Lessons from the **Deepwater Horizon** Oil Spill  

Regarding the Effectiveness of the Clean Water Act  
and the Oil Pollution Act of 1990  

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**Abstract:** This paper assesses the effectiveness of the federal Clean Water Act (CWA), as amended by the Oil Pollution Act of 1990 (OPA90), for addressing major oil spills based on what is known about the Deepwater Horizon incident and its impacts at this time.”

**Key words:** Deepwater Horizon, BP, Clean Water Act, Oil Pollution Act, OPA, OPA90, Gulf oil spill

I. **Introduction**

On the evening of April 20, 2010, an explosion ripped through the **Deepwater Horizon** drilling rig, killing eleven crew members and starting a chain of events that continue to this day.¹

The rig, owned by Transocean, had been drilling the Macondo well, 49 miles off the shore of Louisiana, for BP Exploration and Production (BPEP), an American subsidiary of BP Plc,² which had leased the rights to explore, develop and produce hydrocarbons from the site from the U.S. government.³ The rig’s crew was in the process of temporarily abandoning the well when

¹ **NATIONAL COMMISSION ON THE BP DEEPWATER HORIZON OIL SPILL AND OFFSHORE DRILLING, DEEP WATER: THE GULF OIL DISASTER AND THE FUTURE OF OFFSHORE DRILLING vi (2011)** (hereinafter **NATIONAL COMMISSION REPORT**).

² In this paper, I will distinguish the actions of BPEP from BP Plc or other BP entities (collectively BP) only when it is clear that BPEP is the entity that undertook the actions or had responsibility, such as being the “responsible party” for addressing the spill under the Oil Pollution Act of 1990.

³ **NATIONAL COMMISSION REPORT, supra** note 1, at viii, 2, 89.
the well “kicked,” shooting natural gas and drilling mud approximately 13,000 feet up from the “pay zone” onto the drill rig, located approximately 5,000 feet of water above the seabed. The rig’s equipment ignited the gas, and fire spread rapidly through the structure, which sank two days later on April 22.

The impacts went well beyond the rig. Oil and gas flowed from the wellhead into the Gulf of Mexico for 87 days, finally stopping on July 15, after extensive intervention by BP and the U.S. government. An estimated 4.9 million barrels of oil flowed into the Gulf, and oil washed ashore on more than 650 miles of coastal habitat. At one point, the government closed fishing in up to 37 percent of the Gulf federal fishing zone, one of the most productive commercial fishing areas in the United States. Hundreds of millions of dollars of hotel reservations were canceled or postponed in the Gulf area, a popular tourist destination. The U.S. government imposed two moratoria on drilling permits in the Gulf, lasting effectively from May 27 through October 12, 2010, and it did not issue new permits until February 2011. As of December 31, 2012, BP had taken a total charge to earnings of $42.2 billion, “not includ[ing] amounts for obligations that BP consider[ed were] not possible, at [that] time, to measure

4 *Id.* at 109-14, 120-21.
5 *Id.* at viii, 3, 90.
6 *Id.* at 8-19, 130.
7 THAD W. ALLEN, NATIONAL INCIDENT COMMANDER’S REPORT: MC252 DEEPWATER HORIZON 3 (2010); NATIONAL COMMISSION REPORT, *supra* note 1, at 133-38.
8 *Id.* at 167, 176-77; *but see* BP ANNUAL REPORT AND FORM 20-F 2012 238 (2012) (hereinafter BP ANNUAL REPORT 2012) (arguing that the U.S. government estimate overstated the actual amount “by at least 20 percent”).
9 NATIONAL COMMISSION REPORT, *supra* note 1, at 140, 185-88.
10 *See id.* at 191 (noting tens of millions of dollars of cancellations in just one unoiled county alone).
reliably.” The National Oil Spill Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling, created by President Obama to investigate the incident and offshore drilling, and its Chief Counsel found failings in the actions of BP, Transocean, Haliburton, and other companies that worked at the site, as well as with the oil and gas industry, regulators, and the regulatory regime generally.

Although the legal proceedings and compensation mechanisms that arose out of the Deepwater Horizon oil spill are continuing at present, and although much as been written already about the spill and deepwater drilling, the goal of this paper is to assess the “effectiveness” of the federal Clean Water Act (CWA), as amended by the Oil Pollution Act of 1990 (OPA90) (together the Acts), for addressing major oil spills based on what is known about the Deepwater Horizon incident and its impacts at this time. Given that this analysis originated as part of a dialogue with Russian energy experts, I hope that my assessment will help other countries decide whether to adopt similar regulatory provisions with the goal of balancing petroleum exploration and development, other economic activities, and environmental protection in a more optimal manner.

12 BP ANNUAL REPORT 2012, supra note 8, at 62.
17 I acknowledge that by focusing only on the Acts — and only on certain provisions of the Acts — I might be misattributing to them successes or failures that rightfully belong to other laws or regulations, such as the Outer Continental Shelf Lands Act, the Migratory Bird Treaty Act, etc.
Effectiveness of laws and regulations can be measured on multiple dimensions. From a law and economics perspective, they are effective if they maximize social welfare, typically by maximizing societal wealth. From a moral and political perspective, they are effective if they correspond with a society’s sense of justice. From an administrability perspective, laws and regulations are effective if, among other reasons, they are relatively easy and inexpensive to implement, if they are flexible (in that unanticipated events can be addressed consistently with the spirit of the laws and regulations), if they encourage prompt resolution of disputes, and if they address all necessary and relevant issues that they are designed to cover in conjunction with other laws and regulations.

