Lessons From the BP Emergency Action Plan in Action

by Denis Binder

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I. Premises

Failures, disasters, and tragedies occur. Catastrophic oil spills or toxic releases, mechanical breakdowns, technology failures, or software glitches may appear to be accidents, intentional acts, or environmental disasters, but almost always, human error will be involved.[1] The human fault may occur in project design, construction, supervision, operations, maintenance, repairs and modifications, inspections, and/or regulation. Emergency action plans (EAPs) can minimize the impact of human fault.[2]

In some cases, the threats may be infinite, but the foreseeable damage can be predicted. For example, no matter how a dam is breached, the water will flow in only one direction. On the other hand, many disasters, such as the Deepwater Horizon blowout, will test unknown dimensions. In these situations, the risks may be infinite and on the edge of technology, such that they are not understood until disaster strikes.[3]

In other cases, perhaps as with the Deepwater Horizon blowout, a period of success can lead to an underestimation of the risks; complacency may set in; and the decisionmakers, as with the Teton Dam and the Space Shuttle Challenger, may proceed oblivious to the underlying risks.

EAPs are not intended to prevent an incident, but plans to respond to an emergency are becoming as integral to negligence analysis as exercising reasonable care to prevent an accident. The purposes are to minimize the impacts, mitigate the consequences, and facilitate recovery.

Litigation is still relatively scarce on emergency action plans,[4] but two cases illustrate the legal need for emergency planning. *Coates v. United States*[5] involved the failure of Lawn Lake Dam overlooking the resort community of Estes Park, Colorado. The dam was privately owned, but sited on National Park Service (Park Service) land. Between Lawn Lake Dam and Estes Park was the smaller Cascade Dam.

Lawn Lake Dam failed before 6:30 a.m. The Park Service was soon notified, with a ranger dispatched in 20 minutes to warn downstream campers. The ranger proceeded, in a somewhat desultory manner, to warn several, but not all, of the campers. The flood wave caused the lower dam to fail, resulting in three deaths and extensive property damage. The district court in the Federal Tort Claims Act lawsuit found several instances of negligence on the part of the government and awarded $480,000 to the family of a deceased camper.

The court's decision involved a small-scale tragedy, compared to the 11 lives lost and untold environmental damage from the Deepwater Horizon blowout, but the principles remain the same. The court held the government had a duty to prepare an emergency action plan:

> Because these national parks are outdoors and, therefore, subject to extreme and sometimes unexpected weather changes, structural failures such as the one at issue here,

Author's Note: This Article was completed on September 28, 2010, after the blowout was plugged, but at the beginning of the extensive post-mortems. It is based on the materials available, especially media reports. Some of the observations and conclusions in this Article are preliminary and therefore subject to change. The 2002 University of Pittsburgh Law Review *9/11 Symposium issue included my Article on emergency action planning.* Denis Binder, Emergency Action Plans: A Legal and Practical Blueprint, "Failing to Plan Is Planning to Fail," 63 U. Pitt. L. Rev. 791 (2002). *A substantially revised version is available at ssrn.com, abstract #844428.*

1. An initial BP investigation into the blowout recognized "A complex and interlinked series of mechanical failures, human judgments, engineering design, operational implementation, and team interactions came together to allow the initiation and escalation of the" accident. BP, Deepwatwer Horizon Accident Investigation Report, Sept. 8, 2010, at 31 [hereinafter BP Accident Report].
2. EAPs and business continuity plans are becoming the norm in the business world. They may be mandated or encouraged by statutes, regulations, and professional codes and standards. *See, e.g.*, 29 C.F.R. §1910.3(a) (1974). The Department of Homeland Security, on June 15, 2010, adopted three standards for Voluntary Private Sector Preparedness Accreditation and Certification Programs, National Fire Protection Association 1600, BS 25999, and ASIS SPC-1. In general, see Denis Binder, *The Role of Statutes, Regulations, and Professional Standards in Emergency Responses*, *available at* ssrn.com, abstract #904025.
3. The aerospace industry had a wonderful name for these risks: "unk-unks," unknown unknowns.
4. An analogous area of liability is the allegedly inadequate response to 911 calls. The emergency responders did not cause the original emergency, but were allegedly negligent in their response. *See, e.g.*, Chambers-Castanes v. King County, 669 P.2d 451 (Wash. 1983); Barth by Barth v. Board of Education, 490 N.E.2d 77 (Ill. App. Ct. 1986); DeLong v. Erie County, 455 N.Y.S.2d 887 (N.Y. App. Div. 1982); *see also* Harrell v. Chicago Heights, 945 F. Supp. 1112 (N.D. Ill. 1996). *But see* Eastburn v. Regional Fire Protection Authority, 7 Cal. Rptr. 552 (Cal. Dist. Ct. App. 2003); Beltran v. City of El Paso, 367 F.3d 299 (5th Cir. 2004).
5. 612 F. Supp. 592 (D.C. Ill. 1985).

> other flash floods, and major fires which occur, changes may be sudden and dramatic (because of the Acts of God or foibles of man). Therefore, the Government, in creating this relationship with citizens, also creates a duty for itself to develop orderly procedures for dealing with emergencies.[6]

The opinion also stated: "It is imperative to have a plan in place because in such situations there is little time for reflection. Priorities should be established before an emergency arises; otherwise personnel are unprepared to deal with them."[7]

The court noted that, "elementary lapses, obvious with the clarity of hindsight, could have been avoided through the development of orderly procedures for warning and evacuating people in this park in the case a crisis arose."[8]

The second case arose out of Hurricane Katrina. Murphy Oil operated a 250,000-barrel, above-ground storage tank at its Meraux refinery in St. Bernard Parish outside New Orleans. About 25,110 barrels of crude oil escaped during the flooding, contaminating surrounding neighborhoods. A class action suit was consolidated in January 2006. A critical question for the district court in determining the appropriateness of the class action suit was "whether Murphy Oil had hurricane safety plans, and whether those plans were carried out during Hurricane Katrina. . . ."[9]

EAPs may be critical in facilitating response efforts in a time of chaos. Assessing the risk, extent, and damages at the beginning of the incident/emergency is often difficult, so EAPs may provide critical guidance in cutting a path through the "fog of war" and confusion as the crisis unfolds.

An EAP may perform as planned. However, disasters and emergencies, as with major battles, will often not unfold as planned or envisioned. By their very nature, emergencies follow their own course; the incident controls such that the responders have to maintain flexibility in their actions. This is especially true with disasters at the edge of technology, such as a blowout 50 miles out at sea and one mile underwater. In such circumstances, the plans may only serve as a general template.

If failure to follow the plan is based on lack of training, ignorance, or complacency, it is a failure. If, though, because of flexibility in light of unfolding developments, following the plan became undesirable, then the responders should deviate from it in light of the circumstances.

Gen. Dwight Eisenhower is reported to have said prior to D-Day: "The plan is nothing; planning is everything."

The negligence duty of reasonable care therefore should not require that a plan be implemented according to its details any more than that reasonable care can prevent every accident or disaster.[10] The question should be: (1) Was reasonable care exercised in preparing and updating the EAP; and (2) Was reasonable care exercised in carrying out or deviating from the EAP?

II. Critical Elements

The plan should be customized, risk-based, and user-friendly. The plan must be site-, facility-, and structure-specific. Boilerplate is not a shortcut to a viable emergency response.

The EAP should comply with statutes, regulations, and professional standards and provide for coordination with the appropriate federal, state, and local agencies.

The EAP should delineate, assess, and prioritize in a timely manner the triggering events and risks, the procedures and protocols to be followed, and the appropriate response steps geared to the specific emergency, such as warnings, evacuations, or residence in place. Many, if not most, emergencies, do not involve a total failure, so a scaled level of responses should be specified when appropriate. Lesser failures warrant a lesser response. A difficult goal is to avoid both under- and over-responses.

The plan needs an accurate assessment of the underlying risks and the potential consequences and damages. A failure to understand the risks or magnitudes will adversely affect the response effort. Be pessimistic, not optimistic, in projections. Worst-case scenarios may be uncommon, but they occur.[11]

The plan should provide for a unified incident command and incident commander; someone must be in overall command and coordinate the response efforts. One of the roles of the incident commander, as in the Deepwater Horizon blowout, is to cut through the bureaucracy.

