Force base.) There are of course numerous smaller facility-scale (e.g., terminal) pipelines that could impact Delaware waters.

Finally, there are increasing concerns about the Delaware Bay and River Cooperative’s (DBRC) future viability. The DBRC is an industry-funded response group that is heavily relied upon by industry, the Coast Guard, and area states in the event of a spill. Recent refinery closings, the potential for additional closings, and the associated loss of funding for the DBRC poses a threat to continued funding adequacy of the DBRC overall (Delaware River and Bay Oil Spill Advisory Committee, 2010). A dysfunctional DBRC or loss of the DBRC would only increase risk of inadequate response capabilities in the Delaware River and Bay region and pose the potential for increased financial exposure to Delaware and the surrounding states.

1.2 Liability Limits, Financial Responsibility, and Spill Response and Prevention Taxes and Funds

While other industries (except the nuclear industry) facing cleanup and restoration costs, penalties, and associated litigation do not enjoy limits to their liability for an unauthorized release to the environment, the petroleum industry has federal maximum limits to its liability for damages that may result from a release to navigable waters. The Oil Pollution Act (OPA) of 1990 affords specific liability limits for an oil spill that are determined according to the type of facility or vessel from which the release occurred. While liability for cleanup costs from a federal perspective is unlimited, liability expenses from damages from the spill (natural resource, property, subsistence use, revenues, profits and earning capacity, and public services) are limited.⁷ Numerous states, including Delaware, currently endorse similar regulatory privilege to

⁷ 33 U.S.C. § 2704.

the petroleum industry through liability limits. At the same time, OPA allows state preemption on liability limits and numerous states outside of Delaware take advantage of this option and call for unlimited liability for an oil spill to navigable waters.

While states establish high or even unlimited liability limits in many instances, this does not assure that an organization will actually have the funds available to meet those liability limits. From the stance of protecting public goods and services, appropriate financial responsibility terms must be established in order to assure that a company can meet or exceed any established liability limits. This can be done through a multitude of mechanisms, including through evidence of insurance, guarantee, surety bond, letter of credit, or through a qualified self-insurance program. As with the principle of liability limits established above, terms of financial responsibility differ between federal and state entities. Unlike liability limits, financial responsibility cannot be set as “unlimited” because that would be impossible to support, both through first or third party mechanisms.

There are two situations that can cause federal or state governments to have to pay out of the taxpayer’s pocket for oil spill removal or damages (assuming a known responsible party or RP). Limited liability clearly is one case. If an organization pays out what it is required to pay out under federal or state regulation for a spill and there are still additional expenses, the entity or entities having responsibility for the spill are not legally obligated to pay costs that are above and beyond the established liability limits. Additionally, if financial responsibility terms are set lower than the total costs of a spill, an organization may not be able to afford the full expenses associated with even a medium-size release. The federal government has attempted to assure that additional funds are available for spill cleanup and damages in the event that either of these two cases arise. The Oil Spill Liability Trust Fund (OSLTF) is established under OPA through imposition of a federal per barrel oil tax. This tax is sent into the OSLTF and is available for spill response and other associated activities. Some states have taken similar approaches to further protect their own interests and created their own spill prevention and response funds from taxes on oil entering the associated state’s borders.

Additional detail of federal and state liability limits, financial responsibility requirements, and spill response and prevention taxes and associated fund allocation is provided below.

2.0 Federal Oil Pollution Regulation

OPA was passed in 1990 in response to the *Exxon Valdez* oil spill in Alaska in 1989. The resulting regulation consolidated and expanded upon existing oil pollution rules that were spread across multiple environmental rules including the Clean Water Act, the Deepwater Port Act, and other federal legislation (GAO, 2010). While there are numerous elements to OPA that pertain to oil spill prevention and response, this paper evaluates issues of liability limits, financial responsibility, and other associated financial issues, all of which are found as part of the OPA 1990 rules.

2.1 Liability Limits

As mentioned earlier, OPA defines limits of liability for various types of facilities and vessels. Specific limits vary based on type of vessel or facility. These are summarized here in Table 2 based on regulatory limits. Note that the liability limits do not apply (i.e. liability becomes unlimited) if there was gross negligence, willful misconduct, violation of applicable spill regulations, failure to report, or failure to provide reasonable cooperation and assistance associated with removal activities.⁸ Additionally, there is no liability if it can be shown that the incident was caused by an act of war, act of God, or an act of omission by a third part that does not have a contractual relationship with the facility or vessel responsible party.⁹

Table 2: OPA Limits of Liability

| Single-hull tank vessel/barge | Double-hull tank vessel/barge | Non-tank vessel | Off-shore facilities | On-shore facilities, incl. pipelines | Deepwater ports |
|--|--|---|--|--|---|
| The greater of \$3,200/gross ton or \$23,496,000 if vessel is more than or equal to 3,000 gross tons | The greater of \$2,000/gross ton or \$17,088,000 if vessel is more than or equal to 3,000 gross tons | the greater of \$1,000 per gross ton or \$854,400 | \$75 million for natural resource damages and covered economic damages; <i>removal costs</i> | \$350 million for removal costs, natural resource damages, and covered economic damages; | For any deepwater port other than a deepwater port with a limit of liability established by |

⁸ 33 U.S.C. § 2704.

⁹ 33 U.S.C. § 2703.

| Single-hull tank vessel/barge | Double-hull tank vessel/barge | Non-tank vessel | Off-shore facilities | On-shore facilities, incl. pipelines | Deepwater ports |
|---|---|-----------------|----------------------|---|---|
| (2) \$6,408,000 if vessel is less than 3,000 gross tons. | (2) \$4,272,000 if vessel is less than 3,000 gross tons. | | <i>not limited</i> | allows President to decrease limit through regulations, but this authority has not been exercised | regulation under Section 1004(d)(2) of OPA 90 (33 U.S.C. 2704(d)(2)) and set forth in paragraph (b)(2) of this section, \$373,800,000; For deepwater ports with limits of liability established by regulation under Section 1004(d)(2) of OPA 90 (33 U.S.C. 2704(d)(2)): (i) For the Louisiana Offshore Oil Port (LOOP), \$87,606,000 |

2.2 Financial Responsibility

Vessels and facilities must be able to show levels of financial responsibility that match the liability limits defined in Table 2. However, there are a few differences between the financial responsibility values and the liability limits in Table 2. First, there are no specific financial responsibility requirements for onshore facilities, though the liability limits are set at \$350 million as specified in Table 2. For offshore facilities the responsibility requirements are \$35 million for a facility located seaward of the seaward boundary of a State or \$10 million for a facility located landward of the seaward boundary of a State. The President of the United States may set higher limits up to \$150 million.¹⁰ Additionally, for vessels, the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) requires additional

¹⁰ 33 U.S.C. § 2716.

financial assurance. Vessels must possess financial responsibility evidence in the amount that is equal to the *sum* of the liability limits defined in Table 2 plus the CERCLA limits.¹¹ CERCLA requirements are:

- For a vessel over 300 gross tons carrying a hazardous substance as cargo, the greater of \$5,000,000 or \$300 per gross ton;
- For any other vessel over 300 gross tons, the greater of \$500,000 or \$300 per gross ton.

Federal regulations allow evidence of financial responsibility to be shown in the form of insurance, surety bond, self-insurance, financial guaranty, or another form that is approved in writing by the Director of the National Pollution Funds Center (NPFC).¹² Vessel operators must not only show evidence of financial responsibility but must also apply for a Certificate of Financial Responsibility (COFR). Note that the requirements for financial responsibility apply only to vessels that are greater than 300 gross tons. A COFR is obtained through application to the U.S. Coast Guard. Once approval from the Coast Guard is given, a COFR is issued electronically to the vessel owner or operator.¹³

2.3 Oil Spill Liability Trust Fund

Congress actually created the OSLTF before OPA was passed. However, it was not until OPA was implemented that a mechanism was created (within OPA) for the collection of monies into the fund and to authorize use of the fund. The OSLTF is primarily funded through a per-barrel oil tax. The Emergency Economic Stabilization Act of 2008 had increased this tax from \$0.05/bbl to the current \$0.08/bbl.¹⁴ This rate will continue through the end of 2016 at which time the rate will increase to \$0.09/bbl.¹⁵ The associated tax is only authorized through the end of 2017 unless it is reauthorized by Congress.¹⁶ Approved uses of the fund include:

¹¹ 33 CFR § 138.80(f).

¹² 33 CFR § 138.80(b).

¹³ 33 CFR § 138.10 – 138.70.

¹⁴ Section 405(a) of this Act outlines this change to the OSLTF tax rate.

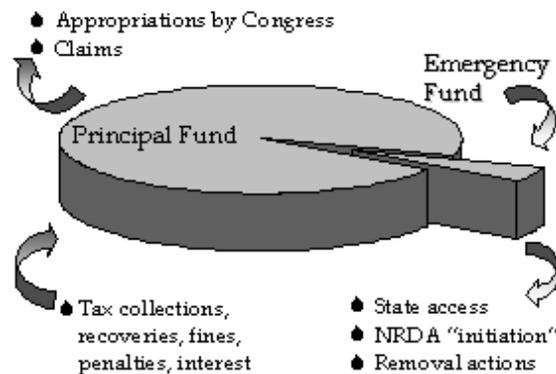
¹⁵ 26 U.S.C. § 4611(c)(2)(B).

¹⁶ 26 U.S.C. § 4611(f)(2).

- Removal costs incurred by the Coast Guard and EPA
- State access for removal activities;
- Payments to federal, state, and Indian tribe trustees to conduct natural resource damage assessments and restorations;
- Payment of claims for uncompensated removal costs and damages;
- Research and development; and
- Other specific appropriations.

The OSLTF has two major components that are defined as the “Emergency Fund” and the “remaining Principal Fund”. Figure 1 shows a breakout of this design below (U.S. Coast Guard, 2010). Only \$50 million/yr is available as an “Emergency Fund” for removal actions, state access, and NRDA initiation. If this limit is inadequate, up to another \$100 million can be advanced from the remaining Principal Fund that is normally used for Congressional appropriations and claims (U.S. Coast Guard, 2006). The *Deepwater Horizon* incident caused both of these values to be exceeded and Congress passed an amendment just for that spill that allowed opening up the fund to as many \$100 million additional advances as necessary according to what was in the fund. \$700 million was accessed as a result of this action.¹⁷

Figure 1: OSLTF Structure



OPA originally capped the OSLTF at \$1 billion. The 2005 Energy Policy Act increased this cap to \$2.7 billion (U.S. Coast Guard, 2010) and then the Emergency Economic Stabilization Act of

¹⁷ Based on a phone interview with Mr. Al Thuring at the National Pollution Funds Center on August 16, 2011.

2008 removed the cap.¹⁸ The total funds currently available in the OSLTF are \$2.1 billion.¹⁹ However, OPA limits per incident use of the fund at \$1 billion, of which there is an additional limitation of \$500 million for natural resource damage (NRD) claims and related assessment costs. Monies cannot be disbursed from the fund if the OSLTF contains less than \$30 million.²⁰ If the fund falls below these lower limits, claims are paid “in the order in which they were finally determined”.²¹

Part 133 of 33 CFR covers State access to the OSLTF. In order for money from the OSLTF to be disbursed to a state, the state must first assure that federal notification procedures have been followed according to the National Contingency Plan.²² State access to the Emergency Fund portion of the OSLTF is limited to immediate removal action²³ and is currently capped at \$250,000 per incident.²⁴ Thorough recordkeeping in regards to expenditures and actions taken with OSLTF money is required by the state.²⁵ Additionally, the state must make a thorough investigation of the cause of the incident and the RP and report these findings to the Director of the NPFC.²⁶ In general, with some exceptions, before applying for reimbursement from the OSLTF, the state must first go to the responsible party for coverage of any state costs incurred. If the responsible party denies reimbursement or does not respond within 90 days, then the state should submit a claim to the OSLTF.²⁷

Implications for the State of Delaware regarding potential impacts of the federal liability limits, financial responsibility requirements, and the OSLTF are discussed following the overview of Delaware and other state requirements below.

¹⁸ Section 405(b) of this Act specifies the elimination of the previous cap on the OSLTF.

¹⁹ Based on a phone interview with Mr. Al Thuring at the National Pollution Funds Center on August 16, 2011.

²⁰ 26 U.S.C. § 9509(c)(2).

²¹ 26 U.S.C. § 9509(e)(3).

²² 33 CFR § 133.5.

²³ 33 CFR § 133.13.

²⁴ 33 CFR § 133.7.

²⁵ 33 CFR § 133.19 and § 33 CFR 133.21.

²⁶ 33 CFR § 133.23.

²⁷ 33 CFR § 133.103.

3.0 State Oil Pollution Regulation

OPA specifies that it does not preempt State law and that states are allowed to impose additional liability or requirements related to the discharge of oil and related removal activities.²⁸ As a result, there is a multitude of approaches in state law applied throughout the U.S. on the subject of oil pollution (Ramseur, 2010). This section first reviews Delaware laws on the subject and then highlights other select states for comparison. Appendix C outlines details of several states as well as the OPA and DE rules as related to liability limits, financial responsibility, and spill prevention and response funds. It should be noted, that as with federal liability limits, where there are specified limits of liability for each of the states discussed, the liability limits do not generally apply (i.e. liability becomes unlimited) if there was gross negligence, willful misconduct, violation of applicable spill regulations, failure to report, or failure to provide reasonable cooperation and assistance associated with removal activities. Additionally, there is generally no liability if it can be shown that the incident was caused by an act of war, hostilities, civil war or insurrection, or by natural phenomenon of an unforeseen or exceptional character (or “act of God”).

