rigamarole

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A publication for the people, customers, suppliers and friends of
Diamond Offshore Drilling

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DIAMOND
OFFSHORE

rigamarole

volume 20 number 1

rigamarole is published for and about the people of Diamond Offshore. For more information, write to us or call:

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WE THINK THAT RIGS MAKE GREAT PHOTOGRAPHS! OBVIOUSLY, *RIGAMAROLE* CONTAINS LOTS OF RIG PICTURES. OFTEN, SO MANY THAT YOU MIGHT THINK WE BELIEVE RIGS TO BE OUR MOST IMPORTANT ASSET. HOWEVER, IN THIS ISSUE, WE'VE DECIDED TO FOCUS ON PEOPLE—WHO ACTUALLY ARE OUR MOST IMPORTANT ASSET.

In *Taming the Loop*, you will see how our engineers are working to deal with the challenging Loop Current, a finger-shaped river of unusually warm and fast water moving into and out of the Gulf of Mexico. This fickle flow has impacts on drilling operations from mild disruptions to contributions to severe weather systems.

In *North Sea Renaissance*, you will get to know the staff of our offices in The Hague, Aberdeen and Stavanger, from which we manage our significant activities in the *U.K.* and Norwegian sectors of the North Sea. Just a few years ago, weak commodity prices, continued reservoir depletion and a harsh environment had depressed North Sea exploration activity. But today, stronger prices and changing operator dynamics are contributing to a strong comeback in this region long known for innovation.

There is also a section in the magazine, which we began last issue, called the Nationalities of Diamond Offshore. I think you will enjoy these portraits and reading these vignettes. On the inside back cover of the magazine is a short item we call *Ruminations*, which features a candid photo of one of our offshore crew members in contemplation, and our writers have a little fun speculating what may be going through that person's mind.

For a long time, *Rigamarole* has profiled important customers and industry personnel. Mike Weill, the dynamic head of BHP Billiton's Operations and Technology-Americas is featured in this issue. He highlights the importance of people to the oil and gas companies, as well as to their contractors.

Finally, this issue of *Rigamarole* contains articles about our hurricane preparedness efforts and about those who unselfishly perform their tasks during difficult times. We have also included a few of the powerful personal letters we received from co-workers who experienced first-hand the full force and furry of this past hurricane season. During that time, I observed within Diamond Offshore not only a well-trained group of individuals performing in a highly professional and competent manner under the most difficult of circumstances, but also a compassionate body of co-workers who rallied together and went to extraordinary lengths to help each other.

I am pleased to tell you that though we lost immediate contact with over 2,400 of our employees in the Gulf Coast area for a period of time following the combined impacts of *Katrina* and *Rita*, no Diamond Offshore employee was seriously injured by the storms. There was, of course, damage to property, but the rebuilding process is underway. We are particularly grateful for the extraordinary performance of our people during this challenging hurricane season, which allowed us in many cases to quickly restore service to our customers. This business is truly about good people. And those at Diamond Offshore are among the best.

EYE *of the* BEAST

BY DENISE ZWICKER

In September 2004, Hurricane Ivan *roared through the Gulf of Mexico (GOM) as a monster Category 4 storm, damaging offshore drilling rigs and production platforms before making landfall.*

Less than a year later, Hurricane Katrina *spent her fury with Category 5 force winds, again thrashing offshore structures and devastating hundreds of miles along the U.S. Gulf Coast.*

Three weeks later, Hurricane Rita *strengthened to Category 5, once again plowing through the heart of the offshore oil and gas industry in the GOM and sending wary Gulf Coast residents scurrying from her path in traffic jams beyond imagination.*

Three weeks later, Hurricane Wilma *fired like a bullet into the Gulf, threatening a gun-shy populace, but this time largely sparing rigs and platforms. As the third Category 5 storm in a single hurricane season,* Wilma *made 2005 the most active and destructive season on record.*

WATCHING. PLANNING. WAITING.

8:10am CDT: Emergency Response Team evaluates Hurricane Rita's forecast and Diamond Offshore rigs that lay in her path.

MOVING INLAND

8:21am CDT: Lyndol Dew directs Diamond Offshore's emergency response team.

For offshore drillers, the toll from this astonishing 14 months was heavy.

Some 60 percent of the industry's total actively marketed fleet in the GOM received at least some damage. In all, nine jack-up rigs were lost or damaged beyond economic repair. Seventeen semisubmersibles broke their moorings and began drifting before later being recovered and returned to service. And a total of at least 30 other jack-ups and floaters were damaged and later repaired. For Diamond Offshore, one jack-up rig was lost, five semisubmersibles broke free from their moorings and four more semis were also damaged. All semisubmersibles have since returned to service. But most important for the industry, no workers' lives were lost—in fact, no one was hurt as a result of the hurricanes. And despite shutting in almost all gulf production, not one barrel of oil was spilled or leaked from wells involving ongoing operations. These results are a tribute to the people and planning that go into storm preparation.

The offshore oil industry has faced hurricanes for decades. Companies have learned through long experience how to keep workers safe, wells secure and equipment relatively whole. But the 14 months from September 2004 to October 2005 were unlike any the industry has ever seen.

Diamond Offshore's planning for *Hurricane Ivan* in September 2004 was typical: watching closely as the storm grew and moved into the Gulf of Mexico, then securing wells and evacuating rigs that were in *Ivan's* potential path. When the storm had passed, *Ivan* had damaged the legs and jacking system on the *Ocean Warwick*, and the rig was moved to a shipyard for repairs. The *Ocean Star* and *Ocean America* both parted their moorings. The *Ocean Drake* had no major damage, but wave action from the storm undermined the drill site. The *Columbia*, hit twice by the storm's two approaches, came through fairly unscathed. In all, the industry toll for *Hurricane Ivan* was 10 drilling rigs disabled, one destroyed, four heavily damaged and four set adrift.

"THE FORECASTS ARE SHOWING 12-FOOT SEAS BY WEDNESDAY MORNING AND, BY THURSDAY MORNING, OCCASIONAL 33-FOOT SEAS. IT'S LIKE *KATRINA*. EVERYBODY SAYS THEY'RE TRYING TO GET OFF BY WEDNESDAY MORNING, AND I'M SAYING YOU'VE *GOT TO GET OFF* BY WEDNESDAY MORNING—EARLY."

A routine after-the-storm review prompted more training on the satellite-tracking systems that Diamond Offshore uses to follow evacuated rigs if they break their moorings. But in general, although *Ivan* was huge, the response at Diamond Offshore was business as usual—because hurricanes are business as usual for offshore drillers.

GETTING PREPARED } *Approaching storms*

As each hurricane season nears (June 1 to November 30 in the Gulf of Mexico), Diamond Offshore managers review storm plans with their customers. "The key is up-front communication. We don't want to have this talk with a storm breathing down our necks," says Bob Blank, an area manager. "Everyone recognizes that keeping people safe is the first concern. Second is the environment—which we protect by securing the well. And our third concern is our assets. But we also want to minimize downtime for our customers and resume work as quickly as possible after a storm passes." To help ensure everything goes as smoothly as possible, Diamond Offshore's Marine Department also stages mock hurricane drills to assess each crew's readiness.

PHASE ONE } *Planning, watching, waiting*

Each time a tropical depression forms in proximity to the Gulf of Mexico, the rig crews begin Phase 1 of their plans. Twice daily, they gauge how long they need to secure the well, pull the riser/LMRP (lower marine riser package) on floaters, secure the rig, and move or vacate the rig if a hurricane looms. "These reports arrive every morning and every afternoon from each rig. We put them on a spreadsheet and compare the hours each rig requires to shut down with the hours we project before the storm could hit that rig," says Peter Bamber, who heads the Marine Department. "We also look at the worst case for each rig—that is, if the storm were to head right for it. When the storm picks up speed or changes course, the deadlines change for all of us. So frequent weather reports are crucial."

When the comparison between the two numbers—prep time vs. storm-arrival time—reaches zero, the crews start Phase 2. They go through a laundry list of "to do" items before leaving the rig, doing everything from setting up boat and helicopter transport to switching on the fog horn—the offshore version of flipping on the porch light as you leave the house.

These routine steps are reviewed at Diamond Offshore's normal morning domestic-operations meeting, along with safety issues, rig operations, weather forecasts and loop-current updates. When a hurricane threatens, the fourth-floor meeting room in Houston becomes an emergency-response center, and an afternoon meeting is added to review the rigs' progress on their Phase 1 and Phase 2 checklists.

The first step, always, is to secure the wells. From that point, each rig's plan differs, depending on the class of rig and what's going on at the time of the alert. Some crews may need to offload equipment or consumables to meet storm standards or adjust their moorings. Crews on floating rigs and jack-ups may adjust their air gaps to protect the deck from storm waves.

One of the jobs that can take the longest for floating rigs is pulling riser. Riser can be damaged or broken by a storm and could significantly delay resumption of work if spares are not available. The process of pulling riser can take up to three days in deep water where, unfortunately, storms are likely to hit first.

"If a rig is drilling to 20,000 feet in 7,000 feet of water, and the storm heads straight for it, we may not be able to pull all of the riser, but we'll pull as much as we safely can," says David Williams, who's responsible for operations and marketing.

PHASE TWO } *Shutting down*

"Phase 2 is a major event that usually has to be done quickly," says John Vecchio, who directs project engineering, design and maintenance. "For floaters, we have to retrieve the riser if at all possible. For semi-submersibles that we have temporarily bottomed in shallow water, we compute overburden. That's the weight we add so the rig will stay seated, even if the rig is hit by a storm surge. For jack-ups, we look at the air gap and variable deck-load limits and, in the case of our cantilevered jack-ups, where the drilling package can be left."

"Our goal is to vacate all rigs that are attached to the ocean floor by mooring lines or legs (self-propelled floaters can often move out of a storm's path)," says Ray Smith, an area manager. "But sometimes a storm will form in the middle of the Gulf within the circle of rigs—so you don't always have the chance to do all that you'd like. If that means giving up some of our equipment, that's a lesser evil. The people, though, always come off the rig. That's probably why we've never had an injury in a hurricane evacuation."

Leaving a rig is not just a simple matter of closing a valve and getting off, explains Lyndol Dew, who at the time of the storms headed operations for all rigs in North America and now heads operations internationally. "We have to secure the well for safety and environmental reasons. And we have to shut down our equipment properly so we can start up quickly after the storm passes. The people who are not involved in that process get off the rig first. Those who are involved, get off last.