A major precaution is to provide redundancy. For example, one response to the *Exxon Valdez* spill was to require double-hulling of supertankers. Redundancy should be built into the plan in case a critical response element is damaged, destroyed, or otherwise inoperable in the underlying incident. Systems, such as telecommunications and computers, need backups or alternative systems and paths. Critical plans,

6. *Id.* at 595-96.
7. *Id.* at 596.
8. *Id.*
9. Turner v. Murphy Oil USA, Inc., 234 F.R.D. 597, 604 (E.D. La. 2006). The case proceeded on claims of negligence, statutory law, absolute and strict liability under Louisiana law, nuisance, trespass, and groundwater contamination. The lawsuit was settled on September 25, 2006, for $330 million. BNA Envt. Rptr. 2007 (Sept. 29, 2006).
10. Denis Binder, *Emergency Action Plans: A Legal and Practical Blueprint, "Failing to Plan Is Planning to Fail,"* 63 U. Pitt. L. Rev. 791, 806-07 (2002).
11. For example, the environmental impact statement for the Alaskan Pipeline underestimated the potential quantity of a spill. It predicted an average of one major spill a year. The contingency plan estimated that the most likely spill would be between 42,000 to 84,000 gallons, and only provided for personnel and equipment to meet that projection. No spill, in fact, occurred before the *Exxon Valdez* ran aground on March 24, 1989, spilling 240,000 barrels of crude oil into Prince William Sound. Few spills on the pipeline occurred after. Complacency set in. Employees were untrained in how to respond to an emergency, and emergency equipment was unavailable. A 20-member emergency team, prepared for round-the-clock responses, was disbanded in 1981. Equipment critical to oil spill responses was not maintained. Response equipment had been stored on a barge, but, at the time of the spill, had been unloaded to facilitate repairs to the barge. Keith Schneider, *Under Oil's Powerful Spell, Alaska Was Off-Guard: Enriched and Reassured, Industry and State Cut Disaster Preparation*, N.Y. Times, Apr. 2, 1989, at 1, col. 3. *See, e.g.*, City of New York v. Dep't of Transp., 715 F.2d 732, 753, 13 ELR 20823 (2d Cir. 1983) (Oakes, J., dissenting); Harris Stanley Coal & Land Co. v. Chesapeake & Ohio Ry. Co., 154 F.2d 450, 453 (6th Cir.), *cert. denied*, 329 U.S. 761 (1946).

including blueprints and equipment specs, should be available on alternative sites.

BP's internal investigation recognized that "none of the emergency methods" for operating the blowout preventer were successful in isolating the wellbore. They were "not fully independent." Hence, a single failure could adversely affect more than one emergency response effort.[12]

Plans should be periodically revised in light of changing risks, developments, technology, knowledge, and lessons learned from other incidents,[13] as well as periodically updated, especially with contact numbers. We must learn from failure[14]; critical lessons are often learned from catastrophes and tragedies.[15] Changes should be incorporated in revised plans based upon the lessons learned from the training exercises, but as we know from the *Exxon Valdez* spill, that does not always happen. The National Response Team Report on the *Exxon Valdez* spill stated: "[M]any problems that plagued the cleanup should have been apparent from drills, but if they were, no corrective actions were taken."[16]

Periodic testing and training are critical to implementation. Oftentimes, the response must be near instinctive, which can be a function of training. Training and education will reveal the strengths and weaknesses in a plan, the abilities of the personnel, and minimize the risks of false alarms. One goal is to minimize the risk of human failure at a critical time. An untested plan may fail in a real emergency. And a plan is but a plan. No one knows how it will work until it is implemented. It probably will not work as planned. Unless properly prepared, tested, and taught, the plan might as well reside in a library's archives.

If not implemented, a plan is worthless. For example, many of us remember the pictures of the New Orleans residents stranded in the Superdome or in their flooded residences after Hurricane Katrina, as well as the photos of the flooded school buses in their parking lot. For months after Hurricane Katrina, the New Orleans hurricane EAP remained posted on line. It included plans to use the school buses to timely evacuate residents in advance of the hurricane.

Maintaining good media relations and public responsiveness are a critical part of the response efforts. Information releases should be timely, accurate, and succinct. If an information void exists, the media will search for answers elsewhere. Experienced persons should be designated as the primary media contacts to reduce external pressures on employees, communicate a single message, and try to alleviate fear and panic in the affected community. Credibility lost is difficult to regain.

12. BP Accident Report, *supra* note 1, at 47.
13. For example, the protection of responders' health from toxic exposures and exposures to the elements has become a major concern after 9/11.
14. Henry Petroski, To Engineer Is Human: The Role of Failure in Successful Design (1982). Prof. Henry Petroski discusses how much civil engineering has learned from its failures: "[T]he history of structural engineering in general, may be told in its failures as well as in its triumphs." *Id.* at 9.
15. One of the lessons from Hurricane Katrina is the importance of evacuating the elderly and disabled, often from hospitals, nursing homes, and assisted-living facilities. In addition, we learned that many people would not leave unless their pets went with them.
16. Russell V. Randle, *The Oil Pollution Act of 1990: Its Purview, Intent, and Effects*, 21 ELR 10119, 10128 (Mar. 1991).

III. BP's Plan

BP prepared a 582-page Gulf Oil Response Plan and a 52-page site-specific plan for the Deepwater Horizon.[17] The larger plan was not a regular EAP, but a generic plan to cover its exploration, production, and transportation facilities and activities throughout the Gulf region. It was replete with disclosure forms, organization charts, decision trees and protocols, contractor numbers, and six pages of abbreviations. The other four major Gulf producers also produced similar reports.[18]

The BP plan recognized

> that the worst case scenario for discharge from a mobile drilling rig operation would occur from the Mississippi Canyon 462 lease, a planned exploratory well targeted for Miocene Oil reservoir. Given the anticipated reservoir thickness and historical productivity index of the Miocene, worst case discharge is expected to be 250,000 barrels of crude oil per day. Calculations are based on formulas defined by MMS regulations.[19]

The Minerals Management Service (MMS) did not require an appropriate response plan,[20] but BP's plan stated: "BP will make every effort to respond to the worst case discharge as effectively as possible."[21]

The plan also recognized that "[t]he primary objective of oil spill response is to remove as much oil as quickly as possible in order to mitigate impact near shore and shoreline habitat."[22]

IV. Lessons

The BP EAP and, presumably, the other Deepwater EAPs fail some of the fundamental standards: those of simplicity and redundancy. Indeed, BP's 582-page and 52-page documents are incredibly verbose, and yet lacking in specifics. These five plans contained boilerplate language about species, such as walruses, that are not present in the Gulf, and outdated contact numbers. Such fundamental errors gave rise to widespread criticism,[23] but should not divert us from examining the overall effectiveness of the EAP.

17. BP Gulf of Mexico Regional Oil Spill Response Plan, June 30, 2009, *available at* http://publicintelligence.net/bp-gulf-of-mexico-regional-oil-spill-response-plan/ [hereinafter BP Regional Response Plan].
18. They ranged in size from the 333-page Shell Offshore Inc., Gulf of Mexico Regional Oil Spill Response Plan (June 2010), to the 530-page ConocoPhillips, Gulf of Mexico Regional Oil Spill Response Plan, to the 614-page Chevron, Gulf of Mexico Regional OSEP Oil Spill Response Plan, to the 663-page, inaptly named ExxonMobil, Gulf of Mexico Regional Oil Spill Response Plan Quick Guide. All five plans were prepared by the Response Group, http://www.responsegroupinc.com. Links to these plans and scores of other documents are available on the website of the U.S. House of Representatives Committee on Energy and Commerce.
19. BP Regional Response Plan, *supra* note 17, at 533.
20. Ian Urbana, *At Issue in Gulf: Who Was in Charge?,* N.Y. Times, June 6, 2010, at A1, col. 4, A18, col. 3 (Nat. ed.).
21. BP Regional Response Plan, *supra* note 17, at 534.
22. *Id.* at 383. These methods would include in-situ burning, skimmers, and dispersants.
23. *See, e.g.,* Stephen Power et al., *BP, Oil Industry Take Fire at Hearing*, Wall St. J., June 16, 2010, at A5, col. 1.

One paramount lesson from the Gulf spill is that no matter how well BP may or may not have planned for a major emergency, it was not in total control of the response efforts. Since the federal government is in overall control by virtue of the Oil Pollution Control Act (OPA) of 1990,[24] BP could not act unilaterally. The government had regulatory control over the response, but lacked the resources, personnel, and expertise to respond. BP had the resources, personnel, and expertise, but lacked command authority. Too many decisions had to be made by different federal agencies, resulting in delays and confusion in the various response efforts, as well as frustration by state and local government officials and residents of the Gulf, who increasingly resorted to self-help in fighting the spreading oil.

Another critical lesson is, if the response plan depends upon a critical piece of equipment, then that equipment must be in operational condition and reliable. For example, one of the most critical safety elements in offshore drilling and extraction is the blowout preventer. The more one considers the mechanics of this multistory device, the more it seems like a Rube Goldberg creation. The apparatus has many different features designed to fix any number of problems, but the ultimate fail-safe device is the "blind shear ram," which has two blades designed to cut through the pipe and seal the well.[25] An extensive *New York Times* article[26] details long-term concerns about the unreliability of blowout preventers and explained that the growing trend was to equip a blowout preventer with two shear rams.[27] The Deepwater Horizon only had one, and it had been modified in earlier years without these changes being added to the blueprints and specs used by BP in fighting the leak.[28]

Studies also show that the two pods with the automatic mode function, that would operate the blind shear ram, probably failed to operate the safety device, because of a faulty solenoid in one pod and low charge batteries in the other.[29]

In short, too much reliance was placed on a single piece of unreliable technology. A lack of redundancy and of information may have doomed the rig.

A further lesson is the importance of adequate risk assessment. In the case of Deepwater Horizon, that means the potential extent of a blowout. BP's plan underestimated the potential scope of a blowout, stating, "no significant adverse impacts are expected to beaches, coastlines or coast-dwelling birds."[30] Adm. Thad Allen commented on BP's risk assessment: "I think they're adequate to the assumptions in the plan," but that "you need to go back and question the assumptions."[31]

The risk assessment contained an inherent flaw, which had the potential to blow up with catastrophic results in an actual incident, as occurred with the Deepwater Horizon.

The oil companies are required to use dispersal models prepared by the MMS. These plans were outdated; the dispersal patterns used by BP were prepared and last updated by the MMS in 2004, and by now were believed inadequate by scientists within the MMS. Deepwater spills have different trajectories than surface flumes; the MMS modeled only surface dispersion. The models predicted that a surface spill 68 miles out at sea would have a 11% chance of making landfall in Plaquemines Parish after 30 days. The first tar balls actually reached the parish in 22 days.[32]

Science at this stage probably cannot predict the dispersal pattern of offshore oil 50 miles out at sea and a mile deep, anymore than it can predict when and where a hurricane will strike land. Thus, predictions must be realistic, and not based on wishful thinking or models known to be inaccurate.

BP's plan was silent on the use of subsurface dispersants on underwater flumes. The plan essentially focused on surface spills.

The response efforts, in terms of pollution prevention and shore cleanup, have been exceedingly disappointing at a minimum, and as I write, an actual economic and emerging ecological disaster,[33] partially because of the need for federal decisions on many proposed containment, prevention, and cleanup actions.

Attempting to protect thousands of miles of ocean shorefront, ecologically critical wetlands, and beachfront is a Sisyphean task, as illustrated by the Deepwater Horizon spill. A major spill that can affect five states and one foreign country presents perhaps insurmountable challenges. Whenever possible, therefore, the spill must be contained at the source, broken up, or captured prior to washing ashore.

Therefore, recovery vessels, incineration, dispersants, skimmers, booms, bioremediation, and other technology should be readily available at the time of the incident. They were not with either the *Exxon Valdez* or Deepwater Horizon.

The enormity of the blowout overwhelmed anything encompassed by BP in its contingency planning. The response effort has tested the limits of technology. Once the blowout preventer was clearly not going to work, BP and the federal government started charting uncharted waters in the response.

BP convened a "war room" of hundreds of experts from within and without the industry, searching for ideas to stop

24. 33 U.S.C. §§2701-2761, ELR Stat. OPA §§1001-7001 (1990).
25. *See* David Barstow, *Between Blast and Spill, One Last Failed Hope: Lax Oversight in Rig's Failsafe Device*, N.Y. Times, June 21, 2010, at A1, col. 5 (Nat. ed.).
26. For example, questions have arisen about whether the blowout preventer suffered from hydraulic leaks and dead batteries. *Id.*
27. Out of roughly 15,000 offshore wells drilled off North America and the North Sea from 1980 to 2006, crews had to activate blowout preventers 11 times. They failed five times, for a failure rate of 45%. *Id*. at A18, col. 1.
28. BP engineers had unsuccessfully been working with a "middle pipe ram" for over a week before they realized modifications had been made years earlier to the device. It was inoperable. Henry Fountain, *Notes From Wake of Blowout Outline Obstacles and Frustrations*, N.Y. Times, June 22, 2010, at A17, col. 1-2 (Nat. ed.).
29. BP Accident Report, *supra* note 1, at 152, 154. Maintenance records show that the batteries were replaced less often than the manufacturer's recommended once a year. *Id.* at 167.
30. Campbell Robertson, *Efforts to Repel Gulf Spill Are Described as Chaotic: Fragmented Response Cited—Contingency Plans Are Found Lacking in Detail*, N.Y. Times, June 15, 2010, at A1, col. 5, A14, col. 3 (Nat. ed.).
31. *Id.* col. 4.
32. Neil King Jr. & Keith Johnson, *BP Relied on Faulty U.S. Data*, Wall St. J., June 24, 2010, at A1, col. 5, A6, col. 2-6.
33. It is a lot easier to measure the immediate economic costs, whereas the environmental costs may require decades of scientific studies.

the flood of oil and to prevent the oil from washing ashore, and cleaning up the oil when it reaches land.

One lesson from the Deepwater Horizon disaster is that the current regulatory response regime did not work. The U.S. Congress responded to the *Exxon Valdez* oil spill by enacting the OPA, which created a national contingency plan to "provide for efficient, coordinated, and effective action to minimize damage."[34] Layers of response were created, including U.S. Coast Guard Strike Teams, a national center to provide coordination and operation, state responses, a federal on-scene coordinator, district response groups, area contingency plans, and vessel and facility response plans, in the context of a worse-case analysis. A worst-case scenario was defined for an offshore facility as "the largest adverse discharge in adverse weather conditions."[35] Clearly, the planning and plans failed, and severe deficiencies arose in the containment efforts.

A fair analysis is that the magnitude of the spill in terms of the endangered area overwhelmed the response, which also met with inefficient bureaucratic obstacles as various agencies exerted their jurisdiction over individual aspects of the response efforts. BP's blowout occurred in the open Gulf, whereas both the Santa Barbara spill and the *Exxon Valdez* spill were in large but fairly contained channels. In addition, the *Exxon Valdez* spill was limited to the capacity of the tanker. Both Santa Barbara and Deepwater Horizon were open-ended, but Santa Barbara was capped fairly quickly, because the well was close to shore in shallow waters.

BP's response plan recognized: "In the event of a significant release of oil, an accurate estimation of the spill's total volume along with the spill location and movement is essential in providing preliminary data to plan and initiate cleanup operations. Generating the estimation as soon as possible will aid in determining"[36] the equipment and personnel needs, the potential threat to sensitive areas, such as the shoreline, the ecological impact, and the requirements for storage and disposal of recovered materials.

The federal response has been handicapped by bureaucracy and agencies acting at cross-purposes. Questions have arisen over application and jurisdiction of the Jones Act, the U.S. Environmental Protection Agency, the U.S. Army Corps of Engineers, the U.S. Fish and Wildlife Service, the Occupational Safety and Health Administration, and permits for sand berms, dispersants, incineration, and cleanup crew working times and conditions, sometimes leading to a paralysis of action.

We saw that the plan should call for a representative to be the communications link with the media and the public. In spite of its efforts, BP encountered major communications problems. The downside to a limited spokesperson is that it appears the organization is trying to muzzle the flow of information. After numerous complaints, BP issued a statement that its employees and contractors are free to speak to the media.[37]

As long as the oil was gushing out of the Gulf, day-by-day, BP had a difficult problem. Thus, every statement should have been carefully weighed for accuracy. Fred Hartley, the President of Union Oil during the Santa Barbara blowout, uttered some remarks that haunted him and Union Oil: "I am always tremendously impressed at the publicity that the death of birds receives versus the loss of people in our country in this day and age. . . . Although it has been referred to as a disaster, it is not a disaster to people. There is no one being killed."[38] The quote came across roughly as: "What's the big deal? It's only a few dead birds."

The Chief Executive Officer (CEO) of BP, while making many proactive comments, such as BP will pay all legitimate claims and hence not be bound by the $75 million cap on liability, also misspoke on occasion damaging the credibility of BP. Too many misstatements came from BP, which added to the distrust. The comment by a BP representative that no underwater oil flume existed, when American scientists claimed they found such flumes, was not productive. Neither were statements that underestimated the amount of the discharge or that were unduly optimistic about the cleanup. Some of the public statements resulted in high hopes and false expectations. The statements by a tired and frustrated Tony Hayward, CEO of BP, that: "You know, I'd like my life back" and the poor English translation by the Swedish-born Chairman of BP that: "We care about the small people" set wrong tones for the company.[39]

BP also received substantial criticism for delays in compensating the claims by those adversely economically impacted by the spill, such as commercial fishermen and the onshore hospitality industry.

In fairness to BP, the emergency response period has not, in the past, been used for victim compensation. Both the Santa Barbara blowout[40] and the *Exxon Valdez* spill[41] entailed substantial litigation to settle all claims, and Congress enacted a statutory compensation plan that resolved most 9/11 claims. Extensive litigation is still underway, with a myriad of claims arising out of Hurricane Katrina. The Deepwater Horizon claims may also have to be decided under Admiralty Law, rather than traditional torts principles.[42] BP, as a for-profit corporation and not a social service agency, unsurprisingly lacked experience in handling such claims. The pressure by President Barack Obama to craft a $20 billion escrow plan, funded by BP, but independently administered, may well serve as a model in future disasters of this type.

34. 33 U.S.C §1321(d)(2) (1990).
35. *Id.* §1321(a)(24)(2).
36. BP Regional Response Plan, *supra* note 17, at 259.
37. Jay Reeves, *BP to 40,000 Oil Spill Workers: Talk Away to Media*, Assoc. Press, July 2, 2010, http://finance.yahoo.com/news/BP-to-40000-oil-spill-workers-apf-325569070.htm?x=O&.=1.
38. Robert Easton, Black Tide: The Santa Barbara Oil Spill and Its Consequences 69 (1972).
39. Jeffrey Zaslow, *Keeping Your Foot Away From Your Mouth*, Wall St. J., July 7, 2010, at D1, col. 1.
40. The two decisions in *Oppen v. Aetna Ins. Co.*, 485 F.2d 252, 3 ELR 20808 (9th Cir. 1973) and *Union Oil Co. v. Oppen*, 501 F.2d 558, 4 ELR 20618 (9th Cir. 1974) held only the commercial fishermen could recover their economic losses. All other economic claimants could not recover for "remote economic loss" or loss of "navigation rights."
41. The U.S. Supreme Court decided the punitive damages case, *Exxon Shipping Co. v. Baker*, 128 S. Ct. 2605, 38 ELR 20149 (2008), two decades after the spill.
42. Grubart v. Great Lakes Dredge & Dock Co., 513 U.S. 527 (1995).

V. Conclusion

BP was testing the limits of technology in the Deepwater Horizon drill. The efforts to stop the spill were incredible, using robotics a mile underwater. Yet, the post-incident investigations will detail the causes of the incident,[43] such that we can say in hindsight, which makes all of us brilliant, the spill never should have happened and that the response efforts reveal major shortcomings, if not failures.

The cleanup and response efforts raised questions of oil removal versus impacts on the environment. The irony is that some steps to protect the environment, such as chemical dispersants, might have an adverse impact on the environment. Society has to decide the balance between closure and containment efforts and environmental protection. Admiral Allen acknowledged that "[w]e have to learn to be more flexible, more adaptable and agile."[44]

The Deepwater Horizon blowout is a major learning experience, but at what a cost.[45] It will serve as a case study in petroleum engineering programs. Our present goal is to learn from the disaster.

The buildup, and decision chain, to the Deepwater Horizon blowout developed over weeks, months, and perhaps years, while the response and recovery stage extended over months. The scientific studies will cover decades. Extensive postmortems will reveal the reasons for the disaster, what went wrong, the acts and decisions that might have made a difference, and the successes and failures in the response. Future drilling will be safer.

Much of the miscommunication and government permit problems can be attributed to the unprecedented nature of this spill, far exceeding the earlier experiences with Santa Barbara and the *Exxon Valdez*. Better coordination between the responsible parties, all levels of government, and the impacted communities, as well as a more rapid, unified response, are called for in light of the problems with the Deepwater Horizon response.

43. *See, e.g.,* BP Accident Report, *supra* note 1.
44. Jeffrey Ball & Jonathan Weisman, *Slippery Slope: U.S. Spill Response Faulted*, Wall St. J., June 17, 2010, at A4, col. 1.
45. One important scientific question will deal with the effectiveness, toxicity, and long-term effects of the dispersants, especially deep underwater.