

ARTICLES

Worst Case and the Deepwater Horizon Blowout: There Ought to Be a Law

by Oliver A. Houck

Oliver A. Houck is Professor of Law at Tulane University.

If you knew you could not fail, what would you try?

plaque on the desk of Tony Hayward,
CEO, BP May 1, 2007¹

There is a law. In fact, there are three laws that, jointly and severally, should have anticipated and provided measures to prevent and cope with the explosion of the drilling rig Deepwater Horizon. Instead, we have 11 deaths, 17 serious injuries, the release of an American record 2.6 million gallons of oil,² an equivalent record for chemical dispersants,³ months of Mutt 'n' Jeff responses, enormous corporate losses, and the ensuing pain of the Gulf Coast region. Regulatory programs under the National Environmental Policy Act (NEPA),⁴ the Outer Continental Shelf Leasing Act (OCSLA)⁵ and the Oil Pollution Act (OPA)⁶ each require the consideration of worst-case situations. The latter two go further in requiring plans to minimize such possibilities and to respond effectively to them when they occur. What could have gone so badly wrong?

I. A Risky Business

Many things went wrong, a cascade of equipment failures and human errors that continued right up to the first moments

of the blowout⁷ and that are being rigorously explored in the U.S. Congress, federal investigations, and civil litigation, but it all began well before, in the planning stages. This was simply an event that could not happen. It remained so in the minds of BP, the petroleum industry, and even the federal government well after the Deepwater Horizon exploded and oil started pouring unchecked into Gulf waters. U.S. Coast Guard Commandant Thad Allen, working closely with the oil company on the subsequent responses, indeed inventing them on the fly ("Top Hat," "Quick Kill"), explained: "It's hard to write a plan for a catastrophic event that has no precedent, which is what this was."⁸ Which, as we will see, is not exactly correct.

The facts are that deepwater drilling is a new and inherently risky operation, pushing the envelope of technology and engineering.⁹ Sea-floor responses, when things go wrong, are described as "open heart surgery at 5,000 feet, in the dark."¹⁰ The risks magnify with ocean depth, some exceeding 10,000 feet, to environments that human beings cannot even access to see, can manipulate only with probes and robots, and to temperatures that freeze even gasses and render the management of fluids and machinery an order of magnitude more challenging.¹¹ The risks also magnify with the number of

Author's Note: The research assistance of Gillian Gurley, 3L, and Forrest Wootten, 2L, Tulane Law School, is acknowledged with gratitude.

1. Naomi Klein, *A Hole in the World*, THE NATION, June 24, 2010, <http://www.thenation.com/article/36608/hole-world>.
2. Katie Howell, *BP Spill 20 Times Larger Than Valdez*, Greenwire.com, Aug. 3, 2010.
3. See Press Release, U.S. Env't. Prot. Agency (EPA), EPA: BP Must Use Less Toxic Dispersant (May 20 2010), <http://yosemite.epa.gov/opa/admpress.nsf/d0cf6618525a9efb85257359003fb69d/0897f55bc6d9a3ba852577290067f67f?OpenDocument>; see also Mark Guarino, *EPA Scolds BP in Gulf Oil Spill: Dispersant Is Too Toxic, Change It*, CHRISTIAN SCI. MONITOR, May 20, 2010 (quoting Jane Lubchenco, Administrator for the National Oceanic and Atmospheric Administration (NOAA)).
4. 42 U.S.C. §§4321-4370f (2006), ELR STAT. NEPA §§2-209.
5. Outer Continental Shelf Lands Act, ch. 345, 67 Stat. 462 (1953) (codified at 43 U.S.C. §§1331-1356a (2006)).
6. 33 U.S.C. §§2701-2761 (2006), ELR STAT. OPA §§1001-7001.

7. For a preliminary catalogue of errors, see Robert Bea, *Failures of the Deepwater Horizon Semi-Submersible Drilling Unit* (Ctr. for Catastrophic Risk Mgmt., UC-Berkeley, May 24, 2010); see also David Hammer, *Oil Spill Hearings: Expert Says Well Workers May Have Ignored Kick an Hour Before Rig Blew*, TIMES-PICAYUNE, July 23, 2010; Mike Soraghan, *Industry Claims of "Proven" Technology Went Unchallenged at MMS*, N.Y. TIMES, June 2, 2010.
8. Steven Mufson & Michael D. Shear, *The Pressure Grows for Action by BP*, WASH. POST, May 1, 2010, available at <http://www.washingtonpost.com/wp-dyn/content/article/2010/04/30/AR2010043002715.html?hpid=topnews>.
9. Ben Casselmann & Guy Chazan, *Disaster Plans Lacking at Deep Rigs*, WALL ST. J., May 18, 2010 (inter alia, quoting Danish oil industry engineers as stating that many deepwater projects are "dependent on prototype and naval technologies" about which there is "significant uncertainty" because they had not been tested in real-world settings).
10. Soraghan, *supra* note 7.
11. CURRY L. HAGERTY & JONATHAN L. RAMSEUR, CONG. RESEARCH SERV., PUBL'N NO. R41262, DEEPWATER HORIZON OIL SPILL: SELECTED ISSUES FOR CONGRESS 2-4 (2010); Vassilios C. Kelessidis, *Challenges for Very Deep Oil and Gas Drilling—Will There Ever Be a Depth Limit?* (3d AMIREG International Conference, Athens, Greece, 2009), available at <http://drillinglab.mred.tuc.gr/Publications/56.pdf>. See also Joel K. Bourne Jr., *Is Another Deepwater Disaster*

times they are taken, and the deepwater business is booming. The offshore Gulf and Alaska, thought to be the last great oil plays in America, have seen a 50% increase in proven discoveries in recent years.¹² Shallow water drilling is declining.¹³ Gulf deepwater production boomed from 17 to 141 active wells over the last decade; most current leases are at 1,000 feet or more, and nearly one-half of the new discoveries push 5,000 feet or beyond,¹⁴ which is where the riser from the BP-leased rig met the ocean floor to begin drilling yet four more miles down through sediments and frozen methane hydrates, a serious hazard in their own right.¹⁵