"We want to get the last people off the rig before the winds reach 45 miles per hour, while the helicopters can still fly safely," adds Dew. "We closely coordinate the evacuation with our customers, since in most cases they supply the helicopter and boat support to the rigs. They've seen how rough hurricanes can be, and no one wants people offshore to go through that. In fact, often our customers will ask us to initiate the evacuation process."

PHASE THREE} *Picking up and moving out*

Phase 3 is the actual departure. Since *Hurricane Ivan* last year, the process now includes notifying the U.S. Coast Guard of each rig's daily population. "They need to know how many people they could be responsible for if we weren't able to get them off," says Dew. Drillers also must alert the Minerals Management Service (MMS) as they secure their wells.

LEGEND *of* HURAKAN

THE WORD HURRICANE WAS DERIVED FROM THE ANCIENT MAYAN CREATOR GOD OF WIND AND STORM, HURAKAN. IN MAYAN LEGEND, HURAKAN DWELT IN THE MISTS HANGING OVER THE PRIMEVAL FLOODED EARTH. TAKING THE FORM OF WIND, HURAKAN CEASELESSLY REPEATED THE WORD "EARTH" UNTIL THE SOLID WORLD ROSE FROM THE SEAS. WHEN THE GODS BECAME ANGRY WITH THE FIRST HUMAN BEINGS, HURAKAN UNLEASHED THE FLOOD THAT DESTROYED THEM.

More than 30,000 people work in the oil industry in the Gulf of Mexico. So moving them out in helicopters—10 or 12 people at a time—makes for a mind-boggling number of landings and takeoffs. "The process is risky, but we've never had an accident or injury," says Smith. "Have we ever had to leave people offshore? Yes, but never for a storm stronger than Category 1."

Although offshore workers are used to dealing with hurricanes, the process is never cut-and-dried. For instance, when a storm enters the gulf and threatens a rig, the crew might be working to control a well or might have an uncased hole—jobs that are hard to stop on a dime.

> "THIS STARTED WITH *HURRICANE IVAN*. THIS YEAR, THOSE WHO HAD BEEN PAID TO STAY HOME AFTER *IVAN* SAID, 'IT'S OUR TURN NOW. YOU TOOK CARE OF US; NOW WE'LL TAKE CARE OF YOU.' WE HAD SOME PEOPLE WORK FOUR AND FIVE WEEKS WHILE OTHERS GOT BACK ON THEIR FEET."

And then there are the hurricanes, which are notoriously fickle. *Katrina*, for one, seemed to be headed for the Florida Keys or possibly the Mississippi/Alabama coasts and Florida Panhandle. Then, at the last minute, the storm turned north, straight toward some of the heaviest concentrations of rigs in the gulf. "Some of our rigs couldn't complete their preparations. We had to leave riser hanging on the *America*, *Star*, and *Voyager*," says Smith.

Diamond Offshore normally moves rig crews to marshaling points at hotels and motels along the Gulf Coast. That way, they can return to their rigs and resume drilling as soon as the storm passes. "But, for *Katrina*, we ended up staging the crews twice," says Lynn Charles, who directs Human Resources. "First, we brought our people off the rigs and put them in hotels and motels along the coast. Then, when we saw what *Katrina* was going to do, we sent all of them home to take care of their homes and families. Unfortunately, because of the widespread destruction by *Katrina* on the Louisiana and Mississippi coasts, where most of our employees live, we lost contact with more than 2,400 of them overnight."

During the storm, Diamond Offshore's emergency-response team monitored tracking signals from onboard locator beacons which showed the *Ocean Voyager* breaking free from its moorings, and winding up nine miles north of its original location. The *Voyager* also lost its riser and LMRP. And the *Ocean Warwick* could not be found at its drilling location on the first passes by fixed-wing aircraft after the storm. Later in the day, air crews found that the *Warwick* had lost its legs and run aground on Dauphin Island off the coast of Alabama, 66 miles northeast of the rig's work site. The *Warwick*, damaged first by *Ivan* and repaired, then damaged more severely by *Katrina*, was declared a constructive total loss.

AFTERMATH OF *KATRINA* } *Three weeks to zero*

"The first thing to do was try to locate our people to ask, 'Are you okay?' Charles says. "We took three weeks to get down to zero on the 'lost' list. We accounted for every single person—either directly or through the word of another employee. Although there were some family tragedies among our people, no Diamond Offshore person was lost due to the storm."

At a time when communication seemed next to impossible, Diamond Offshore co-workers managed to find one another. "These guys are used to working together and fixing problems, and that's what they did," says Smith. "People joined forces to buy water, generators and gasoline. They loaded them into trucks and drove them halfway through the devastated coast, while someone else drove from the other direction to pick them up.

"They found ways to get power working in their houses. They grouped people to share their resources. Crew members who did not suffer property damage from the storm shared with those who did. Guys took their mobile homes to others who had lost houses. No one complained.

"The company bought 1,000 gallons of gasoline and stored the fuel in an underground tank near our warehouse in New Iberia," he adds. "We asked our catering company (ESS Support Services Worldwide) to make survival kits with enough food for each person for a week. Then we hired buses to take the food and other supplies to our families and crews in Louisiana, Mississippi and Alabama. We hired tanker trucks to drive in to fill their gas cans. We also bought 200 gas cans and flew them to New Iberia so our people could get the gas they needed to drive home from the rigs."

"Willie Ard of the *Ocean Tower* was on days off, so he and some of his hands met the buses and passed out the gasoline and food," says Floyd Daley, one of the Company's GOM operations managers. "Most of these people are 'family'—that is, they work side by side on the rigs and naturally checked on one another. So, even though communications were in awful shape, we were amazed at how quickly the word spread that we were bringing supplies. Once we emptied out the buses, we used them to take our men to work. We did this for two weeks running."

"The business infrastructure on the coast was completely wiped out over such a wide area," Smith adds. "Our reboarding plans had always assumed, for instance, that we'd have air bases in Fouchon (Louisiana) and if Fouchon was wiped out, then in Venice or Houma. No one guessed that we would not have air assets, phones, or power, basically from Cameron (Louisiana) east to Mobile (Alabama). For emergency response, we had to use satellite phones. Our assets were spread out so far that it was very hard to get people and supplies where we needed them. Since then, we've purchased a system that allows us to use e-mail remotely, and we've bought more satellite phones."

"Some of these people lost all they had," he adds. "We got calls from people who said 'The only thing I've got left is my slab. I can't work this week, but I'll call next week to find out when you need me to come in.' Calls like that make you see the kind of people you work with."

Most of Diamond Offshore's crew members live along the Gulf Coast, so many of them were affected by *Hurricane Katrina*. "We're used to getting people off the rigs and onto the land where they won't be in danger," says Charles. "But this time, the danger followed them home.

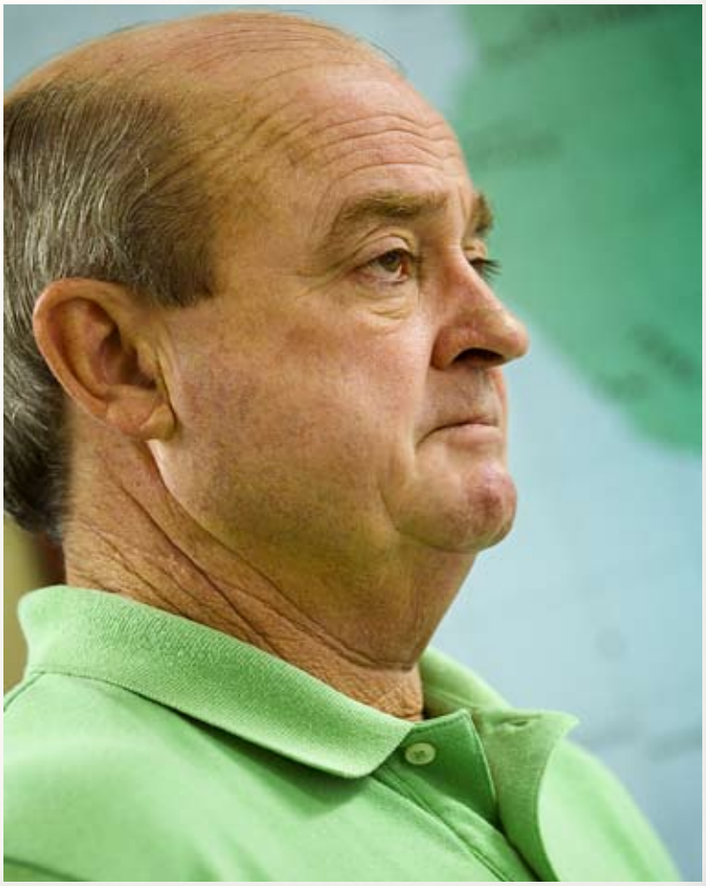
"*Katrina* hit many of our employees hard. The ones who didn't lose houses lost power and running water. That's a big problem in itself," he adds. "Grocery stores and gas stations closed, so people really needed the food and gas we sent. After two weeks, though, they told us that the grocery stores were open. And they could get gas, although they had to wait in line to fill up."

PHASE FOUR } *Lessons learned*

Phase 4 of the company's tropical-storm plan consists of re-boarding the rigs to assess damage and restart operations. Typically, this happens within 24 to 72 hours after a storm. "The first thing we do following landfall is fly over each rig in the fleet to assess obvious problems and determine

QUICK MOVES.

9:21am CDT: Clockwise from left; Greg Broussard, Rodney Eads, Phil Aldridge listen to rig status reports.



SHUTTING DOWN AND GEARING UP.

8:32 am CDT: Clockwise from top; Emergency Response Team, Floyd Daley, Bob Blank set up re-start plans for affected rigs.

WATCHING THE HORIZON.

5:21 pm CDT: Peter Bamber evaluates Rita's position and projected path.

if the rig is in imminent peril," says Williams. As the crews re-board, they thoroughly inspect for damage.