3.1 Delaware Oil Pollution Law

Delaware’s only environmental regulation that is specific to oil is found under Chapter 62 of Title 7 of the Delaware Code. The statute, titled “Oil Pollution Liability” defines elements of liability limits and financial responsibility in a manner similar to OPA. Chapter 62 was enacted by the 129th General Assembly and signed into law by Governor Pete Dupont on July 11, 1977. Outside of the addition of defining civil penalties in the Chapter in 1986²⁹ and another very minor language technical amendment in 1995,³⁰ there have been no significant amendments to

²⁸ 33 U.S.C. § 2718(a).

²⁹ On June 27, 1986, 65 Del. Laws, c. 319 was signed into law, which amended § 6205 of Chapter 62 by adding civil penalties of \$1,000 to \$10,000 per day for violations. Previously, there was only a provision for injunctive relief by the Court of Chancery and the ability for the Department to recover cost.

³⁰ On July 10, 1995, 70 Del. Laws, c. 186, amended Chapter 62 to make it gender neutral.

the statute since the original implementation. There has also never been any supporting regulation that was implemented. Below are key elements of Chapter 62 policy:

- There are limits to liability as follows:³¹
 - For vessels carrying oil in bulk as cargo: \$300/gross ton or \$250,000, whichever is greater, up to a maximum of \$30 million;
 - For non-tank vessels (i.e., those that do not carry oil in bulk as cargo): \$150/gross ton; and
 - For facilities³²: \$50 million or such lesser limit as established by the Secretary – though there is no evidence that these limits were ever issued.³³
- Vessels and facilities must be able to show evidence of financial responsibility sufficient to satisfy the maximum amount of liability specified above.³⁴

There is not currently any fund for oil spill prevention and response that is specifically designed like the OSLTF at a state level for Delaware. In general, there is reliance on the OSLTF in the event of a large-scale release such as that from *Athos I* in 2004. However, the Delaware Hazardous Substances Cleanup Act (HSCA) imposes a 0.9% tax on the wholesale price of petroleum or petroleum products.³⁵ The funds collected from this tax are placed into the Hazardous Substance Cleanup Fund (hereafter the “HSCA Fund”). Purposes of use of this fund include implementing the hazardous substances cleanup program as defined under HSCA, conducting emergency response actions, as well as providing remedies for releases or threats of releases to the environment.³⁶ As a result, the HSCA Fund can be used for oil spill response and associated damages. However, in the event of a large incident, this available funding would be

³¹ Del. Code § 6208.

³² Del. Code § 6202 defines a “facility” as “a structure or group of structures (other than a vessel or vessels) including trucks, pipelines, bulk storage tanks and tank cars, used for the purpose of transporting, producing, processing, storing, transferring or handling oil.” Given this definition, there is no distinction between on- and off-shore facilities and the definition supports inclusion of both types of facilities under 7 Del. Code, Ch. 62.

³³ Nothing was found within the Delaware Code to support the identification of lesser limits and discussions with DNREC staff supported this finding.

³⁴ Del. Code § 6209.

³⁵ Del. Code § 9114.

³⁶ Del. Code § 9113.

limited. Most of the tax revenue fund is assigned to specific budget line items. For example, the 2011 emergency response budget is \$400,000 and this is for response to *any* hazardous substance release or spill (not just oil). Tax revenue that is above and beyond the annual budget needs remains in the HSCA Fund for the following year. Since tax revenue into the fund will fluctuate based on the wholesale price of petroleum, it is possible that the annual tax revenues will occasionally not support the annual budget. At the same time, during some years, the tax revenues will exceed budget needs and a rollover fills any potential shortfalls in future years. Any reserves in the HSCA Fund could be used to supplement necessary funding for a large release of oil to the environment. However, as already has been stated, this is likely to be limited, will fluctuate in available amount, and cannot be relied upon as a definitive source of funding in the event that additional money is needed for a large release.

3.2 Other State Oil Pollution Laws

Appendix C outlines details of other state oil pollution laws. As can be seen by the details presented in this appendix as well as other analyses (e.g., see for example Etkin, 2003; Ramseur, 2010), there is a multitude of approaches to state oil pollution law. Some high-level findings from the information in Appendix C are as follows:

- There do not appear to be significant trends by region of the country, with the exception that the most stringent rules currently appear on the West Coast.
- Of the twelve states outside of Delaware that were surveyed,³⁷ six have *unlimited* liability in the event of a spill from a vessel, pipeline, or on- or offshore facility. Of these six, three of them (Alabama, Mississippi, and Pennsylvania) are unlimited in the sense that there is no oil pollution liability regulation that has been enacted. These same states also do not have specific financial responsibility requirements. Another three of this six

³⁷ This included a review of current applicable regulations in each state through available on-line resources along with supporting reviews of findings and phone and/or email correspondence with the appropriate contacts within each state. A list of those contacted is shown in Appendix D.

(California, Maryland, and Washington State) do have specific oil liability and associated financial responsibility regulation that has been enacted.

- Like federal regulation, Virginia has unlimited liability specified for cleanup, with specific liabilities established for damages.
- Florida has limits to liability for cleanup, removal and abatement, but no limits on natural resource or property damages.
- The other four states assessed (Louisiana, New Jersey, New York, and Texas), like Delaware, currently have specified limits of liability for all costs. As stated earlier liability limits do not generally apply (i.e., liability becomes unlimited) if there was gross negligence, willful misconduct, violation of applicable spill regulations, failure to report, or failure to provide reasonable cooperation and assistance associated with removal activities. Additionally, there is generally no liability if it can be shown that the incident was caused by an act of war, hostilities, civil war or insurrection, or by natural phenomenon of an unforeseen or exceptional character (or “act of God”).
- For those states specifying financial responsibility requirements, there are wide ranges for “major facilities or vessels” that vary depending on the type and size of vessel or facility. Major vessel requirements are as high as \$1 billion; out of the states analyzed, Washington and California have financial responsibility requirements at this level. New Jersey has proposed increasing their financial responsibility requirements from the current \$50 million to \$1 billion.
- Eight out of the twelve states assessed (California, Florida, Louisiana, Maryland, New Jersey, New York, Texas, and Washington) have spill response funds that are similar in nature to the federal OSLTF. These funds are established through a per barrel tax or license fee for each barrel of oil that is transferred (typically first point of transfer) within the state. Taxes range from \$0.01/bbl to \$0.25/bbl. All of these six funds associated with tax revenue fees have caps that range from \$5 million to \$54.875 million; once the cap is reached, the barrel tax is no longer imposed until the fund falls below an established amount. New Jersey’s tax does not have a total fund cap but instead establishes a per-facility tax cap at 100-125% of the facility’s total tax amount. Additionally, New Jersey and Texas use their fund for both spill response and damage remedy as well as for spill prevention activities. Florida’s fund is maintained for the purposes of spill prevention

and response for all “pollutants” to coastal waters and not just petroleum. California and Washington have separate additional per-barrel taxes that are used to specifically support spill prevention activities, including spill prevention training, facility and/or vessel inspection and boarding, prevention plans, and spill prevention research.³⁸ Additional monies are collected into some of these state funds from penalties or fines collected from violations or spills and releases.

4.0 Discussion

4.1 Delaware and Federal Regulation and Implications for Delaware Financial Exposure

Chapter 62 of the Delaware Code was signed into law in 1977 and other than the minor amendments discussed earlier, there have been no significant amendments to the statute since the original implementation. There have also never been any supporting regulations implemented. In the wake of the BP *Deepwater Horizon* spill, numerous states as well as the federal government are assessing or have assessed the adequacy of oil spill liability and associated regulation. As a result of the findings of this analysis, it is evident that Delaware’s current regulation for oil spill response and prevention is not adequate to prevent financial exposure of the state in the event of a large oil spill as well as spill response and prevention activities themselves.

Considering federal OPA regulation and the OSLTF discussed above, it is easy to question why there is the risk for financial exposure. There have been recent increases to the federal liability limits, the OSLTF cap was eliminated completely in 2008, and there has never been a lapse in regulation or supporting funding. However, the following sections outline the possibility for significant financial exposure for the State of Delaware.

³⁸ See for example, Washington State’s Vessel Spill Prevention and Response Rules: <http://apps.leg.wa.gov/RCW/default.aspx?cite=88.46>.

4.1.1 Historical Considerations

Since the inception of the OSLTF, the incident that had the largest single access of the fund was the *Athos I* spill into the Delaware River in 2004. Total costs of the *Athos* spill, including cleanup, damages, and other claims settlements were \$327.3 million or \$376.4 million in 2010 dollars when adjusted for inflation (U.S. Department of Homeland Security, 2011). Liability limits for the operator of *Athos* were only \$45.5 million because at the time of the spill, the liability limit was only \$1,200/gross ton. With the current \$3,200/gross ton liability limit, had the spill occurred today, the owner of the *Athos* would have been liable for approximately \$121.3 million.³⁹ The total OSLTF costs for the *Athos* release were \$175.3 million (U.S. Department of Homeland Security, 2011). The breakdown of this figure included \$27.5 million for restoration, almost \$3 million for damage assessment costs, and the balance of nearly \$145 million for removal costs (Athos Trustees, 2010).

If the OSLTF did not cover the associated costs and Delaware had to apply its own liability limits, the owners of Athos would have been responsible for only \$300/gross ton or \$11.4 million. Of course, Pennsylvania and New Jersey regulations of liability would also apply. Since Pennsylvania does not have specific rules, the courts would have had to decide an appropriate settlement. New Jersey liability limits would have been \$150/gross ton or \$5.7 million. (See Appendix C for these liability limits defined.) In all likelihood, even with a Pennsylvania settlement, considering that the OSLTF access for Athos was \$175.3 million, the three states would have likely been left to split significant remaining costs out of pocket.

The *Presidente Rivera* release in 1989 was a significant incident that was pre-OPA. Financial details of this spill could give a better perspective as to what kind of exposure that Delaware could have if the OSLTF were not accessible. However, the only associated costs that could be found during the time of this analysis were those associated with settlement costs for restoration and damage assessment, which totaled just under \$4 million (present value considering inflation adjustment would be just over \$6 million) (United States District Court for the District of Delaware, 1993). Cleanup and other costs could not be accounted for with

³⁹ The *Athos I* was 37,895 gross tons (U.S. Coast Guard, 2006a). Per 33 U.S.C. § 2704 in 2004, the liability limit was only \$1,200/gross ton at the time of the *Athos I* spill. Therefore, 37,895 gross tons x \$1,200/ton = ~\$45.5 million. With current OPA liability limits of \$3,200 per gross ton, this figure would be 37,895 * \$3,200 = ~\$121.3M.

historical state records or through additional research.⁴⁰ Therefore, the full cost for the *Presidente Rivera* incident could not be discovered. If this were possible to determine with further research, the findings could provide a better idea of costs to the impacted states and Delaware's exposure in the event that the OLSTF could not be accessed. Attempts were made to understand costs associated with all of the spills listed in Appendix A. However, the historical cost information is not well documented, information is dispersed throughout various entities, and there is no centralized database or catalogue with incident cost information. Additionally, private-sector costs are not generally tracked and it is therefore often difficult to understand total historical costs (GAO, 2007). While certain small settlement costs could be documented and discussed here, like the experience with the research on the *Presidente Rivera* costs, full cost implications would not be understood.

4.1.2 Risk of Financial Exposure for Delaware

There has historically always been a risk of financial exposure for Delaware in the event of a large oil spill. However, since the inception of the OSLTF, there has never been a default of the fund or shortage of money available from the fund to support State removal, assessment, and damage restoration costs. From discussions with spill agency and associated personnel in other states, there appears to have been very few incidents in which state costs from spills to navigable waters were not recovered from the OSLTF. Washington had multi-million dollar costs from a pipeline release that initially was not considered by the Coast Guard but after some time, the costs of Washington were eventually accepted and reimbursed through the OSLTF.⁴¹ Therefore, based on historical spills since OPA legislation, though the risk has existed and continues to exist, it is a low probability risk that Delaware could be stuck with having to fund costs associated with a large oil spill to navigable waters.

However, the federal Government Accountability Office (GAO) issued a report that discusses the potential for risks to the viability of the OSLTF (GAO, 2007). Additionally, since

⁴⁰ Based upon numerous internal discussions with DNREC personnel and communications with various organizations including USCG Sector Delaware Bay, NOAA, USFWS, and the NPFC.

⁴¹ Based on a phone interview with Mr. Jeff Fishel of the Washington Department of Ecology Spills Program on July 25, 2011.

this report, the recent BP *Deepwater Horizon* incident has opened up discussions across the nation about liability caps and associated risk of costs to states not being recovered. A recent working paper from the National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling puts the risk bluntly. The Commission stated:

in the case of a large spill, there is no certainty under current law that a company would have the financial means to fully compensate victims of the spill. Moreover, the Trust Fund [OLSTF] would likely not provide sufficient backup, and a significant portion of the injuries caused to individuals and natural resources as well as government response costs could go uncompensated (National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling, 2011: 3).