Drawing on the work of the National Commission and others, I will argue in this paper that the effectiveness of the Acts varied across the particular issues addressed. The Acts were not effective in creating incentives sufficient to deter the kind of conduct that lead to the spill, were somewhat effective in preparing for and addressing a major spill, and were generally effective in paying for the damages caused by the spill. I will address each of these topics in parts II, III, and IV respectively by first reviewing the legal requirements and then discussing how they functioned in this case. I ultimately believe that the Acts can become more effective with some modest modifications and can be useful models for other countries in addressing major oil spills.

II. Financial and criminal penalties

The CWA provides for a variety of penalties on those entities or persons which discharge oil and hazardous substances illegally. These penalties can be civil or criminal.

\[18 \text{ See NATIONAL COMMISSION REPORT, supra note 1, at 249-91.}\]
In terms of non-criminal sanctions, the Administrator of the U.S. Environmental Protection Agency or the Secretary of the Department of Homeland Security\(^{19}\) may impose administrative penalties per violation, at a rate of up to $10,000 per violation,\(^{20}\) and per day, at a rate of up to $10,000 per day.\(^{21}\) The Department of Justice may also seek civil penalties, which can up to $25,000 per day of violation or $1,000 per barrel of oil\(^{22}\) -- and not less than $100,000 and not more than $3,000 per barrel of oil if the incident was the result of gross negligence.\(^{23}\) The civil penalties described above can be imposed on “[a]ny owner, operator, or person in charge of any vessel, onshore facility, or offshore facility.”\(^{24}\)

Criminal penalties vary based on culpability. A person who negligently causes a discharge of oil can be fined “not less than $2,500 nor more than $25,000 per day of violation,” imprisoned “for not more than 1 year,” or both.\(^{25}\) A person who knowingly causes a discharge of oil can be fined “not less than $5,000 nor more than $50,000 per day of violation,” imprisoned “for not more than 3 years,” or both.\(^{26}\) A person who knowingly causes a discharge and “who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than $250,000 or imprisonment of not more than 15 years, or both. A person which is an organization shall, upon

\(^{19}\) Clean Water Act §311(b)(6)(A).
\(^{20}\) § 311(b)(6)(B)(i). The maximum amount that can be assessed for all penalties under this provision is $25,000. Id.
\(^{21}\) § 311(b)(6)(B)(ii). The maximum amount that can be assessed for all penalties under this provision is $125,000. Id.
\(^{22}\) § 311(b)(7)(A).
\(^{23}\) § 311(b)(7)(D).
\(^{24}\) § 311(b)(6)(A); accord § 311(b)(7)(A).
\(^{25}\) § 309(c)(1).
\(^{26}\) § 309(c)(2).
conviction of violating this subparagraph, be subject to a fine of not more than $1,000,000.”27

All of the criminal penalties listed above are for initial violations; penalties increase for subsequent violations.

As a general matter, the purpose of penalties above and beyond compensation for damages is to deter certain actions or to “induce individuals to take efficient precautions in preventing injury to others.”28 This point of view assumes that persons compare the benefits and costs of their actions and choose the course of action that leads to the greatest benefit for them. One function of law is to make people bear costs that they would not otherwise bear, i.e. to internalize the external costs. If a risky activity is involved, a person would compare the benefits of his or her actions to the product of (1) the likelihood of a negative event occurring and (2) the amount of the penalties and damages that would result and for which he or she would be liable if the negative event occurs. For example, if the benefit is $20,000, the risk of a negative event is one in a thousand, the damages are $15,000,000, and there are no other costs, then person would engage in the behavior because $20,000 is greater than the risk-adjusted cost of $15,000. However, penalties can change the calculus. In this example, if the penalties were equal to $10,000,000, then the person would not engage in the behavior, because the possible $20,000 gain is less than $25,000, the risk-adjusted cost of the damages and the penalties.29

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27 § 309(c)(3).


29 See generally STEVEN SHAVELL, FOUNDATIONS OF ECONOMIC ANALYSIS OF LAW 474-91 (2004).
In the case of the Deepwater Horizon oil spill, as is true with most catastrophic events, reality is more complicated than the example above. The National Commission report details how some of those involved took actions that decreased the costs of the operations, trying to improve profits, but also that increased the risks of a negative event occurring. It does not appear that the decision makers figured the marginal risks and possible impacts into their calculus.

An additional complication is that psychologists have found that most persons do not calculate correctly the expected costs of a very low probability event, even if the impacts can be quite severe. They see the event as so unlikely, that they effectively discount the probability to zero. With regard to oil spills, it would mean that those involved do not value correctly a very low probability “worst case scenario,” and therefore may not be incentivized sufficiently, even by severe financial penalties. Similarly, a negative event is often the result of a series of decisions, but each person involved knows only of his or her own decisions, and the risks that he or she is taking, without knowing fully the relationship between his or her own decisions and the

30 For the sake of this argument, I am going to assume that the risk adjusted costs of the Deepwater Horizon oil spill outweighed the benefits to BP, even on a portfolio basis, i.e. even if BP reaped the benefits of taking these kinds of risks across its entire operations but had to bear the costs only of the Deepwater Horizon incident. In terms of financial penalties to BP, the company agreed to pay $4 billion over five years for criminal penalties under all applicable federal statutes. See BP ANNUAL REPORT 2012, supra note 8, at 24. “The court also ordered, as previously agreed with the US government, that BP serve a term of five years’ probation. BP has agreed to take additional actions, enforceable by the court, to further enhance the safety of drilling operations in the Gulf of Mexico. These activities relate to BP’s risk management processes, such as third-party auditing and verification, training, and well control equipment and processes such as blowout preventers and cementing.” Id. Given the government’s estimate of a release of 4.9 million barrels of oil, BPEP could be liable for civil penalties under the CWA of between approximately $5 billion and $20 billion. See NATIONAL COMMISSION REPORT, supra note 1, at 346 n.76.