"So many employees were affected by *Katrina* that, when we crewed up the rigs, none had the same crews as before. That's never happened to us before," notes Charles. "There were people we hadn't reached yet and people who couldn't go back to work yet. Some got through the storm okay, but couldn't get back to their rigs because of the destruction. For instance, we might have a rig working off the Texas coast, and an employee assigned to that rig who lives in Alabama. The rig might have been fine after the storm. The employee from Alabama and all of his property might be fine. But there was no way he could get to the rig. He would have had to cross two states that were in ruins. We had issues like that all up and down the Gulf Coast. So we had to pull people from the other side of the storm. Things were crazy!"

Diamond Offshore informed all Gulf of Mexico crews that those who could not get back to work because of *Katrina* would still be paid. The company also started a relief fund for those who were hardest hit. Loews Corporation, Diamond Offshore's parent company, likewise offered disaster-relief funds to employees hurt by *Hurricane Katrina* and, three weeks later, *Hurricane Rita*.

"The money won't rebuild someone's house; the funds are limited. But we've tried to bridge the gap," says Charles. "This helps our employees pay for the necessities while they wait on the bigger money from the government and insurance companies."

"Some of our people had to be home to work with their families. So we would work short or ask others, who did not suffer damage from the storm, to step in," says Smith. "This started with *Hurricane Ivan*. This year, those who had been paid to stay home after *Ivan* said, 'It's our turn now. You took care of us; now we'll take care of you.' We had some people work four and five weeks while others got back on their feet."

"We saw such compassion from our customers, too," adds Smith. "BHP was contracting the *Ocean Titan*, and a lot of the guys that work on that rig live on the Mississippi Gulf Coast. BHP gave to the Red Cross and other groups, as most companies did. Then their drilling manager called us and said 'Look, we've made donations to people we don't even know, but these people have been working for us for 200-plus days. Would you object if we gave $50,000 to distribute among those who were hurt by the storm?' Of course, we were most grateful for this generous contribution."

"As for the rigs," says Smith, "the sheer size and strength of these storms went far beyond the rigs' anticipated load and mooring criteria. On the *Ocean Voyager*, for instance, the winches were overstressed and actually blew apart. The shrapnel flew across the decks and penetrated the steel walls of five joints of drill pipe. That kind of force is unimaginable! The *Ocean Warwick*, even with an 83-ft. air gap, broke off of its legs, and the drill floor came off. But a crane that was in an 'up' position stayed in the exact position where we left it. Sometimes it's just plain strange."

"After each storm, we have a 'lessons learned' meeting, where we revise our plan," says Dew. "In this case, we had just finished reviewing the lessons we learned from *Katrina* when *Rita* came along. We were able to get some of those ideas into place, such as asking our catering representative to attend our hurricane meetings, improving our plots of rig movement, and buying remote antennas and car chargers for our handheld satellite phones."

HURRICANE RITA COMES TO CALL} *Moving quickly*

Hurricane Rita posed several huge challenges that even *Katrina*, as bad as it was, hadn't. First, the U.S. Gulf Coast, not to mention Diamond Offshore, was still reeling from *Katrina*. Second, although *Katrina*—and *Ivan*, a year before—had been huge storms that hit hard, they only affected the eastern half of the Gulf of Mexico. *Rita*, on the other hand, menaced the entire gulf. Third, *Rita* posed the very real threat of shutting down Diamond Offshore's headquarters in Houston.

"*Katrina* showed us that we should have started Phase 2 a few days before we did," says Blank. "With *Rita*, we moved quickly, but the storm still hurt us."

"There's really no predicting these storms," Bamber cautions. "A forecast is only a best guess. For *Rita*, Diamond Offshore evacuated 22 of the 23 rigs it was operating in the Gulf—a rare event—and moved the dynamically positioned *Ocean Confidence* out of the way of the looming storm. "This time there was no decision to be made about putting our crews in hotels," says Charles. "That's because there wasn't a hotel room to be had from Brownsville (Texas) to Pascagoula (Mississippi). We had to release people to go home. That makes it very hard to mobilize quickly after the storm passes."

> "THIS STORM IS PUSHING 20 FEET OF WATER IN FRONT OF IT. WE'LL SEE A LOT OF COASTAL FLOODING. IF THE FORECASTS ARE RIGHT AND IT TURNS TOWARD HOUSTON, WE'LL SEE A HUGE LAKE IN HOUSTON, RIGHT UP TO HWY. 610 SOUTH [IN SOUTH HOUSTON], PLUS FLOODING ON THE EAST SIDE—ALL THE WAY TO DOWNTOWN. IT'S GOING TO BE A MESS UP AND DOWN THE COAST."

In some cases, managers were able to keep crews together. They rented the rooms on the *Mr. Charlie* training rig/museum in Morgan City. They housed people on the *Ocean Monarch* docked in Galveston. They also used the *Ocean Confidence* as a logistical base for helicopters. "The helicopters couldn't get fuel onshore, but we could fuel them on the rig," says Smith.

If a hurricane targeted Houston, the plan had been to shift key functions to New Orleans. There a satellite office offered computers and enough space. But now New Orleans—flooded and without power, water and other necessities—was not an option.

On Monday, September 19, as *Rita* neared hurricane status, a group of headquarters employees met to create an alternate plan. Tuesday, they presented a draft. By Wednesday, with *Rita* now at Category 5 and forecast to hit near Houston, they agreed to set up an alternate emergency-response center at a Dallas hotel. The hotel was one of the few in the state, post-*Katrina*, that still offered the guest rooms, large meeting room and Internet access that Diamond Offshore needed.

Meanwhile, the Information Technology (IT) department was getting ready to move Diamond Offshore's most vital computer functions.

"We have three extremely critical items," says Mike Trahan, who directs information technology activities for the Company. "First, we had to be able to pay our employees, worldwide. Second, we had to be able to move money—our treasury business—because the rest of the world keeps working even when we're having a hurricane on the Gulf Coast. Third, we needed e-mail, because people depend on e-mail today to communicate."

The crews offshore were busy with dozens of Phase 2 tasks. Still they turned in their time sheets before they left so their paychecks could be issued early. "We also had to ask ourselves, 'What if we get wiped out? What will we do for payroll next week?' So we moved some e-mail boxes to Aberdeen in case we lost power. Then we cloned the entire system on Tuesday night so we could take it to Dallas," adds Trahan.

> "WE'RE USED TO GETTING PEOPLE OFF THE RIGS AND ONTO THE LAND WHERE THEY WON'T BE IN DANGER... BUT THIS TIME, THE DANGER FOLLOWED THEM HOME."

Working with the hotel's communications, the IT group set up substitute Web sites and a list of contact numbers for employees to call. "If the Houston office went down in the storm, we wanted to have phone numbers and Web sites which employees could access for information," notes Trahan.

On Friday, the day before *Rita* would make landfall, managers had to decide whether or not to switch headquarters functions temporarily to the Dallas hotel. As the storm moved east of Houston, they chose to leave the functions in Houston. "So, even though we were ready to run the company from Dallas, we got an 'incomplete' because we didn't actually have to do it," laughs Trahan. The Houston office never lost power, and a skeleton staff was on site Thursday and Friday, working closely with those in Dallas.

Emergency response, however, did move to Dallas Thursday night. Meanwhile, the Houston office, except for the skeleton staff, closed Thursday, and Friday so people could secure their homes. "We set up in Dallas to track the rigs electronically in case any of them broke their mooring in the storm," says Daley. "So from Thursday evening to Sunday morning, we more or less ran the company from Dallas. We had people there from Operations, Marine, Human Resources, IT and Investor Relations. And they are also working to chose a permanent site for their back-up ermergency-response center. The goal is to have the site ready to use long before the storm season begins June 1."

"The *Saratoga* and the *Star* broke their moorings and went adrift," adds Daley. "We plotted their paths on maps of the gulf that showed production platforms and other facilities. As the rigs drifted in the general direction of these obstacles, we called to alert the owners. Both rigs finally ran aground in 35 ft. of water. Each of them was 100 miles from its work site. Other rigs of ours broke some of their eight mooring lines, but had enough mooring lines remaining to hold them where they were."

Of course, Diamond Offshore's two rigs weren't the only ones adrift: there were seven more. When it was over, 10 of the industry's offshore drilling rigs had major damage, and six were destroyed by *Rita*.

"As for staying in touch with our employees, we had the same problem with *Rita* that we'd had with *Katrina*, but to a much smaller degree," says Charles. "We couldn't get people on their cell phones, and they couldn't always reach us, either. Two weeks passed before we got back to something like normal here in Houston. Our employees were still dealing with the loss of their homes, working with their insurance companies, dealing with FEMA (Federal Emergency Management Agency). But most of them were back at work."

Getting the rigs back to normal was another matter. Flights by fixed-wing aircraft allowed the technical-services people to preliminarily assess for any large-scale damage. As the crews came back on board, they checked for further damage.

"Most of the time, it's minor damage, like broken crane windows," says Vecchio. "When something major occurs, we decide whether or not we can make the repairs on the spot. If not, we choose the best place to move the rig for repairs."

"As a result of *Ivan*, *Katrina*, and *Rita*, we were willing to pull the trigger sooner with *Wilma*, which fortunately turned out to largely be a non-event for the industry and Diamond Offshore" says Blank.

"The key to being prepared for hurricanes is threefold: First, you need a really well-developed plan," says Dew. "Second, you follow the plan. Third, you feed in the lessons learned during each storm so you're always improving the plan." Diamond Offshore managers already have purchased more satellite phones (in place of cell phones) for next year's hurricane season. They've also pre-chartered helicopters and boats to speed rig evacuations. And they are also working to chose a permanent site for their back-up emergency-response center. The goal is to have the site ready to use long before the storm season begins June 1.

"On any given day, Diamond Offshore has 20 to 23 rigs working in the Gulf of Mexico. Plus, there are 100 more rigs out there run by other drillers," says Williams. "It's a real challenge to secure all those wells and evacuate hundreds of people safely. Yet we do the whole thing over and over each season. There are times we've been evacuated more days in a month than we've been able to drill, and that understandably upsets the operators. This year, we had to evacuate even more often than usual, but our people did the job superbly well. And, despite the damage that our rigs received in every storm, we were able to get them back into service with as little downtime for our customers as possible, and pretty efficiently. I think our guys did a tremendous job."

