



The BP Oil Spill Disaster
and the Future of Energy
in America

BLOWOUT IN THE GULF

William R. Freudenburg
Robert Gramling

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To Sarah, Max and Eileen

Prologue: The Deep-water Horror Zone

April 20, 2010, had been a pretty good day for the friends on the 26-foot craft, *Endorfin*. Fishing for blackfin tuna, they had caught their limit, and as night fell, they headed toward the *Deepwater Horizon*—a gigantic drilling rig that had been enjoying a pretty good day as well.

Just seven months earlier, the big rig had set an all-time record for deepwater drilling, completing a well nearly six miles deep. The day before, one of the platform's key contractors—Halliburton—had finished cementing the current well's final casing, a key step in the process of getting the platform ready to move to a new location. Topping things off, April 20 was the day when important corporate bigwigs had come on board, celebrating the fact that the *Deepwater Horizon* had just completed seven full years without a single lost-time accident—the first such rig ever to do so.¹

As would befit its record-setting status, the *Deepwater Horizon* was a marvel of technology. In many ways, it was more of a ship than a drilling platform—two submarine-like hulls, floating below the surface, where waves had little effect, plus a deck up above the waves that provided living and working space for the crew. In other ways, though, it was more of a city than a ship—a complex of steel and machinery, served around the

clock by a crew of 130, and with a deck as big as two football fields, floating side by side. Also like a city, the *Deepwater Horizon* was intended to stay in one spot, at least once it reached a drilling location, using global positioning technology so precise that the its drills could hit a specific spot on the ocean floor, just inches in diameter, but located nearly a mile below.

The earliest exploratory offshore drilling rigs had a much easier task of lining things up; they sat in one spot or stood on tall steel “legs” firmly attached to the bottom of the sea. As the drilling moved to ever-deeper locations, though, it became impossibly expensive to build rigs that could support themselves from the sea bottoms, thousands of feet below. Instead, oil companies shifted to new technologies—“semisubmersible” rigs or drill ships, floating on the surface rather than standing on the bottom. Early semisubmersibles were tethered in one spot by using a set of cables and anchors. Those cables continued to work well, even as water got deep enough to crush a Navy submarine, but in the spot where the *Deepwater Horizon* was drilling—an area known as Mississippi Canyon block 252—the water was almost a mile deep. A tethered drilling rig in that location would have required an almost prohibitively heavy, expensive, and complicated set of anchors, connected with cables that would have needed to be miles long. Instead, the drilling rig used a set of eight massive thrusters—each one capable of producing over 7,000 horsepower—in a complex choreography that kept the rig precisely aligned.

On the *Endorfin* on April 20 were Albert Andry III, a student in Marine Biology, and three of his high-school friends. Fishing and oil drilling had a long history of coexistence in the Gulf, and the friends intended to idle through the night at the massive drilling operation. When they first got to the rig, things looked particularly serene—the sea was as calm as the surface of a mirror—and they started catching bait for the next day’s

fishing. Just after 9:30 that night, though, things suddenly got anything but peaceful. Water came gushing down so fast that Andry thought the *Deepwater Horizon* crew was dumping its bilge water to keep from capsizing, and the friends' eyes started to burn. One of them who had experience working on rigs, Wes Bourg, knew that they needed to move fast, shouting to his friend to "Go, go, go, go, GOOOOO!" Andry gunned the throttle and headed for open water as fast as his boat could go. The *Endorfin* was about 100 yards away when the platform exploded into flames.²

By the narrowest of margins, the friends on board the *Endorfin* all survived. Above them, though, the crew members of the *Deepwater Horizon* were not so fortunate—and neither were the wildlife or the other human inhabitants of the Gulf region. Seventeen of the crew members suffered serious injuries, and eleven more were killed in the explosion. In just the first few weeks after the spill, several hundred sea turtles, all of them officially threatened or endangered, washed up dead. They were joined by hundreds of porpoises and other sea mammals, thousands of seabirds, and an unknowable number of fish, which would die from the spilled oil, from the dispersants that were used in an effort to break up that oil, or both. On shore, meanwhile, the millions of human inhabitants of the Gulf coast states, slowly starting to recover from the devastation of Hurricanes Katrina, Rita, and Ike, were about to be confronted by a new disaster.³

For some of the workers who managed to survive the initial explosion, the force was enough to knock them off their feet or to bury them under debris. Struggling through smoke, heat and darkness, most managed to reach the lifeboats that were being lowered to the surface of the Gulf, some 80 feet below, but some had to jump, hitting the surface of the water with a force of 20 Gs.