31 See id. at 89-122, 126 figure 4.10.


decisions of others.\textsuperscript{34} For example, here those involved may have assumed the blow-out preventer would work, but they did not necessarily know that the blow-out preventer was not tested as regularly as they thought it was or, more likely, they simply relied on it to work, but it did not.\textsuperscript{35}

Another issue is that a person may understand the risks he is taking on, but he may believe that he will reap the benefits but not the costs of taking the risk. If events occur rarely, if an employer -- and not the individual -- is going to bear the costs, and if the individual is rewarded for taking the risks in the short term, e.g. receives compensation for cutting costs, then an individual will take more risk than the shareholders and board would want him to take over a longer term or across a portfolio of properties. While this may be a fairly typical principal-agent problem, low probability, high impact events magnify this problem, because the individual will be facing the consequences of his actions only if he is the one who is responsible during the rare instance when the accident occurs, not if he is in charge during a period when or at a place where no event occurs.\textsuperscript{36}

What does this tell us about the “effectiveness” of the CWA? First, it suggests that penalties should be more tailored and better enforced to be more effective. If the penalties are imposed exclusively or almost exclusively on the corporate entities and not the individuals involved, then the individuals have little direct immediate personal incentive to avoid the risky conduct. At present, only two BP employees have been charged with criminal violations of the


\textsuperscript{35} See \textit{NATIONAL COMMISSION REPORT}, supra note 1, at 73-74, 114-15.

\textsuperscript{36} See Segerson & Tietenberg, \textit{supra} note 28, at 179-81, 197-99.
CWA, although many more persons took actions that contributed to the spill. Penalties therefore should be imposed more broadly on those involved in these kinds of incidents. The fact that the government is now enforcing these criminal penalties may encourage others to be much more careful in the future. In addition, penalties should be supplemented to include bans from working in the industry for a period of time.

Second, it indicates the need for additional laws to regulate conduct. If the CWA penalties and damages do not lead individuals to behave in a manner which correctly weighs benefits versus risk-adjusted costs, then it is appropriate for the government, as a risk manager for the society, to impose at least some requirements on how exploration occurs. This is especially true when persons involved treat the likelihood of the event or a negative event impacting them effectively as zero, because then essentially no amount of penalties or damages would affect behavior. Although beyond the scope of this paper, the National Commission detailed multiple ways in which the laws and regulations of the Department of Interior could be improved so as to regulate more effectively the kind of conduct that led to the Deepwater Horizon oil spill.

Third, the ways in which individuals can discount the likelihood of penalties suggests that a corporate entity needs to create the correct incentives and safety culture. If the corporation,

37 BP’s leaders on the Deepwater Horizon, Robert Kaluza and Donald Vidrine, were charged with criminal counts under the CWA and the Seaman’s Act. See Clifford Krauss, In BP Indictments, U.S. Shifts to Hold Individuals Accountable, N.Y. TIMES, Nov. 16, 2012, at B1.

38 Other companies in the industry have employed two BP leaders who left the company as a result of the incident, indicating that industry itself will not impose an effective ban on its own. See Stanley Reed, Tony Hayward Gets His Life Back, N.Y. TIMES, Sept. 1, 2012, at BU1; Ben Harrington and Rowena Mason, Petrofac Hires BP Gulf Oil Spill Casualty Andy Inglis, DAILY TELEGRAPH, Jan. 5, 2011.

39 See generally DAVID A. MOSS, WHEN ALL ELSE FAILS: GOVERNMENT AS THE ULTIMATE RISK MANAGER (2002); Tom Baker & David Moss, Government as Risk Manager, in NEW PERSPECTIVES ON REGULATION 87, 87-109 (David Moss and John Cisternino eds., 2009).

40 See NATIONAL COMMISSION REPORT, supra note 1, at 55-85, 249-91.
and not the individual, is going to bear the costs, then the corporation needs to address the principal-agent problem so that each individual makes the correct risk-adjusted decisions in each case. The corporation can do this through training, monitoring, communication, promotion policies, compensation, etc. The National Commission report claims that the nuclear power industry has done this fairly effectively.\textsuperscript{41} The CWA encourages the correct behaviors in that it establishes penalties which the corporation must take into consideration when determining the costs associated with how much risk each person should take in each circumstance. But responsibility ultimately lies with the corporation and its agents, not the CWA or another other law.

Thus the CWA appears not to have been particularly effective in leading the individuals or companies involved with the \textit{Deepwater Horizon} incident to take the appropriate level of risks. The law does fits with society’s sense of justice, in that the corporations who despoil the environment must pay penalties for their actions, and the law is relatively clear about who can be sanctioned, how much, and for what kind of conduct. However, the law would be more effective if enforcement covered more of those involved in making the decisions that led to the incident and if a wider range of penalties, such as employment suspensions or bans, were available and implemented.

\section*{III. Planning for and Addressing a Spill}

The Acts provide a fairly robust set of requirements for addressing a significant spill.\textsuperscript{42} They define who has what authority to act, and they impose requirements on the government and

\textsuperscript{41} See \textit{id.} at 235-42.

\textsuperscript{42} The Outer Continental Shelf Lands Act and implementing regulations establish procedures and requirements to minimize the likelihood of a spill. \textit{See} Outer Continental Shelf Lands Act, 43 U.S.C. §§ 1331-1356a (2011); Oil and
private parties before and after an incident. However, implementation in this case was not as effective as the requirements suggested it would be, and opportunities for improvement exist.

The Acts give clear authority to the President to act in the event of a discharge or substantial threat of a discharge of oil or a hazardous substance.\(^\text{43}\) For a spill or substantial threat of a spill of any size, the President or his designee\(^\text{44}\) shall ensure “effective and immediate removal of a discharge, and mitigation or prevention of a substantial threat of discharge.”\(^\text{45}\) If the discharge or substantial threat of discharge “is of such a size or character as to be a substantial threat to the public health or welfare of the United States (including but not limited to fish, shellfish, wildlife, other natural resources, and the public and private beaches and shorelines of the United States),”\(^\text{46}\) then the President or his designee “shall direct all [f]ederal, [s]tate, and private actions” to address the discharge or substantial threat of discharge.\(^\text{47}\) Furthermore, the President or his designee may issue administrative orders that may be necessary to protect public health and welfare when they determine that there “may be an imminent and substantial threat to public health or welfare of the United States….”\(^\text{48}\) From an administrability perspective, the Acts are effective because they establish clear lines of command and give significant authority to

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Gas and Sulphur Operations in the Outer Continental Shelf, 30 C.F.R. § 250 (2012). In a certain sense, those regulations are part of addressing a spill through spill prevention. However, this paper focuses solely on key aspects of the CWA and the OPA90.

\(^{43}\) Clean Water Act § 311(c)(1)(A). The CWA includes almost every non-permitted “spilling, leaking, pumping, pouring, emitting, emptying or dumping” in the definition of a “discharge,” regardless of size. § 311(a)(2).

\(^{44}\) Through Executive Order 12777 on October 18, 1991, the President delegated authority to the Secretary of the Department in which the Coast Guard is operating. The Secretary of the Department of Homeland Security further delegated authority to the Coast Guard Commandant and Coast Guard Field Commanders. See discussion in ALLEN, supra note 7, at 9.

\(^{45}\) § 311(c)(1)(A).

\(^{46}\) § 311(c)(2)(A).

\(^{47}\) Id.

\(^{48}\) § 311(e)(1)(B); see also ALLEN, supra note 7, at 8.
the government to address the spill or threat of a spill, which should make responding more
timely and efficient than in the absence of such clarity and authorities.

The OPA90 specified which entities have financial responsibility for clean-up costs. The
“responsible party” for an offshore facility is “the lessee or permittee of the area in which the
facility is located or the holder of a right of use and easement granted under applicable State law
or the Outer Continental Shelf Lands Act … for the area in which the facility is located,”49 and
the responsible party for a vessel is “any person owning, operating or demise chartering the
vessel.”50 “Each responsible party . . . is liable for the removal costs and damages specified . . .
that result from such incident.”51 If the responsible party establishes that the discharge was
“caused solely by an act or omission of one or more third parties … [then] the third party or
parties shall be treated as the responsible party or parties” for liability purposes.52 To assert this
defense, the responsible party must show by a preponderance of the evidence that it “exercised
due care … and took precautions against foreseeable acts or omissions of any such third party
and the foreseeable consequences of those acts or omissions”53 or that there was an act of God54
or an act of war55; furthermore, such a defense is not available if the third party is an employee
or agent of the responsible party or “a third party whose act or omission occurs in connection

49 Oil Pollution Act of 1990 § 1001(32)(C).
50 § 1001(32)(A). Mobile offshore drilling units such as the Deepwater Horizon are considered offshore facilities
when they are connected to the seafloor and vessels when they are not. See generally NATIONAL COMMISSION
REPORT, supra note 1, at 4-5, 92 (describing difference in command of the Deepwater Horizon when connected and
when not).
51 § 1002(a).
52 § 1002(d)(1)(A).
53 § 1003(a)(3).
54 § 1003(a)(1).
55 § 1003(a)(2).
with a contractual relationship with the responsible party....”56 In the meantime, the statutorily-defined responsible party must pay removal costs and damages to any legitimate claimant and shall be entitled by subrogation to recover costs or damages from the liable third party or the Oil Spill Liability Trust Fund, discussed below.57 In the case of the Deepwater Horizon incident, BPEP did not deny that it was a responsible party, although it filed claims against others involved in the events such as Transocean and Haliburton in an effort to recover at least some of the costs from them.58

Under the OPA90, the responsible party is “liable for the removal costs and damages … that result from the incident.”59 Removal costs are “all removal costs incurred by the United States, a State, or an Indian tribe”60 and “any removal costs incurred by any person for acts taken by the person which are consistent with the National Contingency Plan.”61 Removal costs are costs of removal, meaning “containment and removal of oil … from water and shorelines or the taking of other actions as may be necessary to minimize or mitigate damage to the public health or welfare, including, but not limited to, fish, shellfish, wildlife, and public and private property, shorelines, and beaches.”62 Such a broad definition makes administration easier and less costly.

The OPA90’s clear presumption of which party is responsible, the fact that that party must pay during the period of disputing whether it or another entity should be liable, and the law’s comprehensive definition of the costs that must be paid reduces administrative complexity

56 Id.
57 § 1002(d)(1)(B).
58 See BP ANNUAL REPORT 2012, supra note 8, at 164, 236.
59 § 1002(a).
60 § 1002(b)(1)(A).
61 § 1002(b)(1)(B).
62 § 1001(30).
and increases the speed with which financial resources can be provided. These features also create financial incentives for the responsible party and its agents not to engage in conduct that will lead to a spill and to stop any on-going activities, such as a leaking well, that are damaging the environment further. The Acts here also reflects society’s norms and expectations that the polluter – not the government, not other individuals – should pay for cleaning up the pollution.

If the responsible party is unable or unwilling to pay, the Oil Spill Liability Trust Fund (OSLTF) pays for removal costs, natural resource damages, and other economic and property damages. The OSLTF is funded by environmental taxes on petroleum, penalties for discharges of petroleum in violation of the CWA, and funds recovered by the OSLTF from responsible parties, among other sources. The OSLTF is limited to paying out a maximum of $1,000,000,000 per incident, with a sub-limitation of $500,000,000 for natural resource damage assessments and claims associated with an incident, as described below. In the Deepwater Horizon incident, BPEP had the ability to pay and did pay for covered costs, so the OSLTF caps were not relevant. Lifting the caps would be an improvement, as discussed in the below. Nonetheless, it is efficient and seems fair that producers and consumers of petroleum produced in the United States contribute to a fund that ensures that the government and affected citizens do not bear directly the costs of a cleanup or other damages for an incident that they did not create if a responsible party is unable to pay.

The Acts require the development and implementation of the National Contingency Plan (NCP) to address a spill. The NCP assigns duties and responsibilities among the federal

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63 §§ 1013(a), 1015.
64 § 1012(a).
agencies, requires prior identification of equipment to be used to combat a spill, establishes a national center to direct operations, allows for the designation of a federal official as the National Incident Commander during a Spill of National Significance, establishes a Federal On-Scene Coordinator for responding to the spill, and requires development of a fish and wildlife response plan and procedures and standards for removing and mitigating a worst case discharge of oil. Under the NCP, the responsible party works with and at the direction of the federal government to address the incident.

The challenges that arose from the scale and scope of the Deepwater Horizon incident revealed at least three ways in which the implementation of the Act was not effective and may be improved. First, BP’s 582-page Gulf of Mexico Regional Oil Spill Response Plan complied a great deal of information that responders might want to have at their fingertips, such as contact information, but it did not provide a great deal of guidance as to how to make crucial decisions. For example, the planning template identified the safety of citizens and response personnel as the first priority, and the strategies listed included identifying the hazards of the released material, establishing site control, considering evacuations as needed, etc. While there was nothing wrong per se about that, the materials were better suited for ensuring BP personnel did not overlook an issue than for helping BP personnel figure out how to address the issues practically. Furthermore, as noted by the National Commission, the plan analyzed three “worst-case” scenarios, with discharges ranging from 28,033 to 250,000 barrels, whereas the Deepwater Horizon incident released a government-estimated 4.9 million barrels. And the plan, produced

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67 See Clean Water Act § 311(d)(2); 40 C.F.R. § 300.105.
68 40 C.F.R. § 300 app. E 2.3(b); see also ALLEN, supra note 7, at 4.
69 BP, GULF OF MEXICO REGIONAL OIL SPILL RESPONSE PLAN 99 (2009).
70 NATIONAL COMMISSION REPORT, supra note 1, at 84.
by BP’s consultant the Response Group, copied materials verbatim from the U.S. National Oceanic and Atmospheric Administration website, including information about how to protect biological resources such as sea lions, sea otters, and walruses that do not exist in the Gulf. Regulators approved this plan, and the National Commission reported that there was no evidence that regulators performed any additional analysis on the plan. Clearly there should be meaningful plans in place to address true “worst-case” environmental calamities, and regulators need to scrutinize these proposals seriously. Regulators must fulfill their duties when a site lessee, for whatever reason, does not develop a meaningful plan.

Second, although the Acts were clear about authority, roles and responsibilities, and although the Acts were controlling legal regime, questions and difficulties arose in implementation. For example, based on experiences with hurricanes, state and local officials in the region were used to the approach of Homeland Security Presidential Directive - 5 and the Stafford Act, which have as their guiding philosophy that states and localities lead and the federal government supports, as opposed to the federally-led approach of the NCP. In this case, tensions flared among federal, state and local officials and politicians, especially when resources for addressing the environmental effects, such as boom to protect beaches, were or appeared to be limited. While the Acts and the NCP in themselves may have had an efficient approach for addressing a spill, one sees that their effectiveness was somewhat limited initially.

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71 BP, GULF OF MEXICO REGIONAL OIL SPILL RESPONSE PLAN, supra note 69, at 1.
72 NATIONAL COMMISSION REPORT, supra note 1, at 84.
73 Id. at 83-84.
74 See ALLEN, supra note 7, at 10, 12-13.
75 See NATIONAL COMMISSION REPORT, supra note 1, at 151, 153-54.
by conflicts between those who viewed the NCP as controlling and those who had more familiarity with other legal regimes.\(^76\)

A spill of this size overwhelmed the planned coordination mechanism. Under the NCP, planning and coordination is performed by the National Response Team (NRT), which is chaired by the U.S. Environmental Protection Agency (U.S. EPA) representative, vice-chaired by the U.S. Coast Guard representative, and comprised of representatives of other federal departments and agencies.\(^77\) However, in this case, senior federal political leadership consumed the time of NRT members, such that NRT members did not have time to engage in problem-solving or to direct response actions. Instead, the NRT formed a separate group that performed those functions.\(^78\) Fortunately, the Acts and implementing regulations had the flexibility to allow for such a solution, showing their effectiveness.

Third, the responsible party has a significant role in addressing the spill, yet a spill damages the credibility of the responsible party and can make it more difficult for implementing solutions. Under the NCP, the responsible party is supposed to work with the federal government to address the spill.\(^79\) Practically, the responsible party understands better than the federal government does – at least initially – what the conditions are at the site, what actions led to the incident, what technology is available on site, etc.\(^80\) But in terms of public perception, a release damages the credibility of the responsible party. The public thus does not believe the responsible party when it estimates environmental and public health impacts and when it

\(^{76}\) See ALLEN, supra note 7, at 10, 12-13.
\(^{77}\) 40 C.F.R. § 300 app. E 3.1.1(a)-(b).
\(^{78}\) See ALLEN, supra note 7, at 13-15.
\(^{79}\) 40 C.F.R. § 300 app. E 1.5, 2.3(b).
\(^{80}\) See NATIONAL COMMISSION REPORT, supra note 1, at 133-38.
proposes and attempts various solutions. Government officials may want to distance themselves from the responsible party so that they do not seem to be captive to it. This can discourage information sharing, joint problem-solving, and addressing the spill. The Acts simply may not be able to solve this problem easily, although government officials should understand better cutting-edge technologies and should engage other industry personnel and outside engineering experts and scientists, rather than relying so much on the responsible party.

In requiring preparation for and in addressing a spill, the Acts promote economic efficiency: unless there is an intervening force or intervention by a third party, the site lessee, which ultimately controls the operations and receives the economic benefits of developing the resource, has financial responsibility for the costs of cleaning up the spill. The fact that site lessee bears the costs fits with our society’s conception of justice in that that party in control and receiving the financial benefit should pay for the costs of cleaning up, unless there is an intervening force or third party. The effectiveness of the Acts is marred somewhat, however, by regulators’ failures to scrutinize sufficiently BP’s plans for addressing the spill, by confusions caused by the experiences of some involved with different emergency response laws and regulations, and by questions about the responsible party’s role in the clean-up – offsetting in practice some of the efficiencies intended by the Acts. Improved communications and education, as well as more examination by regulators, would have improved implementation. Nonetheless, the Acts did provide a fairly robust, flexible and effective framework for addressing the complexities that arose from the largest oil spill in U.S. history.

IV. Compensation for collateral economic impacts
Similar to the prior discussion of removal costs, the OPA90 also establishes clearly that the responsible party must pay for economic damages and certain other non-removal costs. This is economically efficient and fits with notions of fairness and justice. Also, the laws and regulations try to minimize administrative costs and time delays and are flexible for accommodating unexpected circumstances. Thus, these portions of the CWA were generally “effective.”

The OPA90 specifies a wide-range of damages and economic impacts to individuals and non-governmental entities for which the responsible party must pay. The OPA90 requires compensation for property damages, i.e. “damages for injury to, or economic losses resulting from destruction of, real or personal property, which shall be recoverable by a claimant who owns or leases that property.”\textsuperscript{81} The responsible party is also liable for economic damages, i.e. “damages equal to the loss of profits or impairment of earning capacity due to the injury, destruction, or loss of real property, personal property, or natural resources, which shall be recoverable by any claimant.”\textsuperscript{82} The OPA90 also requires payment for “damages for loss of subsistence use of natural resources, which shall be recoverable by any claimant who so uses natural resources which have been injured, destroyed, or lost, without regard to the ownership or management of the resources.”\textsuperscript{83}

The OPA90 requires the responsible party to pay for natural resource damages, which are “damages for injury to, destruction of, loss of, or loss of use of, natural resources, including the

\textsuperscript{81} Oil Pollution Act of 1990 § 1002(b)(2)(B).
\textsuperscript{82} § 1002(b)(2)(E). The OPA90 does not cover the costs of restoring the reputation and brand of products and regions affected by a significant oil spill, such as seafood and tourism, in which public perceptions significantly influence consumption. See NATIONAL COMMISSION REPORT, supra note 1, at 185. BP addressed this regulatory shortcoming through funding tourism advertisements and a seafood certification programs. See BP ANNUAL REPORT 2012, supra note 8, at 61.
\textsuperscript{83} § 1002(b)(2)(C).
reasonable costs of assessing the damage." Government officials determine the impacts and costs of restoration, which the responsible party then funds.

Finally, the OPA90 covers direct and indirect financial impacts on governments. The responsible party must pay for the "net costs of providing increased or additional public services during or after removal activities, including protection from fire, safety or health hazards, caused by a discharge of oil...." The law also requires compensation for "the net loss of taxes, royalties, rents, fees, or net profit shares due to the injury, destruction, or loss of real property, personal property, or natural resources...."

Fortunately, two possible shortcomings of the Acts for a spill of this size did not arise directly in the Deepwater Horizon oil spill. First, although the OPA90 requires full payment for the costs of addressing the immediate impacts of the spill, it limits liability for the economic, property, and natural resource damages and additional government costs that a responsible party for an offshore facility must pay above removal costs to $75,000,000. The OPA90 does remove limits on liability if the incident was proximately caused by "gross negligence or willful misconduct of, or ... the violation of an applicable Federal safety, construction, or operating regulation by, the responsible party, an agent or employee of the responsible party, or a person acting pursuant to a contractual relationship with the responsible party," among other exceptions. BP waived the limit, although at the time at which it did, there had been no official

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84 § 1002(b)(2)(A).  
85 See id.; BP ANNUAL REPORT 2012, supra note 8, at 61-62.  
86 § 1002(b)(2)(F).  
87 § 1002(b)(2)(D).  
88 § 1004(a)(3), (b).  
89 § 1004(c)(1)(A)-(B).
legal determination that the limits would not be in place.\textsuperscript{90} Second, the OSLTF, as discussed previously, had its own caps: $1,000,000,000 per incident, with a sublimit of $500,000,000 for natural resource damages.\textsuperscript{91} Fortunately, BPEP and BP had the financial capacity to pay for the costs and damages of the incident, and the OSLTF limits were not an issue here. Although these two areas were not problems in this particular incident, they could have easily been hindrances under different circumstances, and therefore changes are needed, as discussed below.

The OPA\textsuperscript{90} strongly encourages payments to begin promptly. The law states that “[t]he responsible party shall establish a procedure for the payment or settlement of claims for interim, short-term damages.”\textsuperscript{92} Payment of interim damages less than the full amount of damages does not preclude subsequent recovery by an affected party for the remaining funds owed to it.\textsuperscript{93} In addition, the responsible party must also pay interest on a claim,\textsuperscript{94} thus further encouraging prompt payment for damages. The OPA\textsuperscript{90} requires parties to present the claim to the responsible party before presenting the claim to the OSLTF.\textsuperscript{95} Due to the time value of money, there is also a financial benefit for those who were damaged to receive payments sooner rather than later. This can be a significant concern, as demonstrated by the fact that it took

\begin{thebibliography}{9}
\bibitem{90} See Margaret C. Fisk & Laurel B. Calkins, \textit{BP Waiver of $75 Million Spill Damage Cap May Recognize Liability Reality}, BLOOMBERG, May 21, 2010.
\bibitem{91} 26 U.S.C. § 9509(c)(2)(A).
\bibitem{92} § 1005(a).
\bibitem{93} Id.
\bibitem{94} § 1005(a)-(b).
\bibitem{95} § 1013(a).
\end{thebibliography}
approximately 20 years for some payments from the Exxon Valdez disaster to reach claimants.\textsuperscript{96} And BP in fact did begin processing at least some claims relatively promptly.\textsuperscript{97}

The OPA90 was effective with regard to these issues because it allowed BP and governmental officials to adapt the claims payment process from the generally-envisioned one in which the responsible party administered it to one funded by the responsible party but implemented by others. President Obama announced on June 16, 2010 that BP had agreed to establish a $20 billion trust fund to address the impacts of the spill and to create a new claims payment mechanism, the Gulf Coast Claims Facility (GCCF), which Kenneth Feinberg would lead and BP would not direct. BP appears to have been overwhelmed by the number of claims that it received, and it needed to find another mechanism by which claims could be accepted, reviewed and paid or rejected. Because the spill had damaged BP’s credibility, most of those who sought recompense did not see a BP-led claims process as legitimate.\textsuperscript{98}

Established by BPEP but independent of it, Deepwater Horizon Oil Spill Trust (the Trust) was consistent with but went above and beyond the requirements of the OPA90. The Trust was designed to pay holders of resolved damage claims similar to those under the OPA90: economic and property damages of individuals and entities resolved through the GCCF, government

\textsuperscript{96} See Wesley Loy, Exxon Valdez Spill Payments Reach Claimants, ANCHORAGE DAILY NEWS, Dec. 8, 2008 (“The millions of dollars Exxon Mobil Corp. has surrendered as punishment for the Prince William Sound oil spill have started hitting the streets, nearly 20 years after the disaster... The payments mark the beginning of a process to distribute $383 million among nearly 33,000 commercial fishermen and other plaintiffs.... An Anchorage jury originally decided in 1994 that Exxon owed $5 billion for the 11-million-gallon oil spill, which disrupted many of the state’s commercial fisheries and sullied miles of beaches. Over many years, however, Exxon’s lawyers succeeded in whittling down the amount to a fraction of the jury award.”); NATIONAL COMMISSION REPORT, supra note 1, at 231.

\textsuperscript{97} See KENNETH R. FEINBERG, WHO GETS WHAT: FAIR COMPENSATION AFTER TRAGEDY AND FINANCIAL UPHEAVAL 133-41 (2012).

response costs, natural resource damages, and “other resolved claims.”99 BPEP contributed $3 billion to the Trust at inception, and it agreed to provide the remaining $17 billion over another three-and-a-half years.100 BPEP would still be liable for any damages over the $20 billion, and BPEP would receive what remained in the Trust if resolved damage claims were less than $20 billion.101 All of that was consistent with the OPA90. Where the Trust truly went beyond the OPA90 requirements was in BPEP’s pledge of collateral of at least $17 billion.102 Had BPEP not pledged the collateral to the Trust, and had BPEP gone bankrupt, it is possible that those who suffered damages would have just been regular creditors and would have received only some fraction of their claims at a much later time. With the security of collateral, at least those whose claims were resolved promptly could expect to receive full payment, even if BPEP declared bankruptcy. Thus, the responsible party and federal political leadership complied with the requirements of the OPA90 but also went beyond it to provide greater assurance that those who were affected would be compensated.

Despite its shortcomings, the GCCF was also generally an effective way of fulfilling BPEP’s obligations to individuals and non-governmental entities under the OPA90. As reported by outside accounting firm BDO, the GCCF processed more than one million claims and paid a total of more than $6.2 billion to more than 220,000 claimants during the year-and-a-half of its primary responsibilities.103 The GCCF paid more than $840 million in emergency advance

100 Id. at art. II.A.
101 See id. at art. II.E.
102 Id. at art. II.B.
103 BDO CONSULTING, supra note 98, at 59.
payments in its second month of operation.\textsuperscript{104} For persons who filed their initial claims by November 23, 2010, the GCCF made emergency advance payments to claimants with modest documentation requirements and without requiring those individuals or entities to waive their rights to sue; furthermore, the GCCF presumed that the spill caused the losses for claimants in certain eligibility types and locations. In this phase I, the GCCF paid $2.5 billion to more than 169,000 claimants.\textsuperscript{105} When it transitioned to the interim and final claims resolution process, or phase II, the GCCF offered a “quick pay” option of $5,000 to individuals and $25,000 to businesses which had received emergency payments; those individuals and entities would waive future claims, but would not need to provide any further documentation of the claims to receive the additional final payment.\textsuperscript{106} Those who did not accept the quick pay option could receive interim payments by filing every quarter or could request a full review final payment.\textsuperscript{107} The GCCF attempted to adapt to the on-the-ground realities of poor documentation and a partially-cash-based economy in the Gulf of Mexico\textsuperscript{108} in a way which was consistent with the guiding philosophy of the OPA90 to compensate quickly a broad class of damaged persons. Conducting an audit at the request of the U.S. Department of Justice, BDO found that “in general, the GCCF appeared to have consistently applied its protocols and methodologies in processing claims.”\textsuperscript{109} The claims that GCCF took a long time to process mostly had extenuating circumstances such as the possibility of fraud or lack of documentation.\textsuperscript{110} BDO did identify opportunities for improvement, such as quicker provision of free legal assistance in filing a claim, review of

\textsuperscript{104} Id.
\textsuperscript{105} See id. at 29-34.
\textsuperscript{106} Id. at 34.
\textsuperscript{107} See id. at 35-46.
\textsuperscript{108} See id. at 47-48.
\textsuperscript{109} Id. at 58.
\textsuperscript{110} Id. at 65-66.
previously resolved claims if the subsequent change in methodology would have led to a higher payment for those with the previously resolved claims, and better management of the expectations of claimants regarding the time that the GCCF would need to resolve their claims.111 And it must be acknowledged that Plaintiffs Steering Committee, which led the civil litigation on behalf of private injured claimants, preferred and required a court-supervised settlement process, rather than the GCCF, as part of its settlement with BP.112 Nonetheless, while not perfect, the GCCF did appear to resolve claims relatively quickly and independently of BP and to reduce the cost and length of time that it would have taken if the issues had been litigated fully, as they were for the Exxon Valdez spill.113

Thus, with regards to compensation for damages, the Acts were generally effective. The laws covered almost all types of damages, and they required prompt payments. The responsible party bears the costs of the damages, thus incentivizing it to minimize the likelihood of an accident and its impacts. Also, it fits with our society’s conception of fairness and justice for the party responsible for the well to pay for the damages. BP and government officials used the flexibility of the OPA90 and went beyond its requirements to ensure that liability caps would not limit BPEP’s payments for damages, to increase the likelihood that claimants would be compensated in the event of a BPEP bankruptcy, and to improve the credibility of the compensation process.

V. Conclusion

111 Id. at 85–87.
112 See FEINBERG, supra note 97, at 181-82. The court-supervised process continued to engage many of the same contractors as the GCCF. Id.
113 Id. at 175-83; Loy, supra note 96. One could even argue that the Plaintiffs Steering Committee and BP settled in March 2012 because the GCCF settled as many claims as it did.
The Deepwater Horizon oil spill shows that the effectiveness of the Acts varies by issue. The Acts were effective at providing funds to many of those who suffered economic and property damages in a timely and relatively low cost manner. The Acts had good provisions with regards to planning for an oil spill and responsibility for addressing a spill, but implementation was lacking at times. However, the penalty provisions did not appear to lead to the right decisions and behaviors by those involved.

Overall, the Acts are economically efficient and fit with general notions of fairness and justice. The OPA90 imposes liability on the party which has the greatest control and potential financial gains, thereby encouraging it to make the economically-rational investments in minimizing the likelihood of a spill and its impacts. Imposition of liability in that regard fits with society’s views that it is fair and just for that party to pay for the costs of cleaning up and the damages it creates. Furthermore, penalties can help address misperceptions and miscalculations of risk, as well as principal-agent problems, and thereby encourage persons and entities to take appropriate precautionary measures.

The Acts were fairly successful from an administrability perspective. The Acts provided for clear direction and command from the federal government for addressing the spill. They specified clearly which entity was responsible for paying, had a broad definition of covered damages and costs, and required prompt payment.

Of course, improvements could and should be made to the Acts. Limits on liability for the responsible party should be removed or lifted. Limits on the OSLTF should be raised, so that governments and individuals bear less of the costs of a catastrophic incident that they did not create. Mechanisms like the Deepwater Horizon Oil Spill Trust should be encouraged, so as to
ensure that bankruptcy does not reduce the financial recovery of those injured by major spills. Oil spill preparation plans need to be more detailed, accurate, and actionable, and regulators need to scrutinize them better. While all of this may make it more costly and difficult for entities to engage in deepwater offshore exploration and development, it is an appropriate way of ensuring that risks are correctly accounted for and costs borne by those involved. In addition, those persons likely to be involved in addressing major spills, i.e. federal and state politicians and officials, need to improve their understanding of the legal regime and their roles and responsibilities.

It may be too much to hope that there will be no oil spills as severe as that of the Deepwater Horizon in the future. In the meantime, all countries that have petroleum resources should look at the CWA, the OPA90 and the lessons learned from this event to see if their legal regimes can balance better exploration and development of those resources, other economic activities, and environmental protection.