DENISE ZWICKER *has been a freelance writer since 1977, covering virtually every aspect of the energy industry.*

MITIGATING *the* IMPACTS *of* STORMS

The combined impacts of the hurricanes that pummeled offshore structures in 2004-2005 were like nothing the industry has ever seen, with the force of the storms far exceeding current design standards. In the storm's paths were 3,050 of the gulf's 4,000 platforms and all 134 active rigs.

Hurricane Ivan was classed as a "2,500-year storm." One of its waves reached some 92 feet, the largest wave ever recorded in the gulf. *Hurricanes Katrina* and *Rita* together did more damage offshore than all the storms that have gone before them. The most lasting damage was to pipelines, with an end result that even undamaged production platforms couldn't get their products to shore. Some of the pipeline damage, chiefly after *Ivan*, was caused by underwater mudslides. Government officials were heartened, though, by the fact that no wellheads leaked. More important, the entire offshore work force of 30,000 to 35,000 people safely evacuated for *Ivan*, *Katrina*, and *Rita*.

On December 8, 31 percent of the gulf's daily oil production and 24 percent of its natural-gas output remained off line, according to the Minerals Management Service (MMS), the government body regulating offshore oil and gas activity.

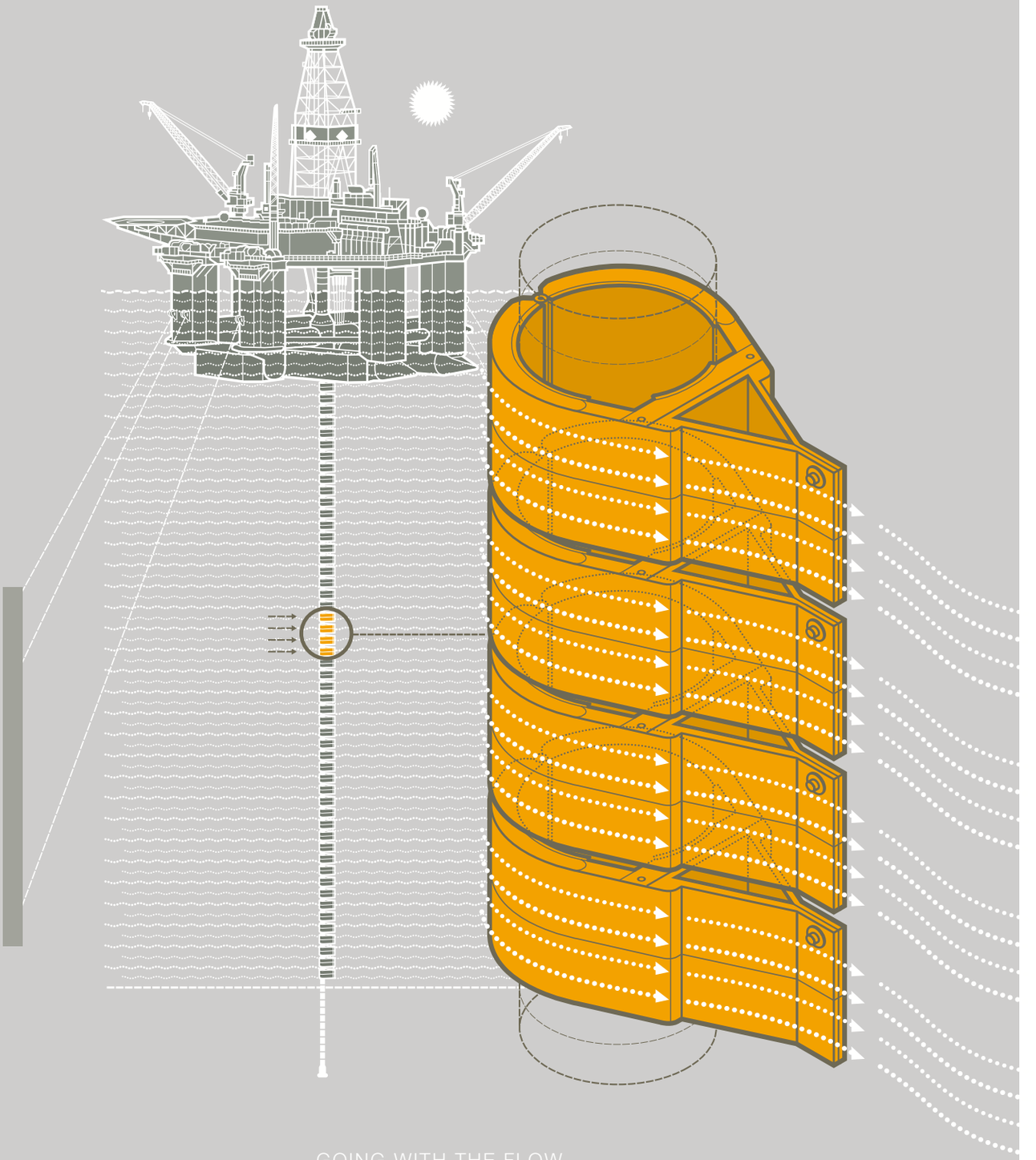
The problem was that hurricanes *Ivan*, *Katrina*, *Rita*, and *Wilma* swirled through the gulf with a fury that's rarely seen. Offshore structures, such as Diamond Offshore's drilling rigs, are designed to meet industry standards that take into account hurricane-force winds and waves. These industry standards are based on probability of encountering a certain size storm at a certain location. For example, the term "10-year return period storm" criteria, which is one of the design criteria for mobile offshore drilling units (MODUs) means that there is only a 10 percent chance of encountering a defined storm, at that particular location, within that year. For permanent structures, such as platforms, the industry uses "100-year return period storm" criteria, i.e. a 1 percent chance of encountering the defined storm criteria at that particular location in that year. Post these four historical hurricanes, the industry is examining the defined storm criteria that has been used to determine if the 10-year return period criteria is sufficient for MODUs.

After *Ivan*, the MMS funded six studies to assess design standards and find new ways to reduce future damage. Additionally, the industry, working closely together, formed a Joint Industry Project (JIP) called the "MODU Mooring Reliability and Risk Assessment JIP." Sponsoring organizations are the Offshore Operators Committee (OOC), International Association of Drilling Contractors (IADC) and the American Petroleum Institute (API). Diamond Offshore is an active member of the JIP. Other members include 11 operators, three other drilling contractors, a classification society and 11 suppliers. All of the members are helping to fund the ongoing project.

"Semisubmersible moorings meet a common industry standard: API RP2SK. This standard was effective until *Ivan*, *Katrina*, and *Rita*," says Rodney Eads, who directs Diamond Offshore's worldwide operations. "During these three severe storms, 17 semis broke their moorings and floated free in the gulf, five of which were Diamond Offshore rigs. Fortunately, our rigs suffered only minor damage. They were back in service fairly quickly.

"Although we are an active member of the JIP, which expects to have preliminary recommendations out by early 2006, we have already taken actions to increase mooring reliability. Where possible, we are increasing the strength of the existing moorings we now utilize, and are targeting to augment the conventional mooring legs from 8 to 12 on all of our semis in the gulf by the 2006 hurricane season. The feasibility of getting all these extra moorings deployed in 2006 is challenging due to equipment delivery time and, most concerning, the extreme tightness of the anchor handling boat market in the gulf," he adds.

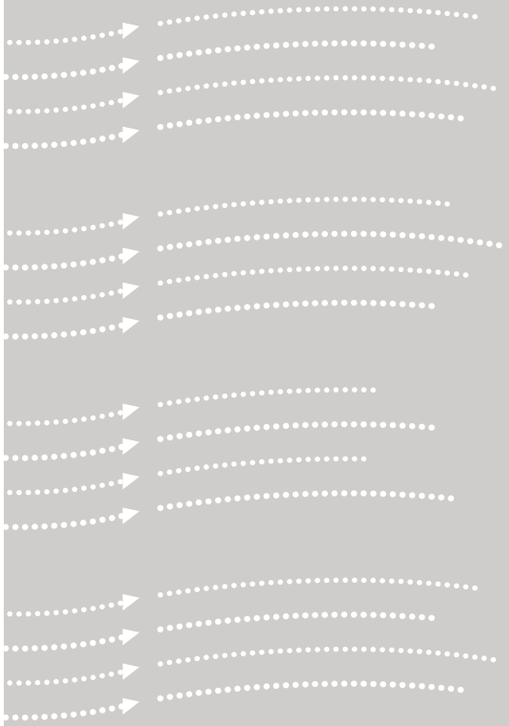
But new design standards are not the only answer. "As the industry prepares for next year's storms, Americans might want to reconsider the risk of concentrating so much of U.S. oil and gas production in a hurricane-prone area," comments Larry Dickerson, who heads Diamond Offshore. "When you weigh the drilling industry's excellent environmental record against the nation's need for energy, perhaps we could consider exploring for energy on our other coasts, too."



GOING WITH THE FLOW

Riser fairings allow the Loop Current to slide around the drillstring. Each segment can swivel independently, ensuring the fairing is always aligned to the current.

Taming the Loop



Raging offshore river. Storm supercharger. Rig wrecker. The Gulf of Mexico's (GOM) infamous Loop Current has earned some nefarious nicknames. But significant oil and gas reserves lie deep in the ocean floor beneath the Loop. And with favorable commodity prices and escalating world demand for hydrocarbons nudging operators into deeper water in search of harder-to-reach reservoirs, the Gulf's Loop Current is one of the more powerful forces of nature with which the industry must reckon.

"We deal with ocean currents all over the world, but none are more complex and challenging than the Loop Current," says Rodney Eads, who heads worldwide operations for Diamond Offshore.

Bob Blank, an area manager of domestic operations in the GOM adds, "We are going off the continental shelf and more and more toward the Loop Current. Our customers want to be out there, and some of them are shocked the first time the Current hits them."

By Scott Redepenning

A POTENT PUNCH

First, the Loop Current creates ideal conditions for the growth, transport and retention of Gymnodinium breve blooms, more commonly known as Red Tide, which kills massive numbers of fish and causes severe respiratory problems in humans. Additionally, the current has a supercharging effect on tropical storms and hurricanes. And finally, even without storm activity, the Current can wreak havoc on semisubmersible rigs conducting offshore drilling operations.

LOOP BASICS

The Loop Current is a finger-shaped "river" of unusually warm and fast water moving clockwise into the GOM at the Yucatan Peninsula and back out at the tip of Florida. This oceanic anomaly can push 80° F water hundreds of feet deep. The Loop Current is amorphous, constantly changing length, width, shape and even depth.