So, while the history of the OSLTF implies a low probability of the risk of fund default, the risk clearly remains. The *Deepwater Horizon* incident provides record of an actual incident, which, if it were not for the fact that the RP is BP, which is currently the world's fourth largest company (CNN, 2011), the outcome for cost recovery could easily be completely different. BP chose not to consider the liability limits for damages of \$75 million that are established under OPA for offshore facilities. The company has the ability to cover the estimated \$40 billion in removal, damage, and restoration costs associated with the incident.

While information from certain states was not able to be obtained, based upon some interviews with Gulf State personnel, it seems that overall the response from BP has gone pretty well from the financial end (at least in those states). During the first few weeks of the spill, it took some time and effort to get payment mechanisms in place. BP gave each of the five states affected by the spill advance funds to address various issues. As a result of this, Florida and Texas never needed to access the OSLTF.⁴² Louisiana was non-responsive on this issue, and Alabama declined to make any comments about the BP case as a result of ongoing litigation. Mississippi provided detail on its financial access to both the OSLTF and separate BP funds that were established as follows:⁴³

⁴² For Florida, based on a phone interview with Mr. Gareth Leonard, Assistant General Counsel for the FL Department of Environmental Protection/Office of General Counsel on August 16, 2011. For Texas, based on an e-mail communication with Mr. Raenell Silcox, an attorney with TX Parks and Wildlife on August 18, 2011.

⁴³ Based on a phone interview with Mr. Richard Harrell, Oil Spill Coordinator for the MS Department of Environmental Quality on August 16, 2011.

- *Response:* Access to funds for response was through the NPFC and the OSLTF. They have recovered all of approximately \$6 million that was needed to date.
- *NRDA:* A Trustee Council from the five Gulf states affected approached BP. They could have gone to the OSLTF but the states believed they did not have the cash flow to wait (since the OSLTF only provides reimbursement after costs are incurred and not immediate access). This is the money from which TX and FL have been able to rely on without accessing the OSLTF. \$3 million was advanced to MS from BP. As the money is expended BP replenishes the fund to maintain the \$3 million. So far MS has spent about \$3 million on NRDA and has continued to maintain the \$3 million fund for future ongoing expenses.
- *Seafood Safety:* There was some slow response on this initially but then agreement was reached with BP for approximately \$16 million for a seafood safety testing and marketing campaign. An additional \$25 million was obtained in the form of a block grant and this money was passed from the state to the cities and counties affected with similar issues.
- *Government claims:* This is reimbursement required for agency response and activities associated with the spill (e.g. Parks, Wildlife, etc.). These costs are handled through the BP Fund (Kenneth Feinberg Fund) as required by OPA (i.e., RP is first approached). These too have been reimbursed. MS was not sure of the monies reimbursed because it is spread over several agencies.

If BP did not agree to overlook the liability limits and the courts determined that there was not gross negligence or willful violation of law, then the company would only be responsible for removal costs and \$75 million in associated damage costs. Similarly, significant financial exposure to the federal and state governments and entities impacted in the Gulf would have occurred if the company could not afford the total costs of the incident and declared bankruptcy. It should be noted that while BP has overlooked liability limits, the costs of the spill into the future are still unknown, so overall federal financial exposure is unknown (GAO, 2010). In fact, there are already documented cases of certain cities' claims of lost revenue from the spill, so the final outcome is not yet fully understood (see for example Calkins and Johnson, Jr., 2011).

While Delaware or the surrounding region does not have offshore drilling, there have been recent initiatives to promote it. For example, Virginia has proposed lifting the offshore

drilling moratorium that was imposed following the *Deepwater Horizon* incident and this proposal was passed in May by the U.S. House of Representatives.⁴⁴ Additionally, there is the current potential for a significantly larger spill than the likes of the *Athos* incident or other large historical releases. *Athos* only released 265,000 gallons of its 19,439,574 gallons oil cargo capacity, or just 1.36% and the associated costs and damages far exceeded its limit of liability – and as discussed there are tankers that are more than twice the size of *Athos* that enter Delaware waters.

4.1.3 Comparison of Delaware Regulation with Other States

From the discussion in Section 3 regarding state oil pollution regulation and the supporting details in Appendix C, it can be surmised that the language of Chapter 62 of Title 7 of the Delaware Code does not provide the assurance that may be necessary in order to minimize risk of state financial exposure in the event of a major oil release. In fact, *eleven of the other twelve states reviewed in this study have more stringent* liability and financial responsibility requirements than Delaware. Only New Jersey has lower expectations on the issue of oil pollution liability. At the same time, New Jersey has legislation that would significantly raise the liability limits and financial responsibility requirements, and if this legislation passes, all of the eleven states reviewed would have tougher legislation enacted. It is clear that there is significant opportunity for Delaware to update Chapter 62 and expand on the statute with supporting legislation. Options for such an update are reviewed in the next section.

4.2 Delaware's Options for Regulatory Update

This section is further broken up by each of the three main factors reviewed in this study regarding oil spill financial issues: 1) liability limits; 2) financial responsibility; and 3) funding for Delaware spill prevention and response activities.

⁴⁴ This is bill H.R. 1230, titled the Restart American Offshore Leasing Now Act. See for example coverage of passage of the bill at http://www.nytimes.com/2011/05/06/us/06drill.html?_r=1.

4.2.1 Liability Limits

Options for updating the liability limits as specified in Delaware Chapter 62 include increasing the limits or eliminating the notion of limited liability altogether. Other options of reducing the limits or maintaining the current limits are not considered here because it was already determined that there is the need to further reduce financial exposure risk to Delaware and these options would only increase that risk.

The federal government has taken the option of attempting to keep liability limits increased as inflation increases, but has not always kept up with this necessary change (GAO, 2007). Additionally, the adequacy of only inflationary increases to existing liability limits has already been seriously questioned by members of Congress in light of the *Deepwater Horizon* incident. Many believe that increases to the liability limits that are well above adjustments accounting for inflation are necessary, with some proposals as high as \$10 billion for offshore facilities. If only inflationary adjustments were made to the current offshore facility limit of \$75 million, the new limit would still only be \$125 million, which clearly is still well below the projected costs of the *Deepwater Horizon* spill (Ramseur, 2011). Additionally, many of the reviews that have taken place in regards to liability limits have been focused mainly on offshore facilities, rather than an across-the-board review and corresponding regulatory update.

Irrespective of potential changes to OPA liability limits, as discussed earlier, there is potential financial risk to Delaware due to reliance on the existence and availability of OSLTF money in the event of a bankruptcy by the RP. Raising the liability limits of Delaware's Chapter 62 is therefore the minimum action necessary. Additionally, if Delaware chooses to raise liability limits, given the potential for future offshore drilling in the region, it would be necessary to create liability limits for offshore facilities.

Considering that the total cost of the *Athos* spill adjusted for inflation in 2010 dollars was \$376,438,000 (U.S. Department of Homeland Security, 2011) and the spill was 265,000 gallons, the minimum liability limits should be \$1,420/gallon and most likely higher as the private costs incurred by the owners of *Athos* beyond their liability limits are not completely known⁴⁵ (as opposed to the \$500/gallon DNREC draft proposal; see Section 6). At the same time, spill costs

⁴⁵ Per a phone interview with Ms. Jane Niesen, Data Manager of the NPFC on August 16, 2011.

can vary significantly due to factors such as weather, location, type of oil, currents, etc. Therefore, it is not feasible to determine a universal value for oil spill costs per unit (Etkin, 1999). The closest possible approach for determining costs would be to use a risk-based approach, but even this will not provide an absolute forecast of costs. Another risk associated with maintaining liability limits is that research has demonstrated that this can inhibit the creation of a strong safety and risk prevention culture within the industry. As a result, an economic moral hazard is created in which costs of spills are not appropriately internalized but are instead transferred to the public (Cohen, et al., 2011; National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling, 2011). However, if the option to increase liability limits is selected, periodic revision to the limits will be necessary in order to remain current with inflationary figures. This has not occurred in the past since the original statute was passed more than 30 years ago.

The second option regarding liability limits for Delaware is to remove them completely and call for unlimited liability for all costs. In this case, cleanup or removal costs would be unlimited and damages would be assessed on an individual basis using current NRDA technique and damage assessment and claims processes that stand outside of NRD.⁴⁶ Like removal costs, damages, claims, and any associated penalties and fines would be unlimited. Having unlimited liability limits does increase the risk for vessel or facility owners to go bankrupt in the event of a large release (Ramseur, 2011). However, in this event, the financial exposure to Delaware should still be reduced or at least remain the same (since the RP could potentially declare bankruptcy even with current federal and State liability limits). As discussed, there are already multiple states that call for unlimited liability for oil spills, so this would not be a new idea for the industry, at least on a state level. Unlimited liability limits do appear to make the most sense for multiple reasons, including:

- Delaware's financial exposure would most likely be reduced,
- there really does not appear to be any reason for the benefit of the public good that liability limits be applied, and

⁴⁶ There is of course the potential for revision to the current NRDA calculations, though this is outside of the scope of this study. See for example Florida's approach to NRD that relies on standardized NRD calculations and interactive GIS to simplify NRDA (Faass, 2010).

- there would not be the need for constant regulatory review to adjust liability limits in response to inflation increases, thus saving State resources necessary associated with performing this constant adjustment.

Note that even if future offshore drilling does begin in the region, unlimited liability limits for all types of facilities and vessels will automatically be applied to any offshore operations. The current loose definition of “facility” found in Chapter 62 appears to already indirectly include offshore facilities.

4.2.2 Financial Responsibility

The issue of financial responsibility is at least as important as the issue of liability limits. (Cohen, et al., 2011). In fact, raising or eliminating the liability limits without addressing financial responsibility limits may miss an opportunity to assure that financial exposure for Delaware is actually minimized. Given certain spill scenario circumstances, addressing liability without considering financial responsibility or vice versa could result in the same exposure for Delaware as if neither issue was reviewed and updated appropriately.

As outlined, Delaware currently requires evidence of financial responsibility at levels that are equivalent to the established liability limits. It is assumed that the State does not wish to remove, reduce, or maintain (according to current liability limits) current financial responsibility limits. Therefore, the only other option that exists is to raise the expectations. If Delaware places specific higher limits of liability for oil spills, it could allow the current approach of requiring equivalent financial responsibility terms to persist. If Delaware moves to unlimited liability limits, there obviously cannot be the equivalent of unlimited financial responsibility. This is not possible to demonstrate as no one entity has unlimited financial resources and insurance agents would never underwrite such a policy. The question then is clearly, “What level of financial responsibility should be required in order to minimize financial exposure for the State of Delaware?”

Numerous various values could be proposed for such a requirement. However, following this research, a value of \$1 billion per incident for major vessels is suggested if the option of unlimited liability is adopted. This value sounds extremely high compared to present

expectations and it is likely that there would be some motion against such a high value for fear that it could impact smaller organizations and force them to lose business competitiveness with large corporations. Additionally, there could be the argument that many vessels enter the Delaware Bay on an infrequent basis and make non-routine stops.⁴⁷ However, for most crude cargo vessels entering the Delaware region, this expectation could be fulfilled through a P&I (Protection and Indemnity) Club insurance policy. All P&I Clubs offer coverage to members in a cooperative-like insurance fashion with insurance limits of \$1 billion. Washington State for example relies on P&I Club participation to meet its \$1 billion financial responsibility terms for all vessels over 300 gross tons.⁴⁸ California considers P&I Club participation as well in meeting its \$1 billion financial responsibility value.⁴⁹ Texas references P&I Club participation as a potential method to meet financial responsibility requirements, though Texas financial responsibility requirements currently reference federal requirements.⁵⁰ While P&I Club membership offers coverage for human, environmental, and property risks, the one gap in P&I Club benefits is the lack of coverage for economic damages such as tax or revenue losses in Delaware. One such example of economic loss would be when the Salem, NJ nuclear power plant had to close because of the *Athos* spill, the company claimed \$57 million in lost profits (GAO, 2007). This point should be noted and will be discussed further with a potential solution to this gap later in the next subsection.

Lower financial responsibility criteria could be established for vessels that are less than 300 gross tons and this would likely still minimize exposure to Delaware as these vessels would not likely be carrying crude cargo in large quantities based on design capacity limitations. The value of 300 gross tons is what is applied as a standard for needing a federal COFR. Again, there are numerous values that could be selected for smaller vessels and a detailed cost-benefit analysis could help determine appropriate values. If a \$1 billion financial responsibility term is adopted by Delaware for vessels greater than 300 tons, then those drafting legislation could

⁴⁷ Many vessels do in fact make infrequent stops and non-routine deliveries as determined from the Maritime Exchange for the Delaware River and Bay secure database, Maritime On-line®.

⁴⁸ Based on a phone interview with Mr. Jeff Fishel of the Washington Department of Ecology Spills Program on July 25, 2011.

⁴⁹ Based on a phone interview with Mr. Mike Zamora of the California Office of Spill Prevention and Response Certificate of Financial Responsibility Unit on August 3, 2011.

⁵⁰ Texas Natural Resource Code, Chapter 40.201(c).

review Washington and California's terms for smaller vessels (see Appendix C) as a starting point for determining adequate coverage.

For facility coverage, terms would also likely need to be separated from the \$1 billion financial responsibility level because there is not currently the equivalent of a P&I Club for facilities, including pipelines. There are not currently offshore facilities within the Delaware region. However, as mentioned earlier regarding the proposed Virginia legislation, this may change. Since there are no current offshore drilling operations in the Delaware region, it is likely best that Delaware watch this trend closely and respond to updates in its oil pollution liability regulations appropriately if and when drilling is approved that could impact the region in the event of a spill. Financial responsibility requirements are not necessary to be implemented for offshore facilities in other states because Delaware cannot inspect such certificates. As discussed earlier, liability limits should be considered for offshore facilities regardless of location, unless unlimited limits are established for all facilities and vessels that negates this need. While Delaware could create more specific rules now to cover this issue, there is the possibility that federal offshore regulation and the entire insurance approach towards offshore drilling may change as a result of the *Deepwater Horizon* incident. Numerous legislative proposals have been submitted for such updates and are currently under consideration by various House and Senate committees (Foley, 2010; Ramseur, 2011a). Some experts have logically proposed the creation of an industry cooperative insurance for offshore operations that could be similar in nature to the P&I Clubs for vessels that would provide substantial insurance for large incidents (National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling, 2011). At the same time, as mentioned earlier with liability limits, there is the risk of the creation of an economic moral hazard. In this situation, high-risk facilities or vessels may avoid rigorous safety and environmental protocols because the financial risk is spread among the industry. Risk-based fees for cooperative insurance approaches should be considered to help mitigate this potential (Cohen, et al., 2011; Greenstone, 2011; National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling, 2011).

For onshore facilities, financial responsibility requirements will likely need to remain well below the \$1 billion limit as well although this too could be tiered according to size and risk of facility. Onshore facility risk is completely different than offshore or vessel risk as any release should be able to be stopped and contained in a much more controlled manner. Spill

controls and prevention are covered both on land by the EPA Spill Prevention, Containment, and Countermeasure (SPCC)⁵¹ as well as Coast Guard OPA rules (depending on the exact point of control on land or at a terminal). While portions of the SPCC rules also apply to offshore facilities, the risk is completely different for an onshore facility since there are response resources that are very readily available. Additionally, engineering controls are generally more effective or reliable because oil is contained within a tank, pipeline, or other storage equipment and has a limited and known volume. Current facility liability limits under Delaware Chapter 62 are \$50 million and therefore equal evidence of financial responsibility is required. If Delaware adopts unlimited liability, a risk-based approach toward financial responsibility requirements for onshore facilities could be a supportive approach. Risk could be based upon classes of facilities including terminals, pipelines adjacent to navigable waters, pipelines under or over navigable waters, etc. and could be further adjusted for risk by other factors such as amounts and types of oils stored or transferred.

4.2.3 Spill Prevention and Response Funding

The current oil spill wholesale tax in Delaware does not provide money for a trust fund like the OSLTF that could be used to support spill response, cleanup, and coverage for damages and claims that may not be supported by the OSLTF. Such a fund would reduce financial exposure, assure that funds for removal could be immediately accessed when needed, and reduce state allocation that may be necessary as a result of a delay or denial of reimbursement from the OSLTF (Washington State Department of Ecology and Puget Sound Partnership, 2011). Not only is there a risk of removal funds not being immediately available from the OSLTF but there is the possibility that the responsible party could become bankrupt or be dissolved since settlement and cost recovery often takes a period of years (GAO, 2007). Finally, there are multiple reasons that State reimbursement from the OSLTF may be denied, including for spills:⁵²

- without a responsible party (e.g., sunken vessels);
- that do not have appropriate coordination up front with the Coast Guard;

⁵¹ 40 CFR § 112 contains the SPCC rules.

⁵² This list of reasons is based on conversations with personnel in California, Florida, and Washington that deal with cost recovery issues for oil spills (see Appendix D).

- with NRDA technique that is not approved by the Coast Guard (e.g., Florida);
- that lack in some manner required recordkeeping or other associated documentation; or
- that are natural seeps.

OSLTF funds are also not approved for state investigation for determining a responsible party. A fund that is maintained for whatever response activities that are denied by the OSLTF or go beyond what the OSLTF normally covers will only act to provide assurance for protecting Delaware's interests. As discussed earlier, several states have their own state fund available for such instances and this too is generally supported by a tax or fee on oil. If Delaware adopts financial responsibility requirements of \$1 billion for vessels carrying oil as cargo, a State fund could also supplement P&I Club insurance in the event that economic losses such as tax or revenue losses result from a spill. As noted earlier, these costs are not covered under P&I benefits. If an organization cannot cover the full economic losses that might be incurred from a spill, a State spill fund could help fill this gap.

Additionally, Delaware essentially has no current spill prevention programs or associated funding. Simple options are to continue to rely on federal programs for spill prevention (through EPA SPCC and OPA rules) or to enhance spill prevention activities in the State. Expanding the spills program for Delaware to include a focus on spill prevention rather than just response could reduce both the likelihood of a spill occurring as well as the overall financial exposure for the State as related to oil spills. There are numerous proactive programs that can be created that will assure better control over oil transportation, processing, and overall handling within Delaware, which in turn will reduce the chance for a release. These include programs such as training, education, and outreach, enhancement of or monitoring of EPA's SPCC written programs, facility and vessel inspection, more detailed root cause and statistical analysis of releases and corresponding targeted prevention programs for higher risk/frequency situations, and other forms of integrated data management. The Delaware River and Bay Oil Spill Advisory Committee (DRBOSAC) released a report in December 2010 that reviews opportunities for improving spill prevention and response in the Delaware River and Bay. Several recommendations related to prevention were proposed in this report including updates to Environmental Sensitivity Index (ESI) maps, a Geographical Information System (GIS) Spill Management Database, protective and preventative booming strategies, enhancement and maintenance of the Physical

Oceanography Real-Time System (PORTS®), and collecting, housing, and maintaining oil spill information.

All of these opportunities clearly require some source of funding and the Committee lists the OSLTF as one potential source (Delaware River and Bay Oil Spill Advisory Committee, 2010). This option should be explored. However, as discussed earlier regarding the OSLTF itself, funding may not reliably be available to the region due to other demands on the fund or repeated large use of the fund from actual releases. Delaware also could therefore explore its own funding mechanism for spill prevention activities. A source other than the OSLTF itself would be through a tax or fee on oil in the state. Because a spill in Pennsylvania or New Jersey waters could very easily impact Delaware, as has happened numerous times in the past such as with the *Athos* incident, regional collaboration for funding mechanisms and programs could be considered. As discussed earlier, the HSCA Fund provides funding for various activities, but spill prevention is not one of them.

It is assumed that Delaware wishes to minimize the risk of financial exposure and to enhance spill prevention and response activities in the State. Therefore, a few options to provide adequate funding to do so are highlighted here below.

- Increase the HSCA tax on oil from the current 0.9% on the wholesale price in order to collect taxes to support additional funding. The amount of funding collected from this tax currently would not support any meaningful expansion of oil spill response programs or the creation of prevention programs.
- Create a second tax or fee on oil under HSCA to support oil spill prevention activities. Funds from this tax or fee would not be capped as programs would be ongoing and require an annual budget.
- Create a tax or fee on all hazardous substances that are produced in or enter the State of Delaware. Currently, HSCA funding supports budgetary needs for operations associated with all hazardous substance issues. However, the sole source of funding is from the wholesale tax on oil. There is the opportunity to perhaps maintain current oil taxes and have the ability to enhance oil response activities, create a fund that is similar in nature to the OSLTF as other states have already done, and create oil spill prevention programs. Funding from a new tax or fee on all other hazardous substances, that is in addition to or

separate from the budget created from the current wholesale oil tax, could then be used to supplement all hazardous substance activities. In other words, a totally new and separate tax policy could be created under HSCA or the current policy could simply be expanded. Washington is one such state that maintains separate taxes under their Model Toxics Control Act⁵³ (for hazardous substances) as well as two separate taxes on oil with one funding response activities and another funding prevention activities. Florida is a good example of a state that maintains an integrated spill prevention fund from a uniform tax on all hazardous substances, including oil.⁵⁴

- Another potential source of funding is to impose a fee on lightering operations at Big Stone Beach Anchorage. The Big Stone Beach Anchorage lightering operations provide an opportunity to lighter for all vessels that may continue up into Pennsylvania, New Jersey, or other areas outside of Delaware. The risk of a release from these lightering operations is currently accepted without cost by Delaware and there is the opportunity to internalize some of the potential costs of this risk through a fee on lightering.

4.3 Overview of Costs and Benefits of Delaware's Options

The following table summarizes some considerations related to the costs and benefits of the options for reducing financial exposure related to oil spills in Delaware that are discussed in the above subsections. A more detailed analysis that includes quantitative values may be necessary for actual policy changes prior to implementation. As stated earlier, this will also help to determine appropriate levels of financial responsibility for smaller vessels and facilities. Unfortunately, there was not enough time or resources to complete this more detailed analysis at this time.

⁵³ See <http://www.ecy.wa.gov/pubs/9406.pdf> for details of this Act.

⁵⁴ See Florida Statutes Chapter 376.12 for details on the state's Coastal Protection Trust Fund: http://www.leg.state.fl.us/Statutes/index.cfm?App_mode=Display_Statute&Search_String=&URL=0300-0399/0376/Sections/0376.11.html

Table 3: Summary of Costs and Benefits of Delaware’s Options

| | Option | Costs | Benefits |
|---------------------------------|---|--|--|
| Liability Limits | Increase limits | <ul style="list-style-type: none"> • No cost to State or public. • Increased cost to industry <i>only in event of a spill.</i> | <ul style="list-style-type: none"> • Reduced financial exposure to State in event of a spill. • No benefit to industry. |
| | Remove limits (unlimited liability) | <ul style="list-style-type: none"> • No cost to State or public. • Increased cost to industry <i>only in event of a spill.</i> | <ul style="list-style-type: none"> • Reduced financial exposure to State in event of a spill. Unlimited liability clearly significantly reduces State financial exposure except in the event of bankruptcy declaration. • No benefit to industry. |
| Financial Responsibility | Increase necessary levels of evidence of financial responsibility | <ul style="list-style-type: none"> • Negligible or no cost to State or public. If there is an official inspection program developed to review COFRs, then administration and enforcement costs for separate tax would need to be funded through aforementioned tax/fee increases or additions. • There is the remote possibility of a very minor loss of business within the State if smaller operations cannot meet new financial responsibility requirements. However, as discussed earlier, this has not been the case in other states. Also, any loss of business that could occur would likely simply shift to those organizations in the industry that can meet the new requirements and carry out operations responsibly. • There is the potential for increased cost of insurance to the industry with increased financial responsibility requirements. For vessels carrying oil as cargo, as discussed above, P&I Club participation should already cover most if not all of these organizations and there would be no additional cost. There is the potential for some increase to smaller vessel owners that are not part of P&I Clubs. There is also the potential for some increases to facilities with corresponding increases in | <ul style="list-style-type: none"> • Reduced financial exposure to State in event of a spill. Increasing financial responsibility requirements will provide improved assurance that funds supporting any release will be available for response, removal, and associated damages and claims. • No benefit to industry. |

| | Option | Costs | Benefits |
|--|--|---|--|
| | | financial responsibility. | |
| Spill Prevention and Response Funding | Raise current HSCA tax on petroleum only. | <ul style="list-style-type: none"> • No cost to State or public. • Cost of tax to industry. | <ul style="list-style-type: none"> • Additional funds available for reduced financial exposure for Delaware and for expanded spill response and the creation of spill prevention activities. • Considering response-only activities, there is likely no benefit to industry. If spill prevention activities are created within the State, this could ultimately benefit industry through reduced risk of a spill with potentially enormous cost to a corporation or the industry as a whole. |
| | Create a separate tax for spill prevention activities. | <ul style="list-style-type: none"> • No cost to State or public. Administration and enforcement costs for separate tax would be funded through tax itself. • Cost of tax to industry. | <ul style="list-style-type: none"> • Additional funds available for reduced financial exposure for Delaware and for the creation of spill prevention activities. • If spill prevention activities are created within the State, this could ultimately benefit industry through reduced risk of a spill with potentially enormous cost to a corporation or the industry as a whole. |
| | Impose a tax or fee on all hazardous substances. | <ul style="list-style-type: none"> • No cost to State or public. Administration and enforcement costs for separate tax would be funded through tax itself. • Cost of tax to industry (no additional to petroleum industry; impact to all other industry that produces or transports hazardous substances in State). | <ul style="list-style-type: none"> • Additional funds available for reduced financial exposure for Delaware and for expanded spill response and the creation of spill prevention activities. • Considering response-only activities, there is likely no benefit to industry. If spill prevention activities are created within the State, this could ultimately benefit industry through reduced risk of a spill with potentially enormous cost to a corporation or the industry as a whole. This could benefit both petroleum and non-petroleum (hazardous substance) industries. |

4.4 Emerging Trends and Other Issues

DNREC also asked for a review of some other related issues that are increasing in prevalence as the nation's energy fuel mix changes including liquefied natural gas (LNG) and biofuels risks.

4.4.1 LNG

LNG is not an oil and is therefore not regulated under OPA. General maritime liability limits would apply in the event of a release of LNG. Under these regulations, the only liability for which an owner/operator of an LNG vessel would be liable in the event of a release would be simply the value of the vessel and the pending freight or cargo. An LNG release response and damages would be totally different from a petroleum spill and poses the risk of explosive ignition of a vapor cloud when released (Hightower, et al., 2004). If all of the freight and vessel burns, then that liability value becomes zero. In other words, the greater the damage is, the lower the liability.⁵⁵ The only portion of the law that does not follow this logic is for personal injury or death, for which there is a \$420/gross ton liability limit.⁵⁶ At this time, no LNG operations occur in Delaware. Since an LNG release would pose completely different response and restoration activities and exhibits very different risks as compared to oil, it makes most sense to create separate appropriate legislation to manage and mitigate LNG risks and releases if LNG operations or transportation do begin to occur in the future within Delaware's borders.

4.4.2 Biofuels

Biofuels are already included in the OPA definition of "oil". At the same time, Delaware Chapter 62 does not include biofuels in its definition of "oil".⁵⁷ The statute was written pre-OPA

⁵⁵ 46 U.S.C. § 30505.

⁵⁶ 46 U.S.C. § 30506.

⁵⁷ 40 U.S.C. § 2701 states that "'oil' means oil of any kind or in any form, including petroleum, fuel oil, sludge, oil refuse, and oil mixed with wastes other than dredged spoil, but does not include any substance which is specifically listed or designated as a hazardous substance under subparagraphs (A) through (F) of section 101(14) of the Comprehensive Environmental Response, Compensation, and Liability Act (42 U.S.C. 9601) and which is subject to the provisions of that Act [42 U.S.C. 9601 et seq.]." This is an open definition for "oil", while per Del.

and there have been no significant amendments since its inception. Delaware should amend its definition of “oil” to be consistent with the OPA definition. This update will assure that biofuels are included under oil spill regulation in Delaware.

5.0 Conclusions and Policy Recommendations

Following in the wake of the BP *Deepwater Horizon* incident, this research has reviewed the Delaware Oil Pollution Liability statute, 7 Delaware Code, Chapter 62, and associated issues. Major focal points of this analysis included the issues of risk to Delaware from oil spills, liability limits, financial responsibility, and spill prevention and response funding. There is a demonstrated need for updates to the current statute and to expand upon the intent of the statute and create supporting regulations and policy in order to minimize financial exposure for the State of Delaware and to promote best practices in spill prevention and response. As a result of this review, the following policy recommendations are proposed:

- 1. Remove liability limit provisions from Delaware Code 62.** As discussed above, there is no public benefit to maintaining liability limits and the imposition of liability limits simply opens the State up for financial risk exposure. Unlimited liability limits are already used in multiple other states and there is no reason to support the continued limits associated with oil spill liability in Delaware. Removing liability limits will also eliminate the need for constant inflationary adjustment.
- 2. Increase financial responsibility to up to \$1 billion.** Establishing a \$1 billion financial responsibility requirement for vessels greater than 300 tons would be met with evidence of P&I Club membership. Even if Delaware implements its own COFR inspection process, if a P&I Club removes coverage for an owner or operator in the area, it should be required to communicate this to the State.

Appropriate increases to smaller vessels / non-tank vessels and facilities should also be established but will need to be below \$1 billion based upon the fact that the expense could be too great for the vessel or facility owner to afford.

Code § 6202, Delaware currently limits the definition to mean “petroleum, including crude oil or any fraction or residue therefrom.”

Additionally, it is likely that with robust response plans, a small vessel (less than 300 gross tons) or onshore facility would not see response, removal, and damages and claims costs to be anywhere near \$1 billion.

3. ***Create an enhanced focus on oil spill prevention within the State.*** There is no integrated and centralized effort for preventing oil spills within the State at this time. Expanding focus on this area could include multiple prevention activities such as training, education, and outreach, enhancement of or monitoring of EPA's SPCC written programs, facility and vessel inspection, more detailed root cause and statistical analysis of releases and corresponding targeted prevention programs for higher risk/frequency situations, and other forms of integrated data management. The 2010 DRBOSAC Report recommendations that outline similar spill prevention needs should also be considered and addressed. To do this, if the OSLTF cannot be accessed as promoted in the DRBOSAC Report, the next recommendation will help support the idea of a robust spill prevention program for the state.
4. ***Expand and/or create new taxes and/or fees associated with spill prevention and response.*** Maintaining a State fund from such a tax or fee will greatly reduce Delaware's financial exposure risk in the event of a spill. The exact recommendation for such a mechanism should be the subject of further internal discussion at DNREC and within the State. Options that were listed in the above discussion include:
 - Raising the current HSCA tax on petroleum;
 - Creating a separate tax for oil spill prevention activities;
 - Imposing a tax or fee on all hazardous substances;
 - Imposing a lightering fee at Big Stone Beach Anchorage; or
 - Some combination of the above.
5. ***Update Delaware Code 62 and create supporting regulation.*** Delaware Code 62 should reflect current needs regarding the above issues. Additionally, the update and creation of any supporting regulation should assure that all terminology that is used is at least as that established under OPA. One area of definite need for update on this end is to assure that the definition of "oil" in the State statute is equivalent to or more inclusive than that established by OPA. This will amend Delaware law so that oil

pollution regulation automatically includes biofuels, which are currently not included in associated regulation.

- 6. *Miscellaneous Recommendations:*** While the following recommendations were not researched in detail, they are provided here for consideration for further future discussion as updates may be made to overall oil policy in the State of Delaware.
- a. Consider a regional funding mechanism for the Delaware Bay region in which similar regulation or other approaches for spill prevention and response could be created in collaboration amongst Delaware, New Jersey, and Pennsylvania. This approach would enhance communications on policy in the region with industry and other stakeholders. Additionally, if each of these three states maintains significantly different approaches for vessels that might be entering waters of all three of the states for one shipment, it will only make settlement in the event of a spill more difficult. Of course, Delaware should assure that its own interests are protected in full regardless of any collaborative efforts.
 - b. Consider the idea of “prospective environmental restoration” in which money from a spill tax or fee and associated fund could be used to proactively secure and complete restoration sites that would be used as compensatory restoration in the event of a spill. This idea has been shown to help speed up the settlement process associated with a spill, reduce overall costs, and reduce the problems of finding a restoration site in more densely populated areas (Stahl, et al., 2008).
 - c. Consider improving State understanding of pipeline spill risk, prevention, and response. From multiple conversations, it seems evident that these issues may not be properly understood and addressed in the State.
 - d. Further review approaches that provide an integrated focus regarding liability and funding for oil spill and hazardous substance spills. For example, there could be an integration of oil pollution liability issues within HSCA, rather

than maintaining separate statutes or regulation. Florida’s Pollutant Discharge Prevention and Control Act is an example of one such integrated approach.⁵⁸

Consideration of the above policy recommendations for implementation would greatly minimize financial risk exposure for Delaware. While these recommendations are intended to indicate some suggested direction on the most significant areas related to oil spill financial liability and responsibility assurance for Delaware, additional detail is likely necessary in order to begin to draft policy for the State. Further research is likely necessary regarding establishing a quantitative cost-benefit analysis. Additional research is also necessary from a quantification standpoint and associated financial analysis regarding specific adequate limits of liability for smaller vessels and facilities (onshore and pipeline).

Considering this analysis and associated conclusions, Section 6 reviews the Draft DNREC Oil Spill Committee Summary of Proposed Changes as requested by the DNREC Oil Spill Committee.

6.0 Review of the 9/14/10 Draft DNREC Oil Spill Committee Summary of Proposed Statutory Changes

| Oil Spill Committee Proposed Change | Comments |
|---|---|
| <p>1. Adopt higher limits of liability and add an inflation escalator.</p> <ul style="list-style-type: none"> • In the case of a vessel other than a ship, \$500 per gallon (\$21,000/bbl) of bunker capacity; • In the case of a ship, \$500 per gallon (\$21,000/bbl) of cargo and bunker capacity, up to a maximum of \$10,000,000,000; or • In the case of an onshore (storage, processing, transfer, or refining) facility, \$50,000,000 or such lesser limit as is established under subsection (e) of this section. | <p>Per above policy recommendations, removing all limits of liability rather than increasing limits is the best option based upon this policy review. However, if Delaware wishes to maintain liability limits, considering that the total cost of the <i>Athos</i> spill adjusted for inflation in 2010 dollars was \$376,438,000 (U.S. Department of Homeland Security, 2011) and the spill was 265,000 gallons, the minimum liability limits should be \$1,420/gallon. Again, however, given that each spill can vary significantly in cost, it is not plausible to determine an absolute value.</p> |

⁵⁸ See Chapter 376 of Florida’s Statutes:
http://www.leg.state.fl.us/Statutes/index.cfm?App_mode=Display_Statute&URL=0300-0399/0376/0376ContentsIndex.html&StatuteYear=2011&Title=%2D%3E2011%2D%3EChapter%20376

| Oil Spill Committee Proposed Change | Comments |
|---|--|
| 2. Under § 6208 (and in § 6202 definitions), add a fourth category, with NO liability limits, for “exploration, extraction, and production installations,” e.g., wells and their “plumbing.” | Considering recommendation to remove liability limits for all categories of facilities and vessels, this would eliminate the need to create another category of limits. Considering the definition of “facility”, it seems that these categories proposed would be included already in across-the-board application of unlimited liability. |
| 3. Financial assurance upgrades to cover liability limit changes. | Agree. The above analysis provides support for this notion, whether unlimited liability limits are applied or limits are raised. |
| 4. A certificate of financial responsibility, duly issued or approved by the Secretary, shall be an absolute condition precedent to any limitation of liability under this section. The Secretary by regulation may accept a Federal certificate in lieu of a State one, upon certification to the General Assembly that the Federal certificate is at least as stringent and protective as a State one as specified by this Chapter. | Agree. While application of a \$1 billion financial responsibility requirement to large vessels as recommended above would be above and beyond federal requirements, P&I Club membership proof could be used to fulfill this requirement. Further research was specified above to determine specific financial responsibility requirements for smaller vessels and facilities. If Delaware requirements are set above federal requirements, then a State-issued COFR would be necessary. California was the only state of the other eleven states researched (see Appendix C) that does issue its own COFRs. |
| 5. Amend § 6201(c) and other provisions as necessary to include coverage of exploration, extraction, attempted extraction (incident occurring as a result of failure of an extraction installation or device), and production. | Agree. Consistency with this concept should however be applied throughout Chapter 62 and not just within § 6201(c). |
| 6. Change definition of “oil” to include liquid or gaseous biofuels and other non-petroleum fuels (currently not covered by OPA90 or the OSLTF). | OPA actually does already include biofuels in its definition of “oil” as discussed earlier in this analysis. Therefore, as recommended, Delaware should adopt the same definition of “oil” that is used in OPA. Application of oil pollution regulation to gaseous fuels is not recommended as the risks and necessary supporting regulation would likely be very different. |
| 7. Additional new or revised definitions in § 6202: <ul style="list-style-type: none"> • Best achievable protection • Best available technology • Bulk | Definitions should be added to these and any additional terms that may be added in updated regulation that could pose vagueness to the regulation or present potential loopholes to enforcement. |

| Oil Spill Committee Proposed Change | Comments |
|---|--|
| <ul style="list-style-type: none"> • Exploration • Extraction • Navigable water of the State • Onshore facility • Owner or operator • Primary response contractor • Production • Spill • Waters of the State • Worst case spill | |
| <p>8. Ship/facility/well response equipment standards. The Secretary by regulation may accept Federal standards in lieu of State standards, upon certifying to the General Assembly that the applicable Federal standards will provide the best achievable protection.</p> | <p>This makes sense, though there does not currently appear to be any standards for response equipment in Delaware regulation.</p> |
| <p>9. CRIMINAL liability for willful or negligent violation of any of the provisions of Ch. 62, or any final written orders or directive of the Secretary, a court, or the Environmental Appeals Board. Also in cases willful or negligent violation, liability limits will NOT apply.</p> | <p>§ 6208(b) already specifies that liability limits do not apply “when the incident is caused by gross negligence or willful misconduct.” Criminal liability could be explored further.</p> |
| <p>10. Add the phrase “exploration, extraction, and production installations,” where needed.</p> | <p>Unless specific regulation is added to Chapter 62 or new regulation is created for offshore facilities and operations, it may only be necessary to assure that this notion is included in § 6202 (Definitions).</p> |

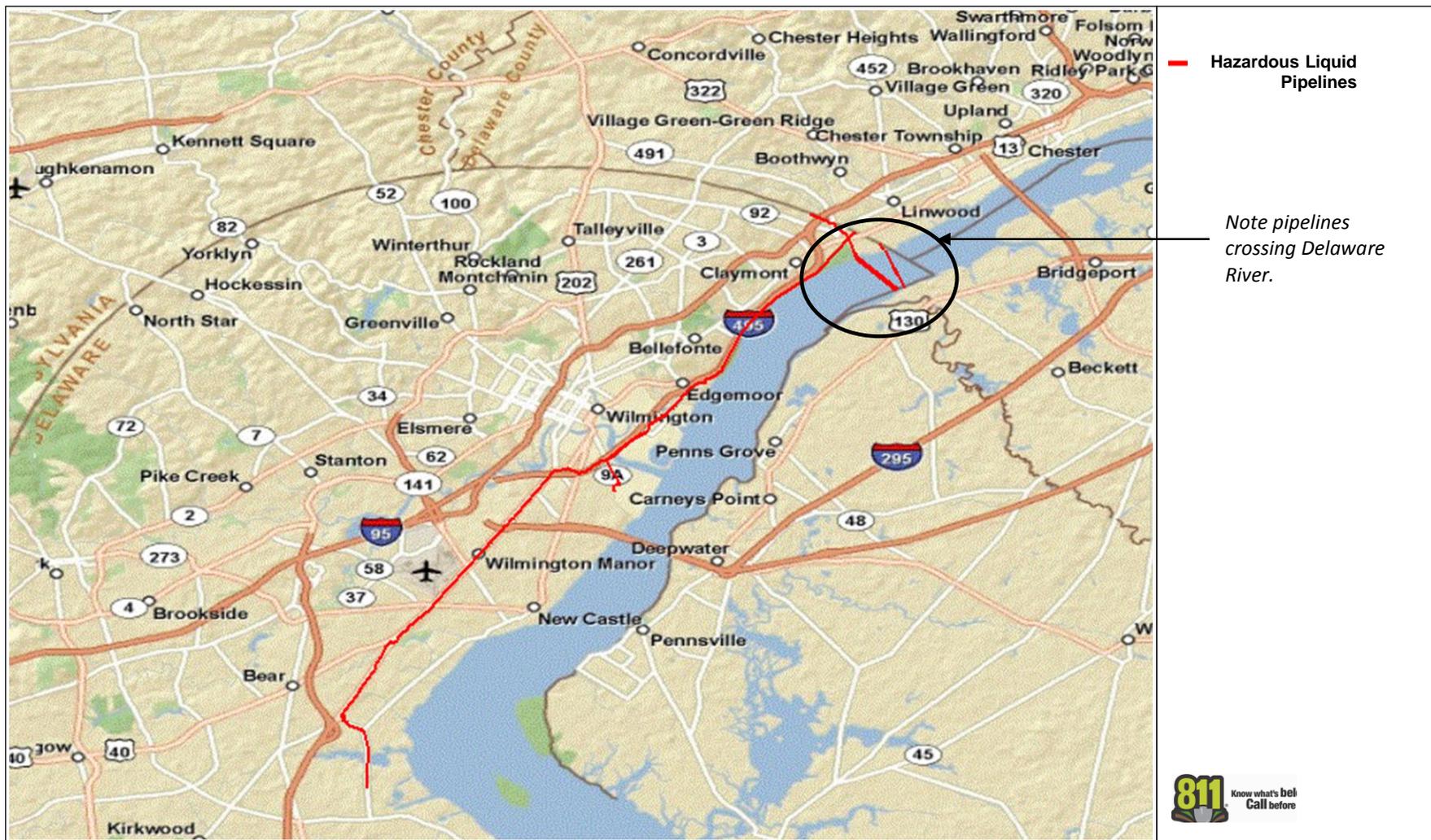
Appendix A: Delaware River and Bay Spill History (1972 – present)⁵⁹

| Date | Spill Name | Location | Gals | Bbls | Type of oil |
|------------|--|-----------------------------------|---------------------|---------|---|
| 6/22/1972 | Schuylkill | Schuylkill River, PA | 6,000,000 | 190,000 | Waste crankcase oil and sludge |
| 4/9/1974 | M/T <i>Elias</i> | ARCO, Ft. Mifflin Dock | 504,000 | 12,000 | Bachaquero crude oil explosion, fire, spill |
| 1/31/1975 | T/V <i>Corinthos</i> | Marcus Hook, PA | 11,000,000 | 266,000 | Algerian crude oil |
| 9/28/1985 | T/V <i>Grand Eagle</i> | Marcus Hook, PA | 435,000 | 10,357 | Ninian crude oil |
| 12/5/1985 | Coastal | Eagle Point | 22,000 | 524 | Benzene |
| 1/3/1986 | Standard Chlorine | New Castle | 569,000 | 13,548 | PDCB/benzene |
| 3/21/1986 | T/V <i>Intermar Alliance</i> | Marcus Hook, PA | 189,000 | 4,500 | Nigerian/Ninian Crude |
| 9/8/1986 | T/V <i>Viking Osprey</i> | Marcus Hook Bar – Claymont Shoal | 295,000 | 7,024 | Isthmus crude oil |
| 10/7/1988 | M/V <i>Jahre Spray</i> | Big Stone Anchorage, Delaware Bay | 6 mi trailing sheen | | Nigerian crude oil |
| 6/24/1989 | T/V <i>Presidente Rivera</i> | Delaware River, Claymont | 306,000 | 7,310 | #6 oil |
| 11/21/1989 | Barge <i>Worlds Radiance</i> | Hogg Island Terminal | 4,200 | 100 | Crude oil |
| 8/19/1990 | T/V <i>Faith I & Ocean Barge 190</i> | | 168,000 | 4,000 | Gasoline |
| 3/31/1993 | M/V <i>Ellen Knutsen</i> | Philadelphia, PA | 1,680 | 40 | Cumene |
| 9/18/1993 | T/B <i>New Jersey</i> | C&D Canal | 4,915 | 118 | #6 oil |
| 7/19/1994 | T/V <i>Kentucky</i> | Paulsboro, NJ | 13,000 | 310 | Arabian light crude |
| 7/22/1995 | M/V <i>Jahre Spray</i> | Eagle Point | 56,000 | 1,333 | West African Rabbi crude |

⁵⁹ Data from Corbett, 2004 and Delaware River and Bay Oil Spill Advisory Committee, 2010.

| Date | Spill Name | Location | Gals | Bbls | Type of oil |
|------------|-------------------------------------|------------------------------------|-----------------|--------|---------------------------------------|
| 10/23/1995 | Mystery spill | Lower DE Bay | 126 | 3 | Heavy Black Oil |
| 5/9/1996 | T/V <i>Anitra</i> | Big Stone Anchorage, Delaware Bay | 42,000 | 1,000 | Angolan crude oils |
| 10/24/1996 | Bouchard <i>Barge 155</i> | Bombay Hook Anchorage | 2,000 | 48 | #6 fuel oil |
| 1996 | T/V <i>Niki</i> | Delaware City | 1,500 | 36 | oil |
| 9/18/1997 | T/V <i>Mystra</i> | Big Stone Anchorage - Delaware Bay | 10,000 | 240 | Crude oil |
| 10/27/1999 | Bouchard <i>Barge #115</i> | Motiva - Delaware City | 6,300 | 150 | Vacuum gas oil |
| 12/1/1999 | Delmarva – Indian River Power Plant | Indian River Power Plant | 350,000-500,000 | 17,857 | Subsurface #2 oil (Diesel) Leak |
| 2/5/2000 | Pipeline | DE River Tributary near Tincum, PA | 175,000 | 4,167 | Oil |
| 6/15/2001 | Tug John Turecamo | Near Ft. Mifflin | 2,000 | 48 | Diesel fuel |
| 11/26/2004 | T/V <i>Athos I</i> | Delaware River near Paulsboro, NJ | 265,000 | 6,310 | Venezuelan heavy crude |
| 4/25/2006 | M/V <i>Bermuda Islander</i> | Delaware Bay | 1,000 | 24 | Bunker fuel oil |
| 7/15/2006 | IPC Spill | Christina River, Wilmington | 2,100 | 50 | Waste oil – land based tank/line leak |
| 10/10/2007 | T/V <i>Tigani</i> | Delaware River, Paulsboro NJ | 2,600 | 62 | Bunker C fuel oil |
| 7/29/2008 | Sunken Tugs | Schuylkill River | 1,200 | 29 | fuel oil/waste oil |

Appendix B: Interstate Petroleum Pipelines in New Castle County⁶⁰



⁶⁰ From the Pipeline Hazardous Materials Safety Administration’s National Pipeline Mapping System that is available to the public at <http://www.npms.phmsa.dot.gov/>.

Appendix C: Limits of Liability, Financial Responsibility, and Funding: OPA, Delaware, and Select States

| Regulator | Limits of Liability ⁶¹ | | | | | | Financial Responsibility Assurance | Oil Spill Prevention Fund and/or Oil Spill Response Fund? |
|---|--|--|--|---|---|--|--|---|
| | Single-hull tank vessel/barge | Double-hull tank vessel/barge | Non-tank vessel | Off-shore facilities | On-shore facilities, incl. pipelines | Deepwater ports | | |
| Federal OPA (33 CFR & 33 U.S.C.) | <p>The greater of \$3,200/gross ton or (1) \$23,496,000 if vessel is more than or equal to 3,000 gross tons (2) \$6,408,000 if vessel is less than 3,000 gross tons.</p> | <p>The greater of \$2,000/gross ton or (1) \$17,088,000 if vessel is more than or equal to 3,000 gross tons (2) \$4,272,000 if vessel is less than 3,000 gross tons.</p> | <p>the greater of \$1,000 per gross ton or \$854,400</p> | <p>\$75 million for natural resource damages and covered economic damages; <i>removal costs not limited</i></p> | <p>\$350 million for removal costs, natural resource damages, and covered economic damages; allows President to decrease limit through regulations, but this authority has not been exercised</p> | <p>For any deepwater port other than a deepwater port with a limit of liability established by regulation under Section 1004(d)(2) of OPA 90 (33 U.S.C. 2704(d)(2)) and set forth in paragraph (b)(2) of this section, \$373,800,000;</p> <p>(2) For deepwater ports with limits of liability established by regulation under Section 1004(d)(2) of OPA 90 (33 U.S.C. 2704(d)(2)):</p> | <p>Vessels/facilities must be able to show ability to pay amount of limits of liability as shown above plus CERCLA limits:</p> <p>(i) For a vessel over 300 gross tons carrying a hazardous substance as cargo, the greater of \$5,000,000 or \$300 per gross ton.</p> <p>(ii) For any other vessel over 300 gross tons, the greater of \$500,000 or \$300 per gross ton.</p> <p>(Part 138.80)</p> <p>For offshore</p> | <p>Yes - Federal Oil Spill Liability Trust Fund. The Emergency Economic Stabilization Act of 2008 removed a pre-existing cap on the fund. Fund is maintained through \$0.08/bbl production/import tax on oil as well as assessed penalties. Tax will increase to \$0.09/bbl in 2017 and set to expire as well in 2017. Note that only \$50 million/yr is available as an “Emergency Fund” for removal actions, state access, and NRDA initiation. If inadequate, up to \$100 million can be advanced from</p> |

⁶¹ Note that where there are specified limits of liability for each of the regulators, the liability limits do not apply (i.e. liability becomes unlimited) if there was gross negligence, willful misconduct, violation of applicable spill regulations, failure to report, or failure to provide reasonable cooperation and assistance associated with removal activities.

| Regulator | Limits of Liability ⁶¹ | | | | | | Financial Responsibility Assurance | Oil Spill Prevention Fund and/or Oil Spill Response Fund? |
|-----------|---|-------------------------------|-------------------------------------|--|--------------------------------------|--|--|--|
| | Single-hull tank vessel/barge | Double-hull tank vessel/barge | Non-tank vessel | Off-shore facilities | On-shore facilities, incl. pipelines | Deepwater ports | | |
| | | | | | | (i) For the Louisiana Offshore Oil Port (LOOP), \$87,606,000 | facilities: \$35,000,000 for an offshore facility located seaward of the seaward boundary of a State; or \$10,000,000 for an offshore facility located landward of the seaward boundary of a State. President may set higher limits up to \$150 million. (33 U.S.C. § 2716). | the remaining Principal Fund that is normally used for Congressional appropriations and claims. |
| DE | \$300/gross ton or \$250,000, whichever is greater, up to a maximum of \$30 million (Del. Code § 6208). | | \$150/gross ton (Del. Code § 6208). | \$50 million or such lesser limit as established under subsection 6208(e) – though there is no evidence that these limits were ever issued (Del. Code § 6208). | | | Vessels/facilities must show evidence of financial responsibility sufficient to satisfy the maximum amount of liability specified above (Del. Code § 6209). | No – other than the HSCA fund that imposes a 0.9% tax on wholesale price of oil, but this is used for all hazardous substances and oil spill is not dedicated item. It also leaves a very limited and fluctuating reserve (Del. Code § 9113-9114). |
| AL | Unlimited (no regulation) | | | | | | None. | No. |

| Regulator | Limits of Liability ⁶¹ | | | | | | Financial Responsibility Assurance | Oil Spill Prevention Fund and/or Oil Spill Response Fund? |
|-----------------------------|-----------------------------------|-------------------------------|-----------------|----------------------|--------------------------------------|-----------------|---|---|
| | Single-hull tank vessel/barge | Double-hull tank vessel/barge | Non-tank vessel | Off-shore facilities | On-shore facilities, incl. pipelines | Deepwater ports | | |
| CA (Title 2, Div 1, Ch 7.4) | Unlimited. | | | | | | For all tankers regardless of size and for barges > 150,000 bbl capacity, vessels must be able to show ability to pay at least \$1B with associated certificate of financial responsibility (CA Article 5.5 Section 8670.37.53); <150,000 bbl - (\$12,500/bbl) x (30% cargo capacity); administrator may establish lower responsibility for smaller vessels. Nontank vessels must be able to show ability to pay at least \$300M with associated certificate of financial responsibility (CA Article 5.5 Section 8670.37.58); | Yes - \$0.05/bbl ⁶³ received at maritime terminal via vessel or pipeline (across, under, or through maritime waters). Purpose of fund is for spill prevention and can also be used for “imminent threat of spill” (Article 6). CANNOT be used for spill response. However, up to \$0.25/bbl for trust fund paid by owner/operator of pipeline, refinery, terminal specifically for oil spill response trust fund (Article 7). <i>Note that this fund was capped at \$54.875 million through a collection of a \$0.25/bbl fee during the first few months of its inception and has not been</i> |

⁶³ California AB 1112 would raise this tax to \$0.07/bbl. The bill has passed the Assembly and is currently being reviewed in Senate Committee.

| Regulator | Limits of Liability ⁶¹ | | | | | | Financial Responsibility Assurance | Oil Spill Prevention Fund and/or Oil Spill Response Fund? |
|-----------|-----------------------------------|-------------------------------|-----------------|----------------------|--------------------------------------|-----------------|---|--|
| | Single-hull tank vessel/barge | Double-hull tank vessel/barge | Non-tank vessel | Off-shore facilities | On-shore facilities, incl. pipelines | Deepwater ports | | |
| | | | | | | | administrator may establish lower responsibility for nontank vessels with capacity <6500 bbls. ⁶² For facilities, \$12,500/bbl x bbls worst case scenario (onshore = \$1-300M range & offshore = 10-300M range). | <i>reinstated since achieving the initial cap.⁶⁴ There is also an additional \$54.875 million that is available through Treasury, making total availability of \$109.75 million.⁶⁵ Finally, the Treasurer can collect more funds and the fee can be increased in the</i> |

⁶² Per Title 14, California Code of Regulations Subdivision 4, Chapter 2, Subchapter 1, Office of Oil Spill Prevention and Response Section 790-797 (http://www.dfg.ca.gov/ospr/Law/index_ospr_regs.aspx), the current levels are as follows:

- \$2,000,000 for those that have a carrying capacity from less than 1 to not more than 10 barrels;
- \$5,000,000 for those that have a carrying capacity greater than 10 to not more than 50 barrels;
- \$10,000,000 for those that have a carrying capacity greater than 50 to not more than 500 barrels;
- \$18,900,000 for those that have a carrying capacity greater than 500 to not more than 1,000 barrels.

Those nontank vessels that have a carrying capacity greater than 1000 to not more than 6,500 barrels, or 7,500 barrels for nontank vessels owned and operated by California or a federal agency, shall determine the amount of financial responsibility as follows: subtract 1,000 barrels from the total carrying capacity of oil of the nontank vessel; multiply this amount by \$5,670 (which represents 30% of the cargo multiplied by the maximum per barrel clean-up and damage cost of spilled oil of \$18,900); then add \$18,900,000.

Facilities and small barges are required to demonstrate \$12,500 per barrel to cover cleanup and damage cost. This amount is based on a per barrel reasonable worst case spill scenario. Reasonable worst case spill formulas for facilities are based on linefill capacities, transfer rates and discovery and shut off time. The formula for mobile transfer units and small barges is based on 30% of the maximum cargo capacity.

⁶⁴ From CA OSPR document “Oil Spill Funding” (<http://www.nrm.dfg.ca.gov/FileHandler.ashx?DocumentID=29366>)

⁶⁵ Per CA Revenue and Taxation Code, Section 46012: <http://www.leginfo.ca.gov/cgi-bin/displaycode?section=rtc&group=46001-47000&file=46001-46029>

| Regulator | Limits of Liability ⁶¹ | | | | | | Financial Responsibility Assurance | Oil Spill Prevention Fund and/or Oil Spill Response Fund? |
|---|---|--|-----------------|----------------------|---|-----------------|---|---|
| | Single-hull tank vessel/barge | Double-hull tank vessel/barge | Non-tank vessel | Off-shore facilities | On-shore facilities, incl. pipelines | Deepwater ports | | |
| | | | | | | | | <i>event of a large incident.⁶⁶</i> |
| FL (Chapter 376 of FL Statutes)⁶⁷ | <p>For removal, containment, and abatement, the greater of: \$1,200/gross ton or \$10 million for ≥3,000 gross tons. For vessels <3,000 gross tons, \$1,200/gross ton or \$2 million (376.12(2)(a))</p> <p>For natural resource damages, liability, which is not limited, is calculated according to the schedule of factors presented in 376.121 (376.12(4)).</p> <p>For property damages, unlimited liability (376.12(5)).</p> | <p>For removal, containment, and abatement, the greater of \$600/gross ton or \$500,000 (376.12(2)(b)).</p> <p>For natural resource damages, liability, which is not limited, is calculated according to the schedule of factors presented in 376.121 (376.12(4)).</p> <p>For property damages, unlimited liability (376.12(5)).</p> | N/A | | <p>For removal, containment, and abatement, \$150 million (376.12(2)(c)).</p> <p>For natural resource damages, liability, which is not limited is calculated according to the schedule of factors presented in 376.121 (376.12(4)).</p> <p>For property damages, unlimited liability (376.12(5)).</p> | N/A | Pursuant to federal regulations (376.14). | <p>Yes – There is the Coastal Pollution Trust Fund that is created from fees, penalties, and damages recovered as well as an excise tax (376.11(2)). The current excise tax is \$0.02/bbl (note that this applies to any “pollutant” including petroleum products). There is a fund cap of \$50 million and when reached, the tax will not be collected. The tax is reinstated when the fund falls below \$40 million. There is also the option to raise the tax to \$0.1/bbl in the event of a catastrophic spill. Also note that if</p> |

⁶⁶ Per CA Government Code, Section 8670.53.1-8670.53.95: <http://www.leginfo.ca.gov/cgi-bin/displaycode?section=gov&group=08001-09000&file=8670.53.1-8670.53.95>

⁶⁷ http://www.leg.state.fl.us/Statutes/index.cfm?App_mode=Display_Statute&URL=0300-0399/0376/0376ContentsIndex.html&StatuteYear=2011&Title=%2D%3E2011%2D%3EChapter%20376

| Regulator | Limits of Liability ⁶¹ | | | | | | Financial Responsibility Assurance | Oil Spill Prevention Fund and/or Oil Spill Response Fund? |
|-----------------------------------|---|-------------------------------|--|---|--|-----------------|--|--|
| | Single-hull tank vessel/barge | Double-hull tank vessel/barge | Non-tank vessel | Off-shore facilities | On-shore facilities, incl. pipelines | Deepwater ports | | |
| | | | | | | | | offshore drilling is approved, the fund cap is then raised to \$100 million (206.9935(1)). Finally, Florida also has similar funds established through taxation for both Water Quality (\$12 million cap) and Inland Protection (\$150 million cap) (206.9935(2) & 206.9935(3)). The greater of \$8 million or 2.5% from the Inland Protection Trust Fund is credited towards the Coastal Protection Trust Fund (206.9935(5)). |
| LA (Title 30)⁶⁸ | The greater of: \$1,200/gross ton or for vessels >3,000 gross tons, \$10 million. For vessels ≤3,000 gross tons, \$1,200/gross ton or \$2 million. (La. R.S. 30:2479(A)(1)(a-b(i-ii))). | | The greater of \$600/gross ton or \$500,000. (La. R.S. 30:2479(A)(2)). | Total of removal costs plus \$75 million. (La. R.S. 30:2479(A)(3)). | \$350 million or as U.S. President establishes, which cannot be less than \$8 million (La. R.S. 30:2479(A)(4)(i); 33 USC § 2704(d)(1); 33 USC § 1004(d)(1)). | | COFR or if not required then appropriate liability assurance (according to liability limits established) (La. R.S. 30:2478). | Yes – There is the Oil Spill Contingency Fund that is funded through a \$0.02/bbl tax on oil transferred with a cap of \$7 million (reinstated when fund gets to |

⁶⁸ <http://www.legis.state.la.us/lss/lss.asp?folder=104>

| Regulator | Limits of Liability ⁶¹ | | | | | | Financial Responsibility Assurance | Oil Spill Prevention Fund and/or Oil Spill Response Fund? |
|-----------|--|-------------------------------|-----------------|----------------------|--------------------------------------|-----------------|--|--|
| | Single-hull tank vessel/barge | Double-hull tank vessel/barge | Non-tank vessel | Off-shore facilities | On-shore facilities, incl. pipelines | Deepwater ports | | |
| | | | | | | | | <p>\$5M). There can be a \$0.04/bbl tax in event fund falls below \$5M, there is a spill >100,000 gals, or claims expected to deplete 50% or more of Fund (La. R.S. 30:2486). There is also a Natural Resource Restoration Trust Fund that is not capped and is funded through NRDA settlements (La. R.S. 30:2480.2 (B))</p> |
| MD | Unlimited (MD Environment Code Annex 4-408). | | | | | | <p>\$500 / gross ton for vessel in the form of a bond (if spill, then necessary associated of bond forfeited and new bond to be posted). The OPA COFR is assumed and there is not a formal state review unless incident raises flag. Other approved forms of assurance also allowed (per COMAR</p> | <p>Yes – There is the Oil Disaster Containment, Cleanup, and Contingency Fund that is funded through a \$0.0575/bbl fee on the first point of transfer within the state until July 1, 2013 and then it changes to \$0.03/bbl. This fee is reviewed at least every 5 years. There is a cap of \$5 million after which the tax</p> |

| Regulator | Limits of Liability ⁶¹ | | | | | | Financial Responsibility Assurance | Oil Spill Prevention Fund and/or Oil Spill Response Fund? |
|--|---|-------------------------------|-----------------|--|--------------------------------------|-----------------|--|--|
| | Single-hull tank vessel/barge | Double-hull tank vessel/barge | Non-tank vessel | Off-shore facilities | On-shore facilities, incl. pipelines | Deepwater ports | | |
| | | | | | | | 26.10.01.24) There is no financial assurance requirement for facilities or pipelines. | is stopped unless the fund falls below \$4 million (MD Environment Code Annex 4-411). |
| MS | Unlimited (no regulation; penalties assessed per State air and water rules) | | | | | | None. | No; However, there is the Pollution Emergency Fund, Miss. Code Ann. Section 49-17-68, where fines/penalties collected are deposited and can be used for mitigation, abatement, clean-up, or other remedial actions involving the introduction of pollutants into State waters. |
| NJ (N.J.S.A. 58:10-23.11 ⁶⁹) | \$150/gross ton (Section g.b). S-2108 & A-3124 will amend this to be \$3,000/gross ton. Has not yet been passed ⁷⁰ . | | | \$50 million (Section g.b). S-2108 & A-3124 will amend this to be \$1B. Has not yet been passed. | | | Vessels/facilities must show evidence of financial responsibility sufficient to | Yes – NJ Spill Compensation Fund for cleanup and damage costs as well as prevention |

⁶⁹ http://www.state.nj.us/treasury/taxation/pdf/other_forms/misc/NJ_Spill_Act.pdf

⁷⁰ Proposed S-2108 at <http://www.njleg.state.nj.us/bills/BillView.asp?BillNumber=S2108>

| Regulator | Limits of Liability ⁶¹ | | | | | | Financial Responsibility Assurance | Oil Spill Prevention Fund and/or Oil Spill Response Fund? |
|--|--|-------------------------------|--|----------------------------|--------------------------------------|----------------------------|--|---|
| | Single-hull tank vessel/barge | Double-hull tank vessel/barge | Non-tank vessel | Off-shore facilities | On-shore facilities, incl. pipelines | Deepwater ports | | |
| | | | | | | | satisfy the maximum amount of liability specified above (Section g2). | research and fund administration costs. This is funded by a tax imposed at the rate of \$0.023/bbl at the first point of transfer within the state as well as penalties imposed from the Spill Compensation and Control Act. An annual cap per facility is set at 125% of the facility's annual tax amount (100% in special circumstances) plus a \$0.0025/bbl tax. (Section h). There is no cap on the overall fund. ⁷¹ |
| NY (NY State Navigation Law, Article 12, Part 3)⁷² | the greater of: (1) \$1,200/ gross ton; or (2) (A) in the case of a vessel greater than three thousand gross tons, \$10 million; or (B) in the case of a vessel or three thousand gross tons or less, \$2 million | | for any other vessel subject to the liability limits set forth in OPA, \$600/gross ton or \$500,000, | \$50 million (Section 181) | \$350 million (Section 181) | \$50 million (Section 181) | For vessels, financial responsibility set at limit above specific to associated vessel. For other than | Yes – NY Environmental Protection and Spill Compensation Fund → maintained via |

⁷¹ <http://www.state.nj.us/treasury/taxation/pdf/pubs/tb/tb16a.pdf>

⁷² <http://public.leginfo.state.ny.us/LAWSSEAF.cgi?QUERYTYPE=LAWS+&QUERYDATA=@SLNAV0A12P3+&LIST=LAW+&BROWSER=+&TOKEN=46480052+&TARGET=VIEW>

| Regulator | Limits of Liability ⁶¹ | | | | | | Financial Responsibility Assurance | Oil Spill Prevention Fund and/or Oil Spill Response Fund? |
|-----------|-----------------------------------|-------------------------------|--|----------------------|--------------------------------------|-----------------|--|---|
| | Single-hull tank vessel/barge | Double-hull tank vessel/barge | Non-tank vessel | Off-shore facilities | On-shore facilities, incl. pipelines | Deepwater ports | | |
| | (Section 181) | | whichever is greater; for any other vessel not subject to the liability limits set forth in OPA, \$300/gross ton for each vessel (Section 181) | | | | vessels, \$25/bbl stored up to \$1 million/incident not to exceed \$2 million/facility/yr unless otherwise set by the administrator (Section 181). | \$0.08/bbl license fee on each barrel of oil sold in the State and through penalties from spills (Section 179 ⁷³). There is a \$25 million cap that when reached causes cessation of the tax until the fund falls below \$20 million or pending claims are more than 50% of the available fund (Section 174). |
| PA | Unlimited (no regulation). | | | | | N/A | None. | No – they do have a Clean Water Fund that is linked with the Clean Streams Law (35 P.S. sections 691.1 et seq.) that could be tapped, but that is not very large and unlikely to cover any major incident. ⁷⁴ |

⁷³ This link on the NY State Comptroller’s Office shows the current rate of \$0.08/bbl, which is an increase over the original Section 179 rates that were established: <http://www.osc.state.ny.us/oilspill/index.htm>

⁷⁴ Per a phone interview on July 7, 2011 with Mr. Stanley Sneath, Supervisory Counsel at PA DEP.

| Regulator | Limits of Liability ⁶¹ | | | | | | Financial Responsibility Assurance | Oil Spill Prevention Fund and/or Oil Spill Response Fund? |
|---|---|-------------------------------|-----------------|---|--------------------------------------|-----------------|---|---|
| | Single-hull tank vessel/barge | Double-hull tank vessel/barge | Non-tank vessel | Off-shore facilities | On-shore facilities, incl. pipelines | Deepwater ports | | |
| TX (Chap 40 of TX Natural Resources Code) ⁷⁵ | <p>All response costs from the actual or threatened discharge to an amount not to exceed \$1 million for vessels of 300 gross tons or less that do not carry oil as cargo, to an amount not to exceed \$5 million for vessels of 8,000 gross tons or less or, for vessels greater than 8,000 gross tons, to an amount equal to \$600 per gross ton of such vessel, not to exceed the aggregate amount of \$50 million.</p> <p><i>In addition to response costs, all damages other than natural resources damages from the actual or threatened discharge to an amount not to exceed \$1 million for vessels of 300 gross tons or less that do not carry oil as cargo, to an amount not to exceed \$5 million for vessels of 8,000 gross tons or less or, for vessels greater than 8,000 gross tons, to an amount equal to \$600 per gross ton of such vessel, not to \$50 million.</i></p> <p>The total liability for <i>all natural resource damages</i>⁷⁶ for a vessel that carries oil in bulk, as cargo, the greater of: \$1,200 per gross ton; or in the case of a vessel greater than 3,000 gross tons, \$10 million; or in the case of a vessel of 3,000 gross tons or less, \$2 million; or for any other vessel, \$600 per gross ton or \$500,000, whichever is greater (Sections 40.202-203)</p> | | | <p>All response costs from the actual or threatened discharge to an amount not to exceed \$5 million, except any person responsible for an actual or threatened unauthorized discharge of oil from an offshore drilling or production facility is liable for all response costs from the actual or threatened discharge.</p> <p><i>In addition to response costs, all damages other than natural resources damages from the actual or threatened discharge to an amount not to exceed the aggregate amount \$50 million.</i></p> <p>The total liability for <i>all natural resource damages</i> of any person responsible for an actual or threatened unauthorized discharge of oil from a terminal facility shall not exceed the following:</p> <p>for each terminal facility with a capacity:</p> <ul style="list-style-type: none"> ● above 150,000 barrels, \$70 per barrel not to exceed \$350,000,000; ● from 70,001 to 150,000 barrels, \$10,000,000; ● from 30,001 to 70,000 barrels, \$5,000,000; ● from 10,000 to 30,000 barrels, \$2,000,000; ● for any other terminal, \$500,000 (Sections 40.202-203) | | | Specified per federal Law (Section 40.201). | Yes – A Coastal Protection Fund that has allowances for both spill prevention ⁷⁷ and response (Section 40.152) was established with a cap of \$50 million. This is funded through penalties, reimbursements as well as a per barrel fee (Section 40.151). The fee (the Coastal Protection Fee) is set at \$0.0133/bbl fee on first terminal transfer that is collected until the fee portion of the overall Coastal Protection Fund goes to \$20 million. Fee is then reinstated when this portion |

⁷⁵ Otherwise known as the Texas Oil Spill Prevention and Response Act of 1991: <http://www.statutes.legis.state.tx.us/Docs/NR/htm/NR.40.htm>

⁷⁶ Methodologies for calculating NRD are found in Title 31, Part 1, Chapter 20 of the Texas Administrative Code: [http://info.sos.state.tx.us/pls/pub/readtac\\$ext.ViewTAC?tac_view=4&ti=31&pt=1&ch=20](http://info.sos.state.tx.us/pls/pub/readtac$ext.ViewTAC?tac_view=4&ti=31&pt=1&ch=20)

⁷⁷ Associated spill prevention activities are found in Title 31, Part 1, Chapter 19 of the Texas Administrative Code: [http://info.sos.state.tx.us/pls/pub/readtac\\$ext.ViewTAC?tac_view=4&ti=31&pt=1&ch=19](http://info.sos.state.tx.us/pls/pub/readtac$ext.ViewTAC?tac_view=4&ti=31&pt=1&ch=19)

| Regulator | Limits of Liability ⁶¹ | | | | | | Financial Responsibility Assurance | Oil Spill Prevention Fund and/or Oil Spill Response Fund? |
|----------------------------|--|-------------------------------|-----------------|----------------------|--------------------------------------|-----------------|---|---|
| | Single-hull tank vessel/barge | Double-hull tank vessel/barge | Non-tank vessel | Off-shore facilities | On-shore facilities, incl. pipelines | Deepwater ports | | |
| | | | | | | | | of the fund falls below \$10 million. In the event of low funds or a large incident, the fee can be imposed at \$0.04/bbl until the fee portion of the Coastal Protection Fund goes back to \$20 million (Section 40.155) |
| VA (VA 62.1) ⁷⁸ | Unlimited for cleanup costs; the greater of \$500/gross ton for damages or \$10 million (Sections 44:34-16 and 44:34-18) | | | | | | Valid COFR per OPA or \$500/gross ton for vessels; up to \$0.05/gal for aboveground storage facilities; up to \$5M for pipelines (Section 44:34-16) | No – They have a VA Petroleum Storage Tank Fund for AST and UST remediation costs that could be accessed if necessary but it is not sufficiently funded for a major oil spill. |
| WA ⁷⁹ | Unlimited. (NRD may be assessed using 1 of 2 options. Compensation schedule which provides a per gallon charge up to \$100 for < 1,000 gallons, or up to \$300 for spills >= 1,000 gallons (RCW 90.48.366) ⁸⁰ . The second option is to conduct an assessment study to determine what needs to be done and the cost to bring the habitat back “to restore any damaged resource to its condition before the injury, to the extent technically feasible, and compensate for the lost value incurred during the period between injury and restoration” (RCW 90.48.367). NRD is not a cap on liability but a quantification.) | | | | | | \$1B (RCW 88.40.020); cargo or passenger vessel w/ oil as fuel: \$300 million; fishing vessels, whichever is | Yes – Oil Spill Response Account (OSRA) that is formed from a \$0.01/bbl tax at terminal with a \$9 million cap. Note that as of 10/1/09, |

⁷⁸ <http://leg1.state.va.us/cgi-bin/legp504.exe?000+cod+TOC6201000003000010000000>

⁷⁹ Washington Dept of Ecology has reviewed its oil spill financial liability requirements in light of the BP Spill: http://www.ecy.wa.gov/programs/spills/studies_reports/ecypspreview-dwhcommissionreport.html

⁸⁰ <http://www.ecy.wa.gov/programs/spills/rules/main.html>

| Regulator | Limits of Liability ⁶¹ | | | | | | Financial Responsibility Assurance | Oil Spill Prevention Fund and/or Oil Spill Response Fund? |
|-----------|-----------------------------------|-------------------------------|-----------------|----------------------|--------------------------------------|-----------------|--|--|
| | Single-hull tank vessel/barge | Double-hull tank vessel/barge | Non-tank vessel | Off-shore facilities | On-shore facilities, incl. pipelines | Deepwater ports | | |
| | | | | | | | greater \$130.40/bbl or \$1.334 million For small vessels (<=300 gross tons), \$2 million if spill response plan approved by State; otherwise, \$500 million; Tank Barges: persistent oil = \$3,000/bbl; \$1,500/bbl for non-persistent (Chapter 317-50 WAC) ⁸¹ | this tax was stopped as the cap was reached. It would be reinstated when the OSRA falls below \$8 million. Also note that there is an additional \$0.04/bbl Oil Spill Administration Tax collected on an ongoing basis that is used for oil spill prevention and preparedness. There is no cap for this tax. ⁸² |

⁸¹ Update to 90.48.366: <http://apps.leg.wa.gov/documents/billdocs/2011-12/Pdf/Bills/House%20Passed%20Legislature/1186-S2.PL.pdf>

⁸² http://dor.wa.gov/content/findtaxesandrates/othertaxes/tax_oilspill.aspx

Appendix D: List of Contacts Used for Analysis

Delaware

- Mr. Ben Anderson, DNREC
- Ms. Jennifer Bothell, DNREC
- Mr. Greg DeCowsky, DNREC
- Ms. Donna Donovan, DNREC
- Mr. Bob Kuehl, DNREC
- Ms. Liz LaSorte, DNREC
- Ms. Ellen Malenfant, DNREC
- Mr. Tim Ratsep, DNREC
- Ms. Maria Sadler, DNREC

Federal

- Mr. Zachary Brennan, Pipeline and Hazardous Materials Safety Administration, Department of Transportation (zachary.brennan.CTR@dot.gov)
- Mr. Jerry Conrad, Director, Contingency Planning, U.S. Coast Guard, Sector Delaware Bay (215-271-4824; Gerald.A.Conrad@uscg.mil)
- Alex Dankanich, Office of Pipeline Safety, Eastern Region Office, Department of Transportation (202-550-0481; alex.dankanich@dot.gov)
- Patricia Klinger, Deputy Director, Office of Governmental, International and Public Affairs, Pipeline and Hazardous Materials Safety Administration, Department of Transportation (202-366-4831; patricia.klinger@dot.gov)
- Ms. Jane Niesen, Data Manager, National Pollution Funds Center (800-280-7118)
- Mr. Al Thuring, Senior Finance Analyst, National Pollution Funds Center (202-493-6801)

Other Non-Government Contacts

- Dr. Tayfur Altiok, Professor, Department of Industrial and Systems Engineering; Director, Laboratory for Port Security, CAIT, Rutgers University (732-445-2829; altiok@rci.rutgers.edu)
- Mr. Alpar Amaz, PhD Student, Department of Industrial and Systems Engineering, Rutgers University (alperalmaz@hotmail.com)
- Dr. James Corbett, University of Delaware, Professor, Marine Policy (302-831-0768; jcorbett@udel.edu)
- Mr. Amir Ghafoori, PhD Student, Department of Industrial and Systems Engineering, Rutgers University (amir.ghafoori@gmail.com)
- Mr. Paul Myhre, Director of Operations, Maritime Exchange for the Delaware River and Bay (215-925-2615; pmyhre@maritimedelriv.com)

Other State Government Contacts

Alabama

- Mr. Bennett Bearden, General Counsel, Office of the State Geologist (205-247-3683; bbearden@gsa.state.al.us)

California

- Ms. Becky Mack, Cost Recovery Program for Inland Waters, Office of Spill Prevention and Response (916-327-9407)
- Ms. Sandi Potstada, Cost Recovery Program for Marine Waters, Office of Spill Prevention and Response (916-322-4452)
- Mr. Ryan Todd, Senior Staff Counsel, Office of Spill Prevention and Response (916-324-3406; rtodd@ospr.dfg.ca.gov)
- Mr. Mike Zamora, COFR Unit, Office of Spill Prevention and Response (916-445-9338; mzamora@ospr.dfg.ca.gov)

Florida

- Mr. Gareth Leonard, Assistant General Counsel, Department of Environmental Protection/Office of General Counsel (850-245-2222; Gareth.Leonard@dep.state.fl.us)

Louisiana

- Dr. Karolien Debusschere, Deputy Coordinator, Oil Spill Coordinator's Office, Department of Public Safety and Corrections (225-925-6606; karolien.debusschere@la.gov)

Maryland

- Mr. Greg Sonnberg, Chief, Permits and Support Division, Department of the Environment (410-537-3412; gsonberg@mde.state.md.us)

Mississippi

- Mr. Mike Beiser, Chief, Compliance and Enforcement Monitoring Section, Department of Environmental Quality (601-961-5681; Mike_Beiser@deq.state.ms.us)
- Mr. Kent Ford, Chief Engineer/Field Director, Mississippi Oil and Gas Board (601-576-4910; kford@ogb.state.ms.us)
- Mr. Richard Harrell, Oil Spill Coordinator, Department of Environmental Quality (601-961-5343; richard_harrell@deq.state.ms.us)
- Ms. Lisa Ouzts, Department of Environmental Quality (Lisa_Ouzts@deq.state.ms.us)

New Jersey

- Mr. James Manuel, Office of Emergency Response, Department of Environmental Protection (James.Manuel@dep.state.nj.us)
- Larry Ragonese, Press Director, Department of Environmental Protection (609-292-2994; larry.ragonese@dep.state.nj.us)
- Mr. John Sacco, Chief, Office of Natural Resource Restoration, Department of Environmental Protection (John.Sacco@dep.state.nj.us)
- Mr. Bob Van Vossen, Director of Emergency Response, Department of Environmental Protection (609-633-2168; robert.vanvossen@dep.state.nj.us)

New York

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