One explanation of the Deepwater Horizon disaster could simply be called “risk creep.” An activity begun more than a century ago onshore and in low-impact conditions moved gradually into more sensitive Gulf wetlands and then open water, at ever greater depths that, like the differentiation of species, at no time presented something so radically different that we recognized we had a new animal. We had gone from technology circa World War I to something more like nuclear power plants without accepting that the new model required a more armored approach. Little in the portfolio of BP, other industry members, or federal regulators put a premium on exposing risks and slowing things down. As a former Minerals Management Service (MMS) Gulf Coast director recently explained, apparently in his own defense, his marching orders were to “expedite” offshore drilling, which he translated as “let the good times roll” (his words).¹⁶ An evangelist for aggressive production, he dismissed the prospect of catastrophic failure as “impossible” (the evaluation came from the head of his engineering team, who was later fired for accepting gifts from an oil company and lying

on his ethics form).¹⁷ BP, for its part, under the transparently deceptive slogan “Beyond Petroleum,” had invested \$39 billion on new oil and gas exploration over just the previous three years; it had spent only 0.05% of this amount, \$20 million, on research and development for accident prevention and response.¹⁸

With this much political and economic skin in the game, one can only imagine the fate of an MMS or BP employee who raised a red flag. One can equally imagine its fate in Congress had the MMS, before the Deepwater Horizon blowout, proposed to require greater safeguards; Louisiana’s Sen. J. Bennett Johnston Jr. (D-La.), the longtime senior member of the delegation, commonly referred to as the Senator from Oil, declared during the enactment of the OCSLA that “[t]he so-called danger from oil spills has not been proved. Not only has it not been proved, it has been disproved and we need to get on with the drilling.”¹⁹ The same Gulf Coast politicians now in high dudgeon and demanding extraordinary levels of compensation would have nailed greater safeguards to the wall. The mindsets, the reward systems from top to bottom, were full steam ahead.²⁰ On the fateful day, a BP supervisor on the Deepwater Horizon, with bad vibrations from the well swirling around him, said of his decision not to verify a seal that would cap it until future operation, “It’s done. Who cares? . . . [it] will probably be fine.”²¹

From the industry point of view, and indeed from any gambler’s point of view, the probabilities were favorable. Not one major blowout had occurred in 37 years from American operations in the deep Gulf, they would claim, before and after the event.²² The claim was, at the least, incomplete. A few big rigs came perilously close. The last 20 years have seen major fires, equipment ruptures, wells that collapsed, and rigs that sank.²³ A former Shell International Health and Safety Group auditor, examining a bit more data, reports that, worldwide and prior to the Deepwater Horizon, there had been 44 “notable” blowout events with some 79 deaths, including the Ixtoc well in Mexican waters of the Gulf that took six months to arrest.²⁴ He calculated the mean time between these failures at 15 months. The Gulf, he found, had seen 11 blowouts, or one-quarter of the world total, with a frequency rate of approximately one in four years. “By no

Inevitable?, NAT’L GEOGRAPHIC MAG., (Oct. 2010), available at <http://ngm.nationalgeographic.com/print/2010/10/gulf-oil-spill/bourne-text>:

The waters of the Gulf below a thousand feet are relatively new frontier for oilmen—and one of the toughest places on the planet to drill. The seafloor falls off the gently sloping continental shelf into jumbled basin-and-range-like terrain, with deep canyons, ocean ridges, and active mud volcanoes 500 feet high. More than 2,000 barrels of oil a day seep from scattered natural vents. But the commercial deposits lie deeply buried, often beneath layers of shifting salt that are prone to undersea earthquakes. Temperatures at the seafloor are near freezing, while the oil reservoirs can hit 400 degrees Fahrenheit; they’re like hot, shaken soda bottles just waiting for someone to pop the top. Pockets of explosive methane gas and methane hydrates, frozen but unstable, lurk in the sediment, increasing the risk of a blowout.

12. HAGERTY & RAMSEUR, *supra* note 11, at 4.

13. *Id.* (less than one-third of all OCS leases are now in shallow waters).

14. Minerals Management Service (MMS), Deepwater of Gulf of Mexico 2009: Interim Report 2008 Highlights, OCS Report, MMS 2009-016, available at <http://www.gomr.boemre.gov/PDFs/2009/2009-016.pdf> (inter alia, as of 2008, of 7,300 active Gulf of Mexico (GOM) leases, 58% were in deepwater, with 64 exceeding 5,000 feet). *Id.* at 3, 9; overall leases by water depth were as follows:

1,000–1,499 ft.	– 152 total leases, 2 % of all GOM leases
1,500–4,999 ft.	– 2,066 total leases, 28 % of all GOM leases
5,000–7,499 ft.	– 1,398 total leases, 19% of all GOM leases
7,500+ ft.	– 598 total leases

Id. at 20-21.

15. HAGERTY & RAMSEUR, *supra* note 11, at 4.

16. Jason DeParle, *Minerals Service Had a Mandate to Produce Results*, N.Y. TIMES, Aug. 7, 2010. The MMS has since been dissolved into three divisions, the management functions vested in the Bureau of Ocean Energy Management, Regulations, and Enforcement; because the MMS was the operative unit up to the time of the blowout, it remains so identified in this Article.

17. *Id.*

18. Klein, *supra* note 1.

19. DeParle, *supra* note 16.

20. Investigations into the Texas City disaster revealed that BP provided bonuses for meeting production and cost reduction targets. E-mail from Prof. Andrew Hopkins, Austl. Nat’l Univ., to author, July 1, 2010 (on file with author); see also DeParle, *supra* note 16.

21. Ryan Knutson, *Blast at BP Texas Refinery in ‘05 Foreshadowed Gulf Disaster*, PROPUBLICA, July 2, 2010, <http://www.propublica.org/article/blast-at-bp-texas-refinery-in-05-foreshadowed-gulf-disaster> (quoting BP employee Brett Coales “who cares, it’s done, end of story, will probably be fine”).

22. See Testimony of Erik Milito, Upstream Director, American Petroleum Institute Before the Subcommittee on Energy and Mineral Resources of the House Committee on Natural Resources, June 17, 2010.

23. Casselmann & Chazan, *supra* note 9 (describing specific incidents and evidence that, as the safety technology improved, it was overwhelmed by the new challenges of operating at ever-greater depths).

24. William Campbell, *Blowouts Not Such Rare Events*, THE MARITIME ADVOCATE ONLINE, Issue 444, July 12, 2010. The blowout data that follow are taken from this source.

definition,” he concludes, are well blowouts “rare events.” An MMS study in 2007 concurred, recording 39 blowouts between 1992 and 2006.²⁵ Related failures of the much-vaunted final line of defense, the blowout preventer (BOP) at the base of the riser, are apparently no less rare.²⁶ An MMS study of these devices in the United States discovered 117 failures during a two-year period on the OCS, from operations at depths from 1,300 to 6,560 feet.²⁷ The picture worldwide inspires little more confidence, with a recorded 138 BOP failures off Albania, Brazil, Italy, and Norway.

BP, despite its world image as a progressive industry leader, was itself also a problematic performer. In fact, litigators preparing for the *Exxon Valdez* case warmed up to the issue by litigating a nearby BP spill in Alaska.²⁸ BP’s Alaska record subsequently turned so sour that it was subject to federal criminal penalties, practically unheard of in the field.²⁹ It has also been the defendant in a chronic series of refinery and related accidents (one explosion killed 15 people) in neighboring Texas.³⁰ A whistleblower suit is currently pending by a BP employee alleging that he was fired for trying to maintain compliance records.³¹ The Texas Attorney General has recently filed suit against BP for the illegal discharge of one-half a million pounds of toxic chemicals; some 2,200 BP refinery workers have filed a civil action for the same exposures.³² Transocean, which owned and leased the Deepwater Horizon to BP, had a dubious safety record of its own, including, per an independent audit, “a series of accident and near-hits within the global organization.”³³ A closer examination of the primary actors’ actual field practices would not have been unreasonable at the time that the Deepwater Horizon came on.

Also sounding an alarm bell, had anyone been listening, were several unusually candid industry and federal reports. An environmental assessment (EA) for a Shell rig laid out the difficulties of operating in deepwater: blowouts would take place on the sea floor; they would be harder to control, in all likelihood be accompanied by surface fires, and be harder to track; the ability of a “successful surface intervention” was minimal.³⁴ Another report from the National Oceanic and Atmospheric Administration (NOAA) discussed a near-crisis in 2003 at BP’s Thunder Horse rig, the rupture of its con-

necting riser, and concluding that, had the BOP not functioned to seal off the operation, the result would have been “more oil spilled in a week than occurred during the whole of the T/V Exxon’s Valdez oil spill.”³⁵ Was anyone reading these things?

Apparently not. These sobering data notwithstanding, everyone was reading instead from the same Book of Faith about the risks involved in deepwater drilling, no matter what inquiry and degree of caution was justified by the facts or required by law.

II. The Reviews and Approvals

Offshore leasing proceeds, in measured steps, from a five-year OCS leasing plan to specific lease sales, exploration plans, and development and operation, each to be accompanied by environmental review under NEPA.³⁶ As the activity becomes more focused, goes the idea, the environmental review would as well.³⁷ In practice, in the Gulf of Mexico, the nation’s largest offshore oil development venture, the exact opposite happened.

On paper, the MMS exceeded the mark by first preparing a programmatic environmental impact statement (EIS) on OCS leasing for the period 2007-2010,³⁸ followed by a second EIS on 11 sales in the western Gulf, including the tract later purchased by BP.³⁹ So far, so good. Unfortunately, these documents downplayed the risk of blowouts as negligible and easily addressed by modern technology. The programmatic statement—limiting its scope “only to provide broad information and analysis” as a starting point for “more detailed reviews at the region, site and activity level”—described large spills of any origin as unlikely due to, as if reading from a corporate stock portfolio, “an increasingly effective campaign of positive prevention and preparedness initiatives” (unidentified in the document).⁴⁰ Any worse spills that did occur would be “primarily short-term and localized in nature.”⁴¹ Rather than focus on the worst-possible case, the MMS instead averaged the *mean* of past spills to determine what lay ahead.⁴² Asked subsequently how the MMS addressed the likelihood of catastrophic failure, the current Gulf of Mexico offshore

25. *Id.*

26. Les Blumenthal, *Decade-Old Report Cited Failure of Oil Rig Safety System*, McCLATCHY NEWSPAPERS, Apr. 30, 2010, <http://www.mcclatchydc.com/2010/04/30/93250/us-report-found-failure-of-offshore.html>.

27. *Id.*

28. See DAVID LEBEDOFF, *CLEANING UP* (1997) (a blow-by-blow description of the *Exxon Valdez* civil trial).

29. Abraham Lustgarten, *EPA Officials Weigh Sanctions Against BP’s U.S. Operations*, PROPUBLICA, May 21, 2010, <http://www.propublica.org/article/epa-officials-weighing-sanctions-against-bps-us-operations>.

30. See Alice Gomstyn, *BP Texas City Refinery Blast Victim: BP Keeps “Killing People,”* ABC NEWS, July 7, 2010, <http://abcnews.go.com/Business/bp-2005-texas-city-refinery-blast-victim-bp/story?id=11095640>.

31. *Food & Water Watch, Inc. v. U.S. Dep’t of Interior*, Case No. 4:10-cv-01759 (S.D. Tex. filed May 17, 2010).

32. Suzanne Pagaro, *Texas Attorney General Sues BP for Excessive Air Emissions at Refinery*, 15 DAILY ENVTL. REP. (BNA), Aug. 11, 2010, at A-10.

33. Robbie Brown, *After Another Close Call, Transocean Changed Rules*, N.Y. TIMES, Aug. 16, 2010, at A19, available at http://www.nytimes.com/2010/08/17/us/17transocean.html?_r=1&scp=1&sq=another%20rig%20close&st=cse.

34. Soraghan, *supra* note 7.

35. C.J. Beegle-Krause, *Combining Modeling With Response in Potential Deep Well Blowout: Lessons Learned From Thunder Horse 1* (NOAA Office of Response and Restoration, 2005).

36. A summary of the OCS process and the MMS environmental reviews for the Gulf of Mexico can be found at KRISTINA ALEXANDER, CONG. RESEARCH SERV., PUBL’N NO. R41265, *THE 2010 OIL SPILL: THE MINERALS MANAGEMENT SERVICE (MMS) AND THE NATIONAL ENVIRONMENTAL POLICY ACT (NEPA)* (2010).

37. See *N. Slope Borough v. Andrus*, 642 F.2d 589, 10 ELR 20832 (D.C. Cir. 1980).

38. MMS, PUBL’N NO. MMS 2007-003, *OUTER CONTINENTAL SHELF OIL & GAS LEASING PROGRAM: 2007-2012* (2007), available at <http://www.boemre.gov/5-year/2007-2012DEIS/VolumeII/5and6-ConsultationPreparers.pdf>.

39. MMS, PUBL’N NO. 2007-018, *GULF OF MEXICO OCS OIL AND GAS LEASE SALES: 2007-2012*, at 4-71 (2007), available at <http://www.gomr.mms.gov/PDFs/2007/2007-018-Vol1.pdf>.

40. *Id.*

41. *Id.* at 4-379. These “assumptions” were lifted, in turn, from the 2002 programmatic EIS, centering the process more on xeroxing and cut-and-paste than independent thought. See *infra* note 65 and accompanying text.

42. *Id.* at 4-75. In effect, the agency reduced a worst-possible analysis to worst-probable.

director replied: “I don’t think we address it exactly that way . . . we do a mechanical calculation, just a rote calculation.”⁴³

It was thus official: according to the industry and the agency, a maximum platform spill would release only 1,500 barrels per day, “inconsequential” on all but the most sensitive areas, and too distant from shore to produce “measurable coastal impacts.”⁴⁴ Starting with these assertions (however at odds with other data available to the agency), far from being the contemplated first step toward more detailed scrutiny, the programmatic statement would shut it down.⁴⁵

The western Gulf EIS went the programmatic analysis one better, estimating that only 400–21,000 barrels of oil would be spilled over the next 40 years.⁴⁶ Were there total loss of well control, it would last “half a day.”⁴⁷ The oil would “quickly rise to the surface” where it could be easily identified and removed.⁴⁸ (No mention was made of the effect of dispersants). If, in any unlikely case, a spill were to occur proximate to aquatic life, the effects would be nonfatal and the damage reduced because “fish swim away from spilled oil.”⁴⁹ (No mention was made of oysters, not known for swimming speed, or of crabs, shrimp, and other seal life trapped in coastal estuaries or on the ocean floor.) As for the eggs of these species, “fish overproduce eggs on an enormous scale,” most of which die, so there would be “no detectable effect on adult populations.”⁵⁰ Which, as we shall see, effectively ended the environmental analysis for drilling operations in the open Gulf, extending from a mile and more deep on the Gulf sea floor five miles further to their target.

The agency proceeded to the actual lease sale 206 with an EA, finding no “new” impacts not previously described.⁵¹ The discussion in this abbreviated document was even more general than that in the EISs before. Coming last to the exploration process, where BP was engaged at the time of the blowout, in 2004, the MMS took advantage of a process for “categorical exclusions” for routine activities with “minimal to nonexistent” impacts⁵² to exempt all OCS development in the western Gulf from further environmental review altogether, unless the activity was unusually risky or near an area

of “high biological sensitivity.”⁵³ In no impact assessment, from start to finish, did the agency identify an unanticipated worst-case blowout. Its analysis was limited to what was *likely*, not what could be catastrophic. Because catastrophic had not yet happened, it was ignored. So much, for the moment, for NEPA.

OCSLA regulations also require with considerable specificity that, at the exploration stage, the company identify a worst-case scenario, including the highest volume of oil that could be released, its maximum flow and duration, the likelihood that it could be arrested, and the time it would take to dig a relief well.⁵⁴ The OPA, responding to the *Exxon Valdez* spill, added additional prescriptions for facility response plans to a worst-case scenario, including the identification of facilities, technology, and financing.⁵⁵ Piggybacking on the MMS impact statements, however, BP’s initial application for exploration approval predicted “little risk” of a spill (five separate times), and minimal impacts should one occur due to “currents and microbial degradation” and the “capability of fish and shellfish to avoid a spill.”⁵⁶ The response situation was also well in hand, in fact described as “speedy,” based on “industry-wide standards and technology and response teams” that were, again, not further described.⁵⁷ BP’s plan listed an equipment supplier with a website linked to a defunct Japanese-language web page and, as its wildlife liaison, a marine biologist who had died four years before.⁵⁸ The exercise was mindless from start to finish.

Having thus discarded the possibility of a deepwater catastrophe, BP relied on yet another MMS device called a Notice to Lessees (NTL), which waived further need for a blowout response plan, so long as the anticipated impacts were within the range previously determined (inter alia, through the NEPA process) to be insignificant.⁵⁹ The waiver did not apply, tellingly, to OCS activities off Florida and Texas; the NTLs were largely Louisiana specials.⁶⁰ The MMS even provided a short, fill-in-the-blanks form for drilling companies, certifying that they had “the capability to respond, to the maximum extent practicable, to a worst case discharge”⁶¹ They, of course, did so. Asked, in a subsequent inquiry, about its oversight of emergency responses, an MMS official testified that the agency “highly encouraged,” but did

43. *Regulators Relied on Rote Calculation—Industry Expertise—BOEMRE, GREENWIRE*, Aug. 13, 2010.

44. BP EXPLORATION & PROD. CO., INITIAL EXPLORATION PLAN: MISSISSIPPI CANYON BLOCK 252: OCS-G 32306, at §14.2.3 (2009), available at <http://www.scribd.com/doc/32990070/BP-s-Initial-Exploration-Plan-for-Mississippi-Canyon-Block-252-Dated-February-2009>.

45. The adequacy of the EIS was challenged and held, in minor part, inadequate; the MMS returned with a revised document in April 2010. See 75 Fed. Reg. 16833 (Apr. 2, 2010); *Ctr. for Biological Diversity v. U.S. Dept of Interior*, 563 F.3d 466, 39 ELR 20091 (D.C. Cir. 2009).

46. MMS, *supra* note 40, at 4-244.

47. *Id.* at 4-258.

48. *Id.* at 4-259.

49. *Id.* at 4-292.

50. *Id.* at 4-291.

51. See MMS, PUBL’N No. MMS 2007-059, PROPOSED GULF OF MEXICO OCS OIL AND GAS LEASE SALE 206: ENVIRONMENTAL ASSESSMENT (2007), available at <http://www.gomr.boemre.gov/PDFs/2007/2007-059.pdf>.

52. CEQ regulations permit “categorical exclusions” from the NEPA process for categories of activities determined to have no significant impact either “individually or cumulatively.” 40 C.F.R. §1508.4 (2010). The regulations also require agencies to identify “extraordinary circumstances” when an exclusion would *not* apply. §1508.4.

53. The MMS identified those “extraordinary circumstances” barring categorical exclusions as explorations in areas of high seismic risk, untested waters, bottoms with hazardous conditions, within or near sensitive wildlife areas, or using new or unusual technology. See ALEXANDER, *supra* note 36, at 23 (citing 516 MMS Department Manual 15.4).

54. 30 C.F.R. §250.219 (2010).

55. The OPA amended the Clean Water Act to provide for several levels of contingency response plans for both geographic areas and types of facilities. See 33 U.S.C. §1321 (2006).

56. Klein, *supra* note 1.

57. *Id.*

58. Andrew Clark, *BP Contingency Plan for Dealing With Oil Spill Was Riddled With Errors*, THE GUARDIAN, June 9, 2010, available at <http://www.guardian.co.uk/environment/2010/jun/09/bp-oil-spill-contingency-plan/print>.

59. See ALEXANDER, *supra* note 36, at 13 (citing MMS, NTL No. 2008 6-4 (May 1, 2008)).

60. *Id.*

61. MMS, NTL No. 2008-G04, Notice to Lessees and Operators of Federal Oil, Gas, and Sulphur Leases in the Outer Continental Shelf, Gulf of Mexico OCS Region: Information Requirements for Exploration Plans and Development Operations Coordination Documents (Apr. 1, 2008).

not require, backup systems to trigger the blowout prevention devices on which the industry relied (and which apparently failed in the Deepwater Horizon explosion).⁶² “Highly encouraged?” asked a hearing officer, “how did that translate to enforcement?” “There was no enforcement,” the agency official replied.⁶³

The Deepwater Horizon approvals were not alone. From 250 to 400 OCS explorations in the western Gulf have been categorically excluded from detailed environmental reviews.⁶⁴ Exploration applications from such major industry players as ExxonMobil, Hess Corporation, and Marathon turned into boilerplate, prepared largely by private consultants, borrowing unthinkingly from applications in Alaska that wound up predicting little impacts on walrus and sea lions in the Gulf (which would be rare sightings indeed).⁶⁵ To a form, each asserted that, as unlikely as a blowout would be, “proven equipment and technology” would provide quick and effective control.⁶⁶ The MMS continued to approve exploration plans with these assurances even following the blowout.⁶⁷ BP itself submitted one, filling in the section describing its worst-case scenario as “information not required.”⁶⁸ If the effect of Gulf of Mexico hurricanes—some as recent and notorious as Hurricane Ivan, Hurricane Katrina, and Hurricane Rita (the latter two hurricanes released some 11 million gallons of oil)⁶⁹—on these “proven assurances” came to mind in any of this assessment from the programmatic EIS on down, it did not make its way into the written statements.⁷⁰

All of which may help one understand Secretary of the Interior Ken Salazar’s Gulf-wide moratorium on exploration.⁷¹ The Deepwater Horizon blowout told us something of the risk. The adequacy of control-and-response measures for even the most high-risk of these ventures was anyone’s guess.

On reflection, the environmental reviews that accompanied these decisions resembled a stack of babushka dolls, each couching a smaller one, each painted identically and saying the same misleading thing. In the dance that followed among NEPA, the OCSLA, and the OPA, something ironic and ultimately deadly happened: the NEPA process not only failed its mission to enlighten critical OCS decisions, it obfuscated and in the end undercut them.⁷² The “no risk”

environmental documents did them in. No one, no matter what the OCS/OPA regulations said, was going to prepare for something so unlikely to happen and so well in hand.

III. A Return to NEPA

What we had here was willful blindness. It permeated the industry, the MMS, the U.S. Fish and Wildlife Service evaluations, e.g., no threat to then-endangered brown pelicans because major spills were such “low probability” events,⁷³ Congress, which was bent on expanding, not limiting, deepwater exploration, and even the president of the United States, who defended his decision to go along by explaining that “proven technology” had made the endeavor worry-free.⁷⁴ Nonetheless, there was always a possibility of disaster, and both OCSLA and NEPA regulations required the investigation of remote possibilities whose impacts could be fairly predicted: worst-case analysis.

The problem was this: In the 1980s, under enormous pressure, the Council on Environmental Quality (CEQ) had watered down its NEPA worst-case regulations, and without the support of the NEPA process, OCSLA and OPA requirements were left naked. They became a game in the dark between industry and the MMS regulators, who were often interchangeable and on terms so cozy they led to drug scandals, sex scandals, and, most prized of all, free Louisiana State University football tickets.⁷⁵ When NEPA failed, the rest of the program was not far behind.

It is hard for anyone removed from the process to understand the insult and intrusion that NEPA portends to the development community. It is one thing to require development agencies like the MMS to describe the bad side, which is usually the environmental impact side, of their activities. No one presents dirty linen as a calling card. It is a yet more aggravating demand, once these impacts are identified, to describe alternatives to the ways we operate, and intend to operate, for reasons quite sufficient to us, who are, after all, the ones doing the deed. NEPA requirements for impacts and alternatives, then, can be bitter pills to swallow. But worst-case analysis is one pill too far. It casts you in your worst light, even if you know that the worst is improbable. In 1978, the CEQ, charged with implementing NEPA, issued regulations requiring all three disclosures.⁷⁶ The war was on. It is some testimony to the particular antipathy for worst-case analysis that in 1986, the Ronald Reagan Administration, with all the possibilities before it to amend the NEPA process for industry and development constituencies, chose this one provision: worst case.

CEQ regulations reflect the difficulties it knew lay ahead with compliance by agencies reluctant to espouse environ-

62. Casselmann & Chazan, *supra* note 9 (quoting Coast Guard Capt. Huong Nguyen and MMS official Michael Saucier).

63. *Id.*

64. Soraghan, *supra* note 7.

65. *Id.* See also Clark, *supra* note 58.

66. Soraghan, *supra* note 7.

67. *Id.*

68. *Id.*

69. Mark Schleifstein, *Extent of Oil Spills From Hurricanes Katrina and Rita Still Being Assessed*, TIMES-PICAYUNE, Aug. 19, 2010.

70. Stephanie Vallejo, *Markey Criticizes BP for Emergency Response Plan That Doesn't Account for Hurricanes*, BOSTON GLOBE, June 30, 2010.

71. The moratorium, which provoked outrage and several lawsuits in Louisiana, even while Deepwater Horizon oil and gas poured unchecked into the sea, presented the Administration with an unenviable set of options. However one weighs its merits, the moratorium served to change the default position for deepwater drilling and provide breathing space, and momentum, for significant changes.

72. See *Hearing Before the S. Comm. on Energy & Natural Resources*, 111th Cong. 15 (2010) (Testimony of Marilyn Heiman, Director, Offshore Energy Reform Project) (suggesting that the MMS misused the “segmented nature” of the OCSLA process in order to circumvent meaningful NEPA analysis).

73. Vallejo, *supra* note 70.

74. Klein, *supra* note 1 (quoting the president as saying: “Oil rigs today generally don’t cause oil spill. They are technologically very sophisticated.”). Both statements are, of course, true. What we also know now is that when they are *not* true, they are *extremely* not true.

75. See DeParle, *supra* note 16.

76. National Environmental Policy Act—Regulations, 43 Fed. Reg. 55978 (Nov. 29, 1978) (currently codified at 40 C.F.R. pt. 1502).

mental goals or NEPA procedures. The CEQ adopted action-forcing measures to surface full information of all kinds, outside commentary, cumulative impacts, and alternatives among them.⁷⁷ Its worst-case requirement, entitled “incomplete or unavailable information,” required agencies, “in the face of uncertainty,” to include an explicit “worst case analysis” and the “probability or improbability of its occurrence.”⁷⁸ The requirement was designed to keep agencies from using uncertainty as a “veil” to hide unpleasant possibilities.⁷⁹ In 1980, the agency reiterated that worst-case analysis was “especially critical” for many new energy development projects then emerging, where key information remained unavailable.⁸⁰ Deepwater drilling on the OCS would certainly be one of them.

The blowback was intense. A 1980 CEQ review of NEPA compliance found that “EISs rarely even address the [worst-case] requirement.”⁸¹ The reasons were simple, and rooted in human nature.⁸² The analysis threw stigma at a project, no matter how unlikely the worst case was. It seemed, further, to have no end point. Fish could fall from the sky; anything could happen. And it slanted the analysis away from likely impacts and toward the improbable, misallocating resources in response. What environmentalists feared, on the other hand, is that once this specific obligation to deal with unpleasant possibilities was taken off the table, the analysis would be buried.⁸³ Worst cases happen with some regularity—the Hindenburg, the Titanic, the New Orleans levees, Wall Street banking—they fill history books and the daily newspapers, each of these mishaps managed by the brightest kids in the world, too smart and too big to fail. Drop the worst-case requirement, some predicted, and no one would face up to worst cases again. Which is pretty much what happened.

77. 40 C.F.R. pt. 1502, §§1508.25 (cumulative impacts), 1502.14 (alternatives).

78. 43 Fed. Reg. at 55980.

79. 43 Fed. Reg. at 55984; *Sierra Club v. Sigler*, 695 F.2d 957, 973 n.13, 13 ELR 20210 (5th Cir. 1983).

80. See Lawrence Liebsman, *The Council on Environmental Quality's Regulation to Implement the National Environmental Policy Act—Will They Further NEPA's Substantive Mandate?*, 10 ELR 50039, 50045 (Nov. 1980).

81. *Id.*

82. See 50 Fed. Reg. 32234, 32236 (Aug. 9, 1985) (explaining, inter alia, that worst-case possibilities were “limitless” and could be “conjured up” at will).

83. By way of example, this author submitted the following comment on the worst-case amendment rulemaking:

[The CEQ] appears to be trying to legislate in an area which is uniquely suited to common law development. There is, on the one hand, an obvious necessity to consider “worst cases” when reviewing the impacts of federal projects. Common sense requires it, and the law has sensibly followed. On the other hand, one appears to fear the specter of unbridled speculation, at an unspecified cost to the government in research and delay (and, perhaps, adverse publicity once the worst case is revealed?). The difficulty is in defining which cases are “too speculative.” The fact is that, by rule, you will never define it, any more, for example, than you will define, by rule, which alternatives to a proposal are “too speculative” under NEPA. These questions get resolved on a case-by-case basis, on given facts, under a rule of reasonableness . . . If, [a] canal is to transport tankers of toxic materials which rarely leak, but if the rare leak occurs would contaminate a far greater area, that is where worst case analysis is needed. And that analysis is precisely the type which proposals for its “refinement” based on probability would eliminate.

Letter from Oliver Houck to the President's Council on Environmental Quality (Jan. 16, 1985) (on file with author).

Not without an internal struggle. The CEQ battled for and retained the notion in its regulations. Its rather clear language of 1978, however, was rephrased into a set of guidelines that managed to be both more elaborate and more opaque, providing an initial threshold test based on events that were “reasonably foreseeable.”⁸⁴ Although defined in a later paragraph as events with large consequences, even if their probability is low,⁸⁵ the opening language caught the eye and invited agencies to dismiss such possibilities as uncontrolled blowouts, based on allegations (however incorrect) that they hadn't happened yet. More fatal still, and this was perhaps the key, the CEQ dropped the “worst case” phrase altogether.⁸⁶ What's in a phrase? A great deal; ask any advertising agency. Or, for that matter, the U.S. Supreme Court.

Three years following the regulation change, the Court ruled with evident approval that, as a matter of separate and explicit analysis, worst case was out and a more generalized impact description was in.⁸⁷ Worst-case jurisprudence that had developed in starts and fits up to this point, setting thresholds to trigger the analysis and adjusting its process, fell by the wayside.⁸⁸ Subsequent NEPA litigation saw few successful worst-case challenges, the litmus test for NEPA requirements.⁸⁹ A sad lesson of the NEPA experience is that, given the resistance of federal development agencies and the limited supervisory power of the CEQ, what citizen groups cannot enforce will die on the vine.

Where, then, were the courts and the CEQ when it came to the MMS' approach to OCS leasing? Early on, the judiciary bought into the shuck-and-slide of deferring detailed impact review until later exploration and development states of the OCS process, where, in terms of worst-case impact considerations (however styled), it came too late in the day.⁹⁰ If, as we have seen above, the analysis came at all. Impressed by the OSCLA's get-out-the-oil mandate, and by the apparent reasonableness (and convenience) of postponing difficult

84. National Environmental Policy Act Regulations—Incomplete or Unavailable Information, 51 Fed. Reg. 15618 (Apr. 25, 1986) (codified at 43 C.F.R. §1502.22).

85. *Id.*

86. *Id.*

87. *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 355-56, 19 ELR 20743 (1989).

88. The lead case, *Sierra Club v. Sigler*, 695 F.2d 957, 13 ELR 20210 (5th Cir. 1983), required the U.S. Army Corps of Engineers to consider the impacts of an “unlikely” tanker collision and oil spill into Galveston Bay; a few years later, just such a mega-accident occurred. Lisa Belkin, *Whereabouts of 500,000 Gallons of Oil Is Baffling in Texas Spill*, N.Y. TIMES, Aug. 2, 1990. *Sigler* was followed by others in the U.S. Court of Appeals for the Ninth Circuit espousing the same reasoning. To trace the apex and decline of this development, see Edward A. Fitzgerald, *The Rise and Fall of Worst Case Analysis*, 18 DAYTON L. REV. 1 (1992); Charles F. Weiss, *Federal Agency Management of Uncertainty in Environmental Impact Statements Under the CEQ's Amended NEPA Regulation §1502.22: Worst Case Analysis or Risk Threshold?*, 86 MICH. L. REV. 777 (1988).

89. For a rare, successful worst-case challenge post-*Robertson*, see *Sierra Club v. Watkins*, 808 F. Supp. 852, 872, 23 ELR 20728 (D.D.C. 1991) (rebuking DOE's adamant refusal to consider high-end risks in the transportation of spent nuclear fuel).

90. The lead case of *N. Slope Borough v. Andrus*, 642 F.2d 589, 10 ELR 20832 (D.C. Cir. 1980), set the tone; although NEPA review at the leasing stage was required, the rigor of that review was lessened because of the “tiered” nature of the OSCLA process. Subsequent cases, including *Tribal Village of Akutan v. Hodel*, 869 F.2d 1185 (9th Cir. 1988); *Village of False Pass v. Clark*, 733 F.2d 605, 14 ELR 20398 (9th Cir. 1984); *Village of False Pass v. Watt*, 565 F. Supp. 1123, 13 ELR 20905 (D. Alaska 1983), continued the theme.

inquiries to a later time, federal judges gave the MMS a pass.⁹¹ More recent court decisions on OCS challenges have gone so far as to immunize the whole leasing process from judicial review as not constituting a “final agency action” under the Administrative Procedure Act (APA),⁹² or, alternately styled, as one giving rise to no immediate injury and “standing to sue.”⁹³ By coincidence, the latest of these decisions involved the leasing area of the Deepwater Horizon.⁹⁴ Judges too, when so inclined, know how to expedite development.

The CEQ also took a pass. For most of the OCS leasing heyday, including the pivotal recent years when deepwater drilling went viral, the CEQ was driven by the same politics that drove the MMS.⁹⁵ It was also busy defending itself from complaints that its NEPA requirements were unduly burdensome by touting the “tiering” of environmental reviews exactly as the MMS was doing.⁹⁶ To this CEQ, the very shell game in which the MMS was engaged bespoke success. It must be granted, in large part, environmental organizations swallowed the same Kool-Aid that everyone else did; pursuing other agendas, they raised few questions about oil development in the Gulf of Mexico.⁹⁷ In the end, there was no one left to check the party. It continued right up to the day of the Deepwater Horizon explosion.

Without the backup of NEPA, there was little examination of industry’s worst-case claims or the government approvals for deepwater drilling. Scarce information was available to provoke questions, and no ready vehicle to ask them. The OCS documents most operable for worst-case analysis, the leases and exploration plans, were documents in the dark, accessible by Freedom of Information Act request on demand but, exempted via EAs and categorical exclusions, they were not distributed openly for public and expert review.

Left to its own devices, then, a key precautionary element of the OCSLA, that, from the outset, Congress resolved would be conducted “in a safe manner” and with sufficient safeguards for “blowouts, loss of well control, fires, [and] spillages,”⁹⁸ was left without a critical implementation mech-

anism to make it a reality. When NEPA worst case went down, serious risk analysis went down as well. A full field blowout remained unthinkable, unaddressed, and unprepared for.

IV. Beyond BP

On May 18, 2010, the CEQ announced a 30-day review of NEPA policies regarding OCS drilling in the Gulf.⁹⁹ The public comments were predictable, and, to some extent, a replay of the 1986 comments many years earlier. Industry claimed that the Deepwater Horizon blowout was an anomaly, it had the situation in hand, it was already burdened with a plethora of regulations, the only problem was implementation¹⁰⁰; environmental groups, of course, urged opposite conclusions.¹⁰¹ The outcome of this inquiry is pending, but it is also by its very nature quite limited. OCS drilling is the tip of the iceberg, a dangerous tip to be sure, but much the same can be said for coal mining, oil shale, tar sands, natural gas fracturing, renewed nuclear energy development, and similar ventures that ignore worst cases at their (and our) peril. Nor is the worst-case doctrine limited in any logical sense to energy development, with major decisions involving bio-engineering, genetically modified crops, endocrine disruptors, and ecosystem modifications ahead. OCS is currently on the table, which is a good start. Worst case belongs back on the table as well.

When it returns, two amendments seem desirable. The first is the removal of the “reasonably foreseeable” threshold for events of catastrophic proportion, which has become an escape valve of choice for the federal family. Standard risk analysis tells us that, the more severe the potential consequences, the more precaution is required. The second is to restore the phrase “worst-case analysis” to its original place, calling the inquiry what it is. Ever since the Supreme Court picayunely seized on its absence to trash a worst-case claim, the federal judiciary has largely abandoned the field, and any rewrite will fare the same unless the labeling is unambiguous. Words matter.

There is today, ever more acutely as we launch more risky ventures with even planetary impacts at stake, a constructive role for explicit worst-case analysis in the NEPA process. My gifted academic colleague Bill Rodgers has called it, in the context of climate change, “the power of negative thinking”¹⁰² It is the power of environmental groups with technical staffs, academics, self-taught experts, retirees from agencies and

91. See *supra* note 90.

92. 5 U.S.C. §701(a) (2006).

93. Center for Biological Diversity v. U.S. Department of the Interior, 563 F.3d 466, 39 ELR 20091 (D.C. Cir. 2009). While the APA claim could be remedied administratively or legislatively, the standing argument, based on alleged constitutional principles, presents a more serious challenge, as its sponsors are aware. For the recent tendency of courts and commentators to unhook planning requirements from NEPA review, see Oliver A. Houck, *How'd We Get Divorced?: The Curious Case of NEPA and Planning*, 39 ELR 10645 (July 2009).

94. See *supra* note 93.

95. See Roger Harrabin, Links to the Oil Industry, BBC, Oct. 5 2006 (describing the Bush Administration CEQ as a “hard-line group” with “close ties to the oil industry”). Its Chairman was a corporate lobbyist, and its Chief of Staff was taken from the American Petroleum Institute; after evidence surfaced that he was sanitizing government reports on climate change, he left the CEQ to join Exxon Mobil. Amanda Griscom Little, *Earth Shakers: The Counter Enviro Power List*, OUTSIDE MAG., May 2005 (Chairman); Jamie Wilson, *Cooney Moves to Exxon Mobil*, THE GUARDIAN, June 16, 2005. The CEQ was, to say the least, oil friendly.

96. See CEQ, *Programmatic Analyses and Tiering*, in THE NEPA TASK FORCE: REPORT TO THE COUNCIL ON ENVIRONMENTAL QUALITY 35 (2003) [hereinafter TASK FORCE]; CEQ, *Categorical Exclusions*, in TASK FORCE, *supra*, at 57.

97. Mike Soraghan, *Enviro Groups Ignored Gulf Before BP Disaster*, GREENWIRE, (Sept. 27, 2010), available at <http://www.eenews.net/Greenwire/print/2010/09/27/1>.

98. 43 U.S.C. §1332(6) (2006).

99. Review of MMS NEPA Policies, Practices, and Procedures, for OCS Oil and Gas Exploration and Development, 75 Fed. Reg. 29996 (May 28, 2010).

100. Darrell Hollek, Council of Environmental Quality Review of MMS NEPA Procedures for Outer Continental Shelf Oil and Gas Exploration and Development (June 11, 2010) (Public Comment to CEQ), available at <http://www.whitehouse.gov/sites/default/files/webform/Untitled.pdf>.

101. David Petit & Michael Jasny, Council of Environmental Quality Review of MMS NEPA Procedures for Outer Continental Shelf Oil and Gas Exploration and Development (June 3, 2010) (Public Comment to CEQ), available at <http://www.whitehouse.gov/sites/default/files/webform/CEQ%20MMS%20Review%20comments%203Jun10.pdf>.

102. William H. Rodgers Jr. & Anna T. Moritz, *The Worst Case and the Worst Example: An Agenda for Any Young Lawyer Who Wants to Save the World From Climate Chaos*, 17 SOUTHEASTERN ENVTL. L.J. 295, 335 (2009).

industry, international colleagues, and the whole panoply of the “loyal opposition” that keeps majority decisions at least relatively honest, improves even marginal projects, and makes all of us and our surroundings a little more secure. It comes, through NEPA and administrative law, with the

concomitant power of enforcement, infusing this thinking, like it or not, into the decisionmaking process, ensuring that activities this big are undertaken with eyes wide open and all due preparation. This is NEPA’s role. The OCS program is not the only one that needs it. All major federal decisions do.