The Loop Current is a finger-shaped "river" of unusually warm and fast water moving clockwise into the GOM at the Yucatan Peninsula and back out at the tip of Florida. This oceanic anomaly can push 80º F water hundreds of feet deep. The Loop packs a potent punch of having heat energy coupled with the raw power of the fast moving water, which has led to some notable impacts. First, the Loop Current creates ideal conditions for the growth, transport and retention of Gymnodinium breve blooms, more commonly known as Red Tide, which kills massive numbers of fish and causes severe respiratory problems in humans. Additionally, the current has a supercharging effect on tropical storms and hurricanes. And finally, even without storm activity, the Current can wreak havoc on semisubmersible rigs conducting offshore drilling operations.

This last point is exacerbated by unpredictability. The Loop Current is amorphous, constantly changing length, width, shape and even depth. Gigantic eddies known as warm-core rings, are spun off and carry Loop Current effects to other areas of the GOM before dissipating. All this means that Loop Current conditions can migrate in and out of a rig's position with very little warning, and can be at any level in the water column below the rig at any time.

"Diamond Offshore is putting procedures in place to protect these rigs and equipment, and to protect our customers' investment by widening the drilling window."

These conditions create unique challenges to deepwater drilling in the GOM. The riser, which encases the drill string for thousands of feet from rig to wellhead, is of particular concern. Much like fishing line bows in the slight current of a stream, the riser is subject to applied forces of moving water. Strong currents create vortices around the riser—forces in which the pressure on the up-current side of the pipe is greater. This causes vortex-induced-vibration (VIV), which can severely stress the riser joints and damage subsea structures and the wellhead. Extreme cases have even caused the riser to part from the rig and sink to the sea floor. Blank notes that in addition to the VIV impacts, the Loop Current creates other challenges. "First, getting the rig into position is difficult. So is holding the position. And once lost, getting the position back is hard."

"Station-keeping in the Loop Current is key," adds Eads. "On moored rigs, when forces on the moorings are out of our operating window, we have to suspend operations and unlatch the riser. This is costly for the operator. The same thing can happen on dynamically positioned rigs. When forces exceed thruster power, this can lead to an emergency unlatch, which obviously suspends operations."

"Timing is the key," Says Captain Peter Bamber, who directs marine operations for Diamond Offshore. "If conditions force us to disconnect the riser and suspend drilling, we want to conduct a planned operation." Bamber says that even as current speed mounts, operators don't want to disconnect while they're in the drilling window. On the other hand, waiting too long can lead to even more expensive losses. "When water speeds start to exceed two knots, you want to have a plan in place to pull the riser while you still can," says Bamber. "Otherwise the riser may be lost."

Fortunately, these challenges are not insurmountable, says Eads. "Diamond Offshore is putting procedures in place to protect the Company's rigs and equipment, and to protect our customers' investment by widening the drilling window."

PUSHING UPSTREAM

Still, because suspension of drilling at a particular location due to the Loop Current is not uncommon, sometimes for weeks at a time, operators have been forced to look for alternatives. Some have created contingency plans for alternate drilling locations during high Loop Current activity. Yet many are meeting the force head-on with two of the most powerful weapons known to man—knowledge and creativity.

New knowledge is coming in the form of extensive data, which is constantly being gathered, compiled and meaningfully reported. Metocean data correlates meteorological and oceanographic conditions such as water speeds and directions, water temperatures, wind speeds and directions, even cloud height at locations throughout the Gulf. Since 2004, the Minerals Management Service has required all rigs to collect and share these measurements publicly. Private subscriber services also provide real-time, trend, and forecast reports, so operators can see what's coming and take the appropriate actions.

These actions come from an array of creative options for mitigating the Loop Current forces on rigs. Moored semisubmersible rigs can be set up with the moorings pre-biased against the current, and occasionally tugboats can be employed to pull a moored rig against the current with just enough force to help maintain station. A dynamically-positioned semisubmersible drilling rig's thrusters can also be used to counter the force of the current.

Another way to reduce stress on the riser is to use the current's own force against it, with attachments known as riser fairings. These teardrop-shaped devices divert current around the riser, equalizing forces on all sides to minimize flex and VIV in higher currents. Diamond Offshore has successfully employed fairings in other parts of the world. Eads says, "Running fairings with the riser costs more, but we feel we are at the point in the GOM that we need to employ the fairings to help customers improve operational efficiency and cost effectiveness."

One way to reduce stress on the riser is to use the current's own force against it, with riser fairings. These teardrop-shaped devices divert current around the riser, equalizing forces on all sides to minimize flex and VIV in higher currents.

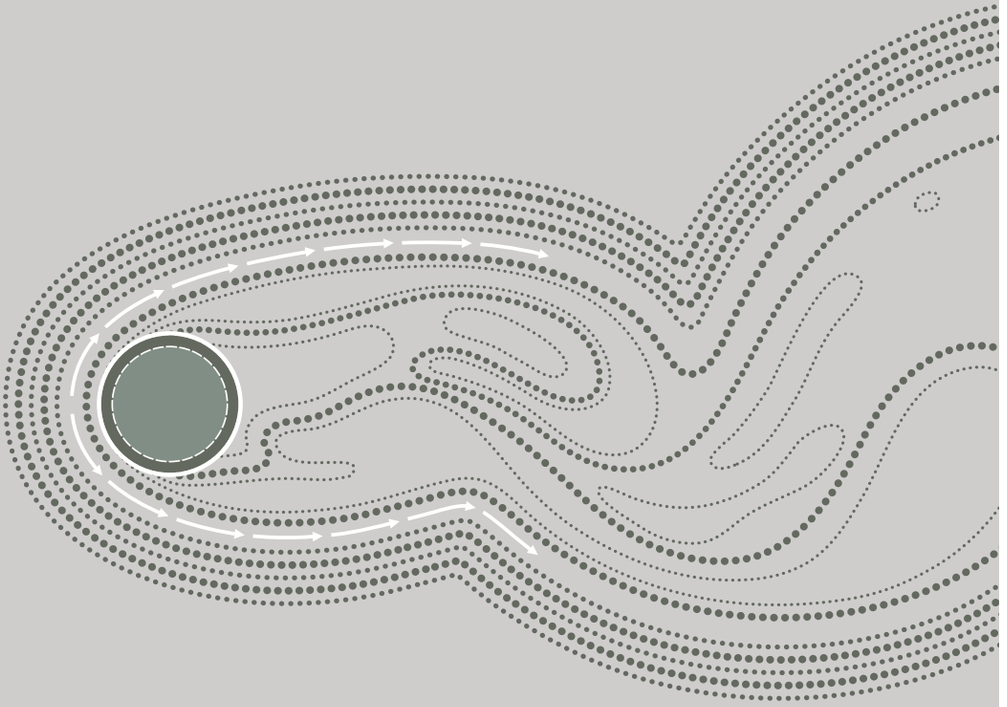
STORM SURGE

The Loop Current also plays a major role in the development of hurricanes. Understanding the Loop Current is one of the keys to understanding what these storms are likely to do once they enter the GOM. The Loop Current sits dead center in the Gulf's hurricane alley, acting as an enormous storm fuel injector. When hurricanes move over the Gulf's deep, hot waters they can intensify from a Tropical Storm to a Category 5 hurricane in less than 48 hours. This was the case with *Katrina*. Making matters worse, the Loop Current at that time had migrated significantly north and west, stretching all the way to the Mississippi delta. Like a runaway freight train, *Katrina* rode that heated track to landfall, gaining speed and strength until smashing the Gulf Coast with major destructive force.

By contrast, *Rita* gathered massive strength on the Loop Current, becoming the second strongest storm ever recorded. But when *Rita* moved off the warm rings, the storm lost intensity before landfall. And, after devastating the Yucatan, *Wilma* cut easterly across the Loop Current so quickly there wasn't enough time to intensify before going ashore in Florida.

Hurricanes, 10,000-ft. water depths and the Loop Current, to name a few of the challenges. Paraphrasing Jeffrey Winters, Associate Editor at Mechanical Engineering Magazine: "If you stop and think about what these rigs do, offshore drilling ought to be impossible. The weather is difficult, depths are so great, and the pipes are so relatively insubstantial that almost a miracle is required to be successful. Imagine trying to poke holes in the ground with a 50-ft. length of ¼-in. wooden doweling. Offshore drilling is something like that. Except worse." Still, offshore drilling is moving ever farther into the deep and stormy waters in the heart of the Loop Current, and Diamond Offshore is taking steps to make sure the Company can keep "turning to the right" for its customers as safely and efficiently as possible.

SCOTT REDEPENNING *is an internationally experienced freelance writer, enthusiastic soccer coach to 5-year-olds, and a highly qualified beach bum.*