The Coast Guard was contacted almost immediately; the service ship *Joe Griffin*, equipped with water cannons that could pump out 10,000 gallons of water a minute, managed to fire up its engines and get underway in a quarter of the time usually required. Unfortunately, although the *Joe Griffin* was heading out toward the burning rig at full speed, that meant was the trip out to the rig would take more than nine and a half hours. The glow of the flames were visible from 35 miles away.

The effort to put out the flames was heroic, but futile. Thirty-six hours later, during the late morning hours of April 22, in a strange but spectacular commemoration, the charred remains of the *Deepwater Horizon* collapsed and sank to the bottom of the sea.⁴

It was the fortieth anniversary of Earth Day.

The initial assessments of the spill ranged from the argument by BP's CEO, Tony Hayward—namely that “The overall environmental impact of this will be very, very modest”—to the declaration by President Obama, and many others, that the spill will ultimately be seen as “the worst environmental disaster America has ever faced.” At the moment, the long-term outcomes of that debate are no more clear than are the waters of the Gulf. Instead, based on our experience in dealing with other disasters, we can already offer the confident prediction that variations on these same arguments will continue to be made for decades to come, providing a steady income to lawyers yet unborn.

Even at this early stage, however, it is possible to start bringing much greater clarity to our thinking. The key to doing so is by focusing on some of the larger lessons that are available to be learned from this and other disasters. That is particularly true with the lesson that will be the major focus of this book, which applies not just to BP, but also more broadly: Both

literally and figuratively, and both in the Gulf of Mexico and elsewhere, we have been getting into increasingly dangerous waters, doing so without being sufficiently vigilant about the implications of our actions. Perhaps the logical place to start, then, is by asking why the crew of the *Deepwater Horizon* would have been working in such a dangerous spot in the first place.

1 A Question for Our Time

When future historians look back on the first decade of the twenty-first century, they are likely to focus much of their attention on the dramatic images provided by the U.S. invasions of Afghanistan and Iraq. Millions of Americans watched as the tanks rolled into Baghdad, where a small crowd of happy Iraqis cheered as the tanks pulled down the hollow statue of Saddam Hussein. Soon after that, unfortunately, Americans also learned about less-happy Iraqis who were exploding home-made bombs and shooting rocket-propelled grenades at some of those very same tanks.

Far less visible or dramatic is likely to be the fact that the year of the invasion of Iraq, 2003, marked the fiftieth anniversary of three other developments, all of which had a closer relationship to the invasion than might at first be apparent. The first two of those events involved beginnings—the passing of two pieces of legislation in the early days of the Eisenhower administration that established the legal framework for offshore oil drilling. The third involved an ending—the end of nearly a century when one dominant oil-producing nation single-handedly provided more than half of the petroleum in the world.

That nation was the United States of America.

Half a world away from Iraq, just a few months before the start of the invasion, a headline in the *New York Times* had

referred to a different kind of battle, and a different kind of risk from petroleum. This second and less dramatic “Gulf war” took place in a different Gulf—the Gulf of Mexico—and it had more to do with tankers than with tanks. In this second set of Gulf battles, a much smaller army was working comparably hard, pitting its wits and investment capital against the elements and the odds. The front lines for this army were located hundreds of miles from the United States, off the southern edge of the continent, searching for weapons of mass *consumption*, in the form of oil. Despite the fact that this search was taking place far from land, the oil deposits were technically “domestic,” because the United States had claimed the sea bottoms as part of its “Exclusive Economic Zone.” As the *Times* headline noted, however, while this oil was domestic, it was also “Deep and Risky.” It was more than a half-mile deep, to be more precise—and that was just the depth of the water. The drill bits would need to drill through additional miles of muck and rock before—if all went well—the effort would finally hit petroleum paydirt. The BP blowout, to note the obvious, would later show what could happen if things did not go so well.¹

A continent away from the Gulf of Mexico, and another world away from the battles going on in both Gulfs, still another battle was taking place beyond the northern edge of the most remote outpost of the United States—along the Arctic Ocean, north of Alaska. On March 19, 2003, when the second President Bush announced that American and coalition forces were “in the early stages of military operations” in Iraq, few if any television cameras were focused on this third battle. The action taking place in this forbidding region would have been difficult for television audiences to see, in any event—given that it was taking place so close to the north pole, much of the action was going on, literally, in the dark. When Secretary of State Colin Powell made his case for the Iraq war at the United

Nations, on February 5, 2003, he did so only about two weeks after the first sunrise to have squeezed its way above the horizon in Prudhoe Bay, Alaska—the starting point for the Trans-Alaska Pipeline—in the previous two months. Even more than was the case in the sands of Middle Eastern Gulf or the swells of the Gulf of Mexico, the troops that were at work above the Arctic circle were engaged in a battle with the elements, braving even “daytime” temperatures that were about as far below zero as most Americans would have been able to imagine. Other risks in this region included the fact that any television crews actually present almost certainly would have been outnumbered by the polar bears. Save for the Inupiat who have considered this region their home for thousands of years, almost no Americans would have had much desire to be anywhere close to this particular battle, especially during the winter, unless they were forced to be here.

But perhaps that is precisely the point.

In a very real sense we *are* “forced to be” in such forbidding locales. To understand the reasons—and to think realistically about what directions we might want to be considering for the future—it is helpful to consider how we came to move off the edge of the continent in both directions. It is also helpful to recognize the connections to the decisions that led us to move massive military force, once again, into a region of the world where U.S. tanks—whether we are speaking of military tanks or oil tanks—are not likely to be met with cheering throngs of happy civilians.

Two reasons are particularly important, and both of them will be spelled out in greater detail in the pages that follow. One is that the United States simply uses too much oil, too wastefully. The other is that, by the later days of the twentieth century, we had already used up the vast majority of the rich petroleum deposits we once had. Those are the key factors

that have led so many brave soldiers of the oil industry to be looking for oil in the realm of the polar bears, or in the deepest oceans ever to be probed by oil drills—to say nothing of the factors leading so many of America’s more literal soldiers to find their lives at risk in the sands of Kuwait, or Iraq. They are in such forbidding spots because we are so desperate to find more oil, and we have already used up most of the supplies that are easier to find.

Despite our habit of referring to oil “production,” the reality is that the twentieth century was an unprecedented exercise in oil “destruction.” The oil was actually *produced* during the time of the dinosaurs. What we have been doing over the last century or more has been to find the fossil deposits left behind during the era of the dinosaurs and to burn them up as fast as we could. Over the course of the past century, we showed an impressive increase in our ability to find those ancient remains, but we didn’t manage to create as much as a single barrel of truly “new” petroleum supplies to make up for the supplies we were burning up.

Yet there is also a reason that is significantly less obvious. Our expectations for the future continue to be shaped by the exuberance of the past. That is part of the explanation behind politicians’ continued calls for U.S. “energy independence”—generally put forth with straight faces and apparent conviction—when in fact the evidence clearly shows that no such future will ever again be possible, at least not with petroleum. Another part of the explanation for the politicians’ continued calls, however, is that the rest of us allow them to get away with it. Perhaps part of the explanation for that, in turn, is that all of us may have some resemblance to the wildcatters who will be discussed in the later pages of this book. We seem to have become so caught up in the excitement of oil strikes that we’ve started to share the wildcatters’ conviction—surely, there must

be even more spectacular oil finds out there, perhaps just beyond the next horizon. The problem, unfortunately, is that we are not actually looking toward the next horizon. Instead, we are driving with our eyes fixed firmly on our rear-view mirrors.

All of which means that we are entering a new era in more ways than one. In an earlier century, the United States actually did enjoy something like “energy independence”—or even “energy supremacy”—but as we move into the twenty-first century, any hopes for a “return” to such presumably happy days have less to do with realism than with self-delusion.

The two of us have been studying energy issues in general, and offshore oil issues in particular, for more than thirty years. Near the start of that time, in 1974, President Richard Nixon said, “At the end of this decade, in the year 1980, the United States will not be dependent on any other country for the energy we need.” Back then, the United States got 36.1 percent of its oil from foreign sources, and Nixon proposed to end that dependency by obtaining more oil from U.S. sources, particularly offshore oil. The next year, with an emphasis on nearly the same policies, President Gerald Ford said, “We must reduce oil imports by one million barrels per day by the end of this year and by two million barrels per day by the end of 1977.” By 1979, President Carter was beginning to place at least some emphasis on different policies, but he made a similar promise: “Beginning this moment, this nation will never use more foreign oil than we did in 1977—never.” By that time, the United States was obtaining 40.5% of oil from foreign sources.

President Reagan overturned many of Carter’s policy initiatives, particularly those that had to do with solar power and energy efficiency, but he agreed that “the best answer is to try to make us independent of outside sources to the greatest extent possible for our energy.” For President Reagan, apparently, the “greatest extent possible” meant importing 43.6 percent