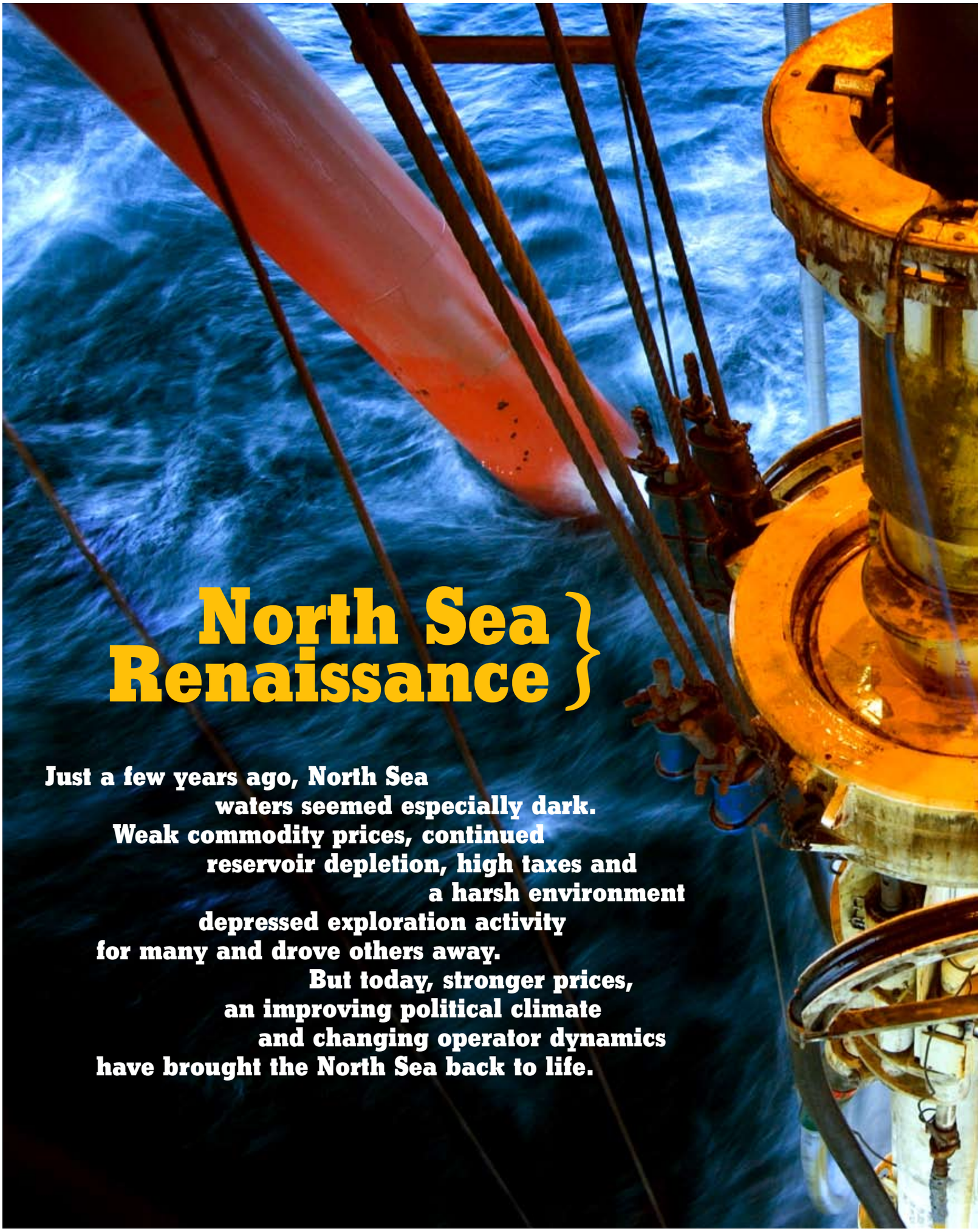


BAD VIBRATIONS

Strong currents create vortices around the riser—forces in which the pressure on the up-current side of the pipe is greater. This causes vortex-induced-vibration (VIV), which can severely stress the riser joints and damage subsea structures and the wellhead. Extreme cases have even caused the riser to part from the rig and sink to the sea floor.

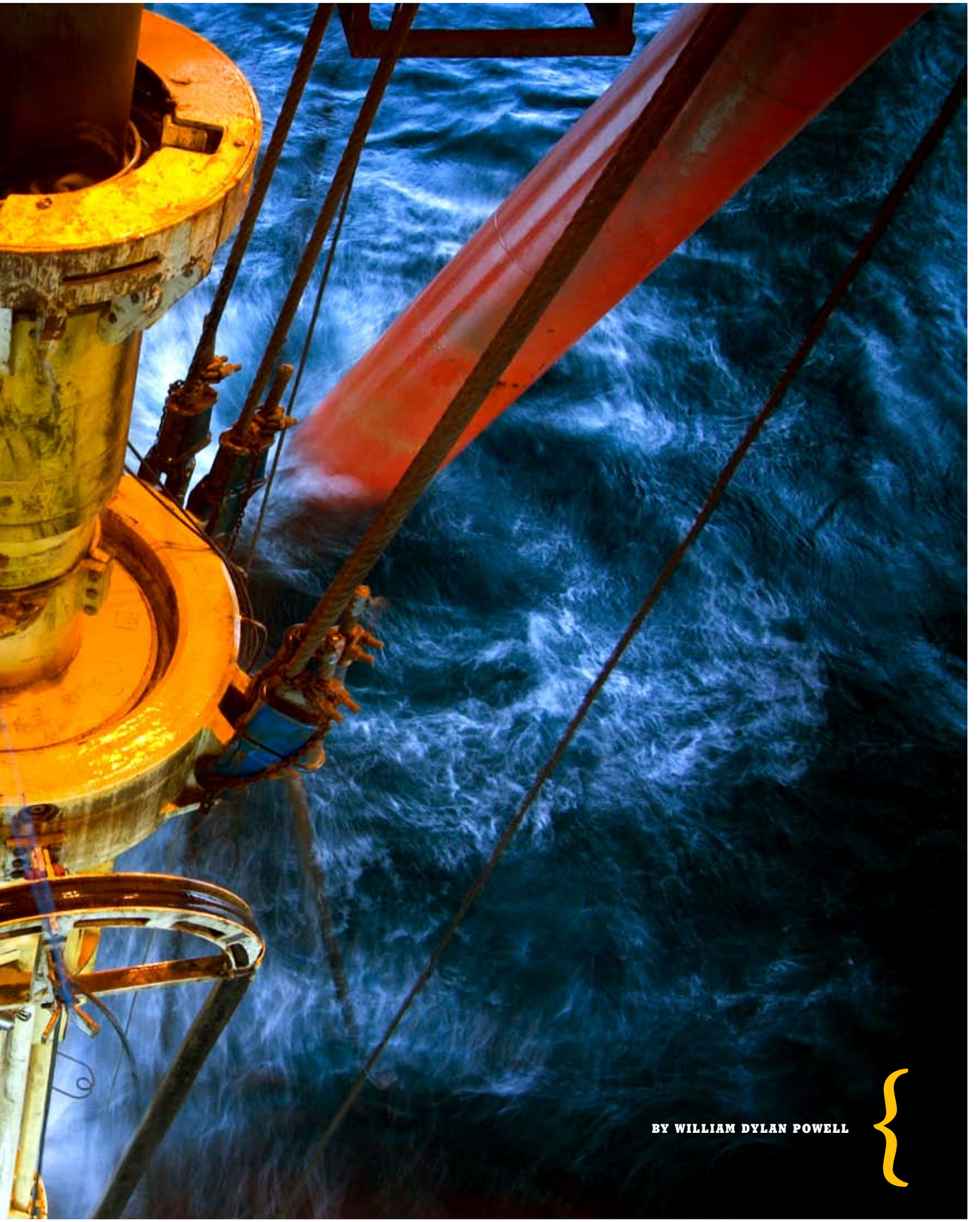
TAMING THE LOOP

These teardrop-shaped fairings divert current around the riser, equalizing forces on all sides to minimize flex and VIV in higher currents. Diamond Offshore has successfully employed fairings in other parts of the world and plans to begin using them in the Gulf of Mexico.



North Sea Renaissance

Just a few years ago, North Sea waters seemed especially dark. Weak commodity prices, continued reservoir depletion, high taxes and a harsh environment depressed exploration activity for many and drove others away. But today, stronger prices, an improving political climate and changing operator dynamics have brought the North Sea back to life.



BY WILLIAM DYLAN POWELL

"You just never know what's around the corner, in terms of world events. But there are clear signals of some longevity in these good times..."

DUNCAN WEIR

The North Sea stands as Europe's economic crown jewel—a global checkmate to OPEC production. And Diamond Offshore enjoys a strong following in the region, which thirsts for the semisubmersible rigs that comprise the bulk of the Company's fleet. Three of Diamond Offshore's rigs hold contracts into 2007 and another holds a contract through late 2006. Despite a declining production curve in recent years that some estimate as high as 10 percent annually, the last 18 months has seen a resurgence of North Sea drilling activity, particularly in the U.K. sector.

Strong commodity prices obviously played the biggest role in this renaissance, but there are other factors, such as:

- Ample acreage availability among attractive prospects
- Lower legislative barriers to market entry
- Active government promotion of activity
- New finds coming online
- Divested properties now attractive for strong independents

In 2004, regional rig utilization ticked up to 81 percent. And in 2005, activity followed the global trend with near 100 percent utilization of marketed equipment across all rig classes. The U.K. Department of Trade and Industry reports 12 new entrants to the North Sea, with the nation's last licensing round bringing an all-time record of 152 license awards. And in the Norwegian sector, the nation's Petroleum Fund is nearing $200 billion and its new Minister of Petroleum and Energy, Odd Roger Enoksen, is showing a commitment to the industry.

While all nations bordering the North Sea benefit from its hydrocarbons, the United Kingdom and Norway produce the largest amount of oil and gas. And renewed cooperation between these two North Sea superpowers improved the region's attractiveness in April 2005, as a bilateral agreement between them helped fast-track the development of plays falling on the offshore border between the two nations.

Like the Gulf of Mexico, the North Sea recently experienced a period of intense consolidation, domination by the majors and then stagnation, as the larger players decided not to reinvest. And also like the Gulf, a resilient cadre of independent players—making resourceful use of partnerships and infrastructure—has made the North Sea once again a key strategic area that recently stretched both determination and dayrates.

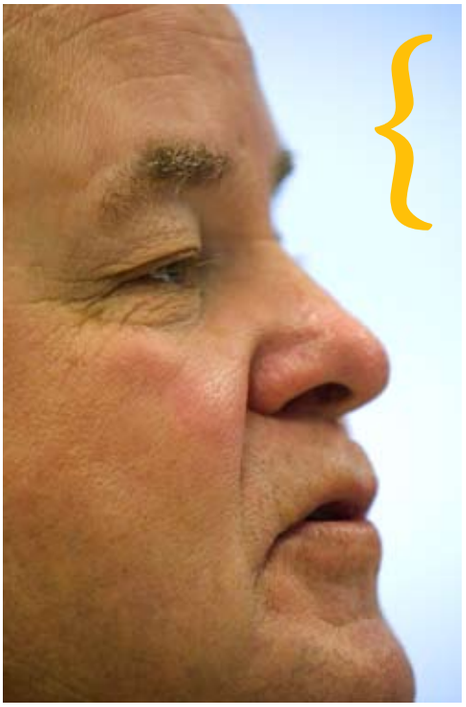
Major Migration in Progress

The North Sea's mature portfolio has paved the way for those who can thrive on scaled-down margins. "The majors are focusing on the areas from which they get maximum value, such as deepwater West Africa and the deepwater Gulf of Mexico," notes Richard Male, who manages contracts and marketing for Diamond Offshore in Northwest Europe. "For North Sea majors, activity levels aren't what they once were. As they leave, the independents are coming in behind them and extending the life of the region. I've seen that over the last five years and expect the activity will continue."

The British government is encouraging this migration. In 2001, the U.K. launched the PILOT program, a government/industry partnership creating North Sea promotions including the Fallow Process and Promote License. The Fallow Process demands companies relinquish fallow acreage to those "with the energy, expertise and drive to exploit it." Put simply, "use it or loose it." Since the launch of the initiative in 2002, over 660 blocks and 240 discoveries have qualified—resulting in stimulated activity or relinquishment. The initiative has prompted the discovery of around 200 million barrels of oil equivalent.

PILOT also spawned the Promote License, a 90 percent discount in license rental fees for the first two years—removing a huge capital hurdle for some. Fifty-eight Promote licenses were issued last year. On the U.K. tax front, however, 2002 saw a 10 percent corporate tax increase. And the prospect of further increases make some nervous.

Assuming new tax regulations don't restrict returns too severely, the region remains attractive for independents. Even the Norwegian government shows sign of encouraging independent players, in its own way, by changing the licensing process. Norway has fewer, but bigger, fields in the North Sea. Companies can now apply for pre-selected blocks, rather than the previous North Sea awards system. This will let companies pick areas near existing infrastructure, improving economics.



"The key to success in the North Sea is a willingness to take the highs with the lows. It is one of the significant floater markets in the world…it's important to be a player here."

JERRY OWENS

Commitment Pays Off

Duncan Weir is charged with keeping Diamond Offshore's rigs contracted from Europe to Australia from his office in The Hague. "When I came on board, 15 years ago, we had seven rigs in the North Sea. The market has become more exclusive. We've seen huge cycles over the last 15 years with many peaks, but mainly troughs. There have been some significant bumps in the road." One such bump was the tragic fire on the night of July 6, 1988, that killed 167 people on Occidental Oil's *Piper Alpha* platform in the North Sea's U.K. sector. The incident effected major operating changes in the North Sea and incited a safety revolution.

The years following *Piper Alpha* forced many to rethink their North Sea presence. "We went from seven rigs to three," notes Weir. "For a lot of the companies, operating in the North Sea had become much more costly and difficult. There was a significant watershed…historic."

The company decided to stay; a decision paying dividends today. "The key to success in the North Sea is a willingness to take the highs with the lows. This is one of the most significant floater markets in the world…being a player here is important." After the *Piper Alpha* exodus, Diamond Offshore capitalized on a number of opportunities which leveraged service quality.

One such opportunity was with Talisman Energy. The company signed a single-well deal with several options, which went well. Today Talisman, which now has over $2 billion in cash flow and recently acquired Paladin Resources PLC, has the *Ocean Princess* contracted until January of 2008 and the *Ocean Nomad* contracted through the second quarter of 2008. "Regardless of the market, our customers see the same type of service, professional and competent," notes Weir.

Locking in on Opportunity

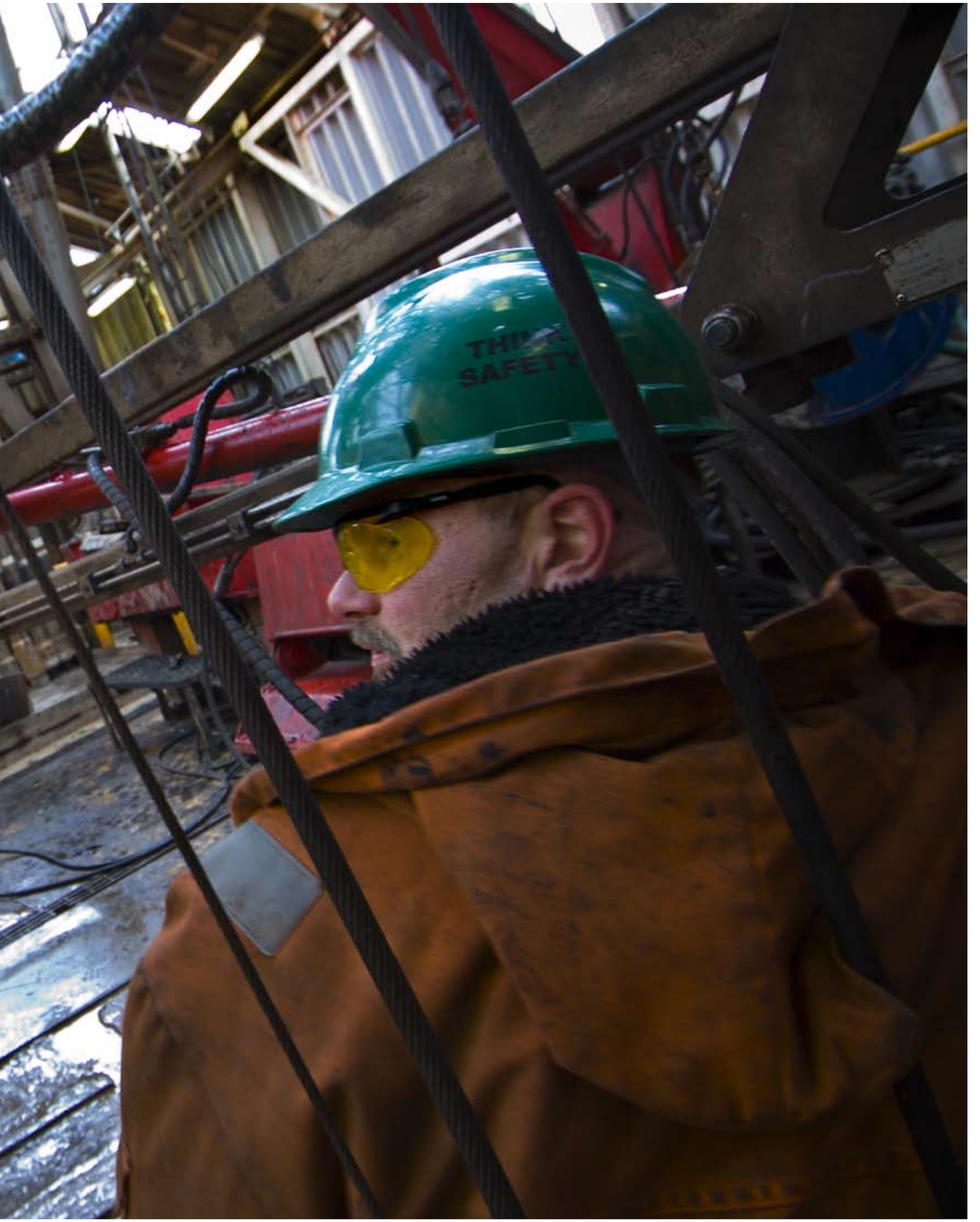
In addition to the *Princess* and the *Nomad*, Diamond Offshore's North Sea rigs include the *Ocean Guardian* in the U.K. sector and the *Ocean Vanguard* in the Norwegian sector, which has a small support office in Stavanger. The Company's North Sea headquarters lie just northwest of Aberdeen, Scotland in Dyce, where the buildings read like an upstream Who's Who and company cars scramble between warehouses like ants.

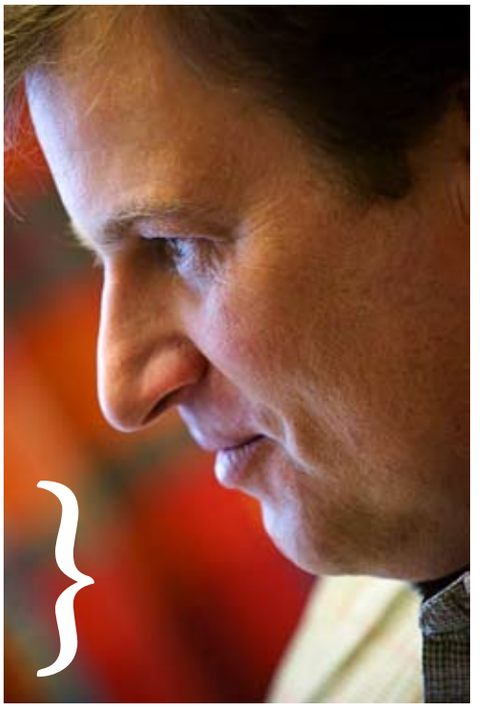
Jerry Owens manages the North Sea area and 40 or so staffers, kicking off each day by plugging into the latest rig news. At 7:30 a.m., each rig holds a conference call. "Most of the rig managers get on their cell phone and talk to the rigs before they get to the office. They know what I'm going to ask when they get here," he laughs. And each Tuesday, all hands gather to sound off about the latest development within their aegis—downtime; project status; personnel issues.

But for all the structure, Aberdeen staffers treat each other like family—complete with respectful criticism. "When I first came here, I told everyone to go anywhere and talk to anyone unless their door was closed," notes Owens. "I told them that if my door is open, you can walk in anytime you want and say whatever you want. In fact, you'd better say what you want to say." And they do. Owens thinks the key lies in good people communicating. "With the right people, you can be a star. People make the difference."

Keeping Aberdeen Staffed and Safe

Diamond Offshore has around 80 people per rig in the U.K. sector, and 145 in the Norwegian sector. A regional shortage of workers exists, even with premier universities nearby such as The Robert Gordon University. A recent study by the Aberdeen and Grampian Chamber of Commerce showed that 86 percent of oil companies in the region recruited personnel locally last year. "We've recently been taking on 'greenhands' to fill entry-level positions such as roustabouts and floorhands," notes Alison Milne who is a senior HR representative for Diamond Offshore in Aberdeen. A greenhand has never been on an oil rig, but has experience as a laborer or fisherman—something similar.


SAFETY



"Now that we are getting over the hump of learning how to work in Norway, we are looking forward to operating here for the long term."

JAMES HEBERT,
STAVANGER, NORWAY

Safety also busies the Aberdeen office. "Today—more than any other time I've been involved in drilling—health, safety and environmental performance have become among the most crucial elements of the business," notes HSE/QA manager Eric Doyle. Good programs no longer suffice; North Sea operators want safety innovation.

To cultivate this innovation, Doyle treats safety like sales. His team dresses smartly, listens actively and even works with Dale Carnegie Training U.K. Doyle comments: "Safety is personal. We have to sell these messages in a convincing, convictive manner so people don't dismiss this critical information. I think the failures in health and safety management are those who bang on the book, telling people they're not doing things right." Nobody can afford safety failures in the North Sea—especially given the weather.

North Sea Weather: Man vs. Nature

"Our toughest challenge is the weather; which is terrible," says Owens. Arctic winds build dangerous conditions quickly, with crews sometimes seeing four seasons in one day. Unlike the Gulf of Mexico, hurricane-force gales warrant only names like "Tuesday's Storm," hardly noteworthy. Average air and water temperatures average two degrees Celsius in January.

Winter weather delays can last days. Wind causes more problems than rain, sometimes gusting at 70 knots for an entire month—enough to stop work but not enough to evacuate. "Our people want to do a great job, and they feel bad for the customer during weather delays," notes Brian McGrath, who manages operations for the *Ocean Princess*.

"During the winter months, the weather forecast is one of the most important documents we review," comments *Ocean Vanguard* OIM John Hogarth. "We have to pay close attention and get the supply boats out here much earlier than needed." Weather also causes unique safety complexities, such as ice falling from the derrick in sheets, spikes or blocks.

The Economic Forecast

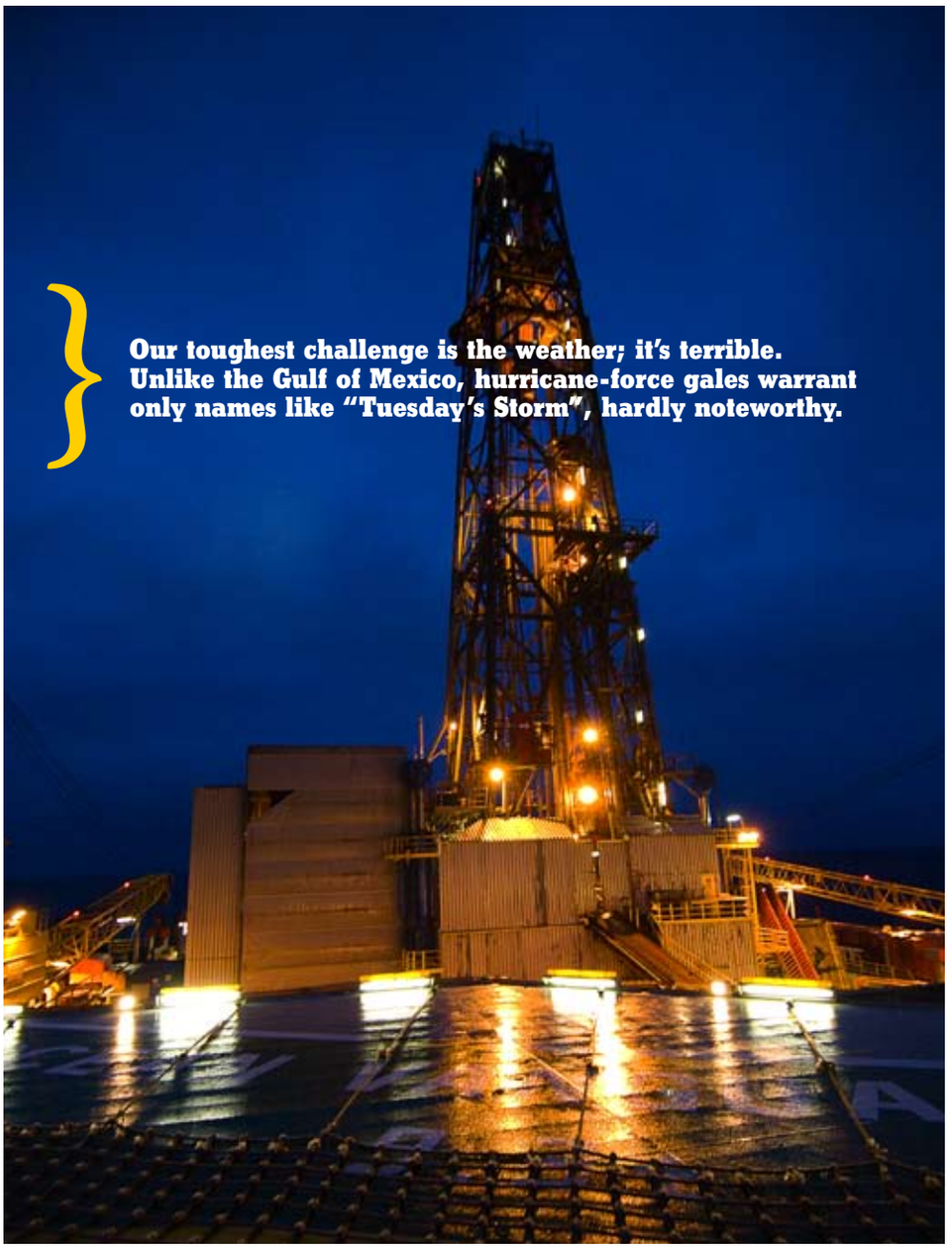
How long will the smooth sailing last in the North Sea market? There is good visibility for at least a year, possibly two. And there is good reason to expect that the North Sea markets will remain strong as long as the global markets, which currently appear to have long-term sustainability based on strong commodity prices and excellent supply-demand scenarios, analysts say. Richard Male predicts a tight supply of 23 semisubmersible rigs in the U.K. and 15 in Norway during 2006. He elaborates, "In the U.K., forecasted demand for 2006 starts off at 22 units, but rapidly climbs to 27 rigs by April. For the remainder of the year, demand will stay around 26 or 27 units." Contrast that to supply. In the U.K., 21 semis were working near year-end, with only three cold stacked. In other words, even if all three of the cold-stacked semis are reactivated, there is a potential supply deficit. And in Norway, 15 semis were working at year-end with no near-term additional available units. This is indicative of the strength of the North Sea market and the pricing power of the drilling contractors, which have seen dayrates move from approximately $40,000 per day 18 months ago to over $200,000 per day at the end of 2005.

Duncan Weir adds, "You just never know what's around the corner, in terms of world events. But there are clear signals of some longevity in these good times, giving us reason for optimism for a good number of months and maybe for a few years."

Official long-term forecasts for the North Sea range from total abandonment by 2035 to a long-term maintenance of revenues, jobs and supply well into the next century. But for now, while the tide surges, Diamond Offshore's North Sea team will stay focused on good relationships—and stay patient.

WILLIAM DYLAN POWELL *is a Houston-based freelance writer.*

TOP LEFT: SHARON HOBART, HSE/QA ASSISTANT AND SARAH LESLIE, HSE/QA ADVISOR; GEORGE HENDERSON, ADMIN/FINANCE MANAGER. **TOP RIGHT:** TOMMY JOHANSEN(L), MATERIALS ASSISTANT, NORWAY, STAN ROSS(R), MATERIALS MANAGER, ABERDEEN. **BOTTOM LEFT:** LEE WEBSTER(L) AND MATT TURNER(R), BOTH FLOORMEN, *OCEAN VANGUARD*. **BOTTOM RIGHT:** ALISON MILNE, SENIOR HR REPRESENTATIVE; ERIC DOYLE, HSE/QA MANAGER.



Our toughest challenge is the weather; it's terrible. Unlike the Gulf of Mexico, hurricane-force gales warrant only names like "Tuesday's Storm", hardly noteworthy.

TOP LEFT: DUSK ON THE *OCEAN VANGUARD*. **TOP RIGHT:** A SERVICE HAND RELAXES AFTER HIS SHIFT ON THE OCEAN *VANGUARD*. **BOTTOM LEFT:** KENNY YOUNG, NETWORK ADMINISTRATOR. **BOTTOM RIGHT:** BRIAN MCGRATH, OPERATIONS MANAGER, *OCEAN PRINCESS*.

Norway:
East of the Sun, West of the Moon

Norway has 73.6 trillion cubic feet (Tcf) of proven natural gas reserves and 8.5 billion barrels of proven oil reserves. These numbers have given it a per capita Gross Domestic Product (GDP) of $40,000 (the United States comes in at $40,100 and the United Kingdom at $29,600, by comparison). This coming from a nation which, prior to the discovery of oil and natural gas, made much of its money in whaling and shipping.

International oil companies, under sanction of the Norwegian government, pioneered exploration in the late 1960s, and Norway saw its first North Sea production in 1971 around the Ekofisk area. In those early days, ODECO, which would become a part of Diamond Offshore in 1992, was a significant player. Later, Diamond Offshore exited the Norwegian sector temporarily, but 2004 brought a term contract from Statoil that returned the Company to the Norwegian market. Today, Diamond Offshore has a new commitment to making the most of opportunities in Norway.

James Hebert runs Diamond Offshore's Stavanger office, which supports the *Ocean Vanguard* as the 1,500-ft. water-depth-rated semisubmersible operates under a shared rig arrangement between Statoil, ENI, ExxonMobil, Shell and TOTAL. Hebert stays busy; five or ten people from each of these operators might want some of his time during any given day—on top of the daily management of the *Ocean Vanguard* and the Stavanger office. "I've been with the Company for 21 years; originally with ODECO, and I can tell you that as a company, Diamond Offshore is glad to be back in Norway," says Hebert. "Though since the early days there have been a lot of changes."

Managing Expectations, Legislation

Diamond Offshore, like all offshore drilling contractors operating in Norway, has to continuously climb a learning curve. The new Working Environment Act plays a big role in today's Norway, dictating explicit guidelines for everything from working hours to ergonomics. One impact of this legislation means crews work two-week-on, four-week-off rotations. By law and tariff agreements, employees can only work a specified number of hours per year; and as a result, a standard U.S. or U.K. rotation would render a Norwegian worker ineligible after 10 months.

Three-crew rotations challenge everyone. That "other crew," the one so often the object of scrutiny, becomes two other crews. "You don't have a direct handover," says Hebert. "There are two sets of handover notes to read when a crew comes on; that's a lot of information to manage." And because a worker is off for four weeks at a time, crewmembers could conceivably miss the drilling of an entire well.

Communication and Compliance

Operating costs for rigs working in the Norwegian sector of the North Sea are significantly higher than in the UK sector, because of the many administrative and regulatory demands. In Hebert's office, a lot of time goes toward comparing in-house processes to Norwegian requirements. The goal: compliance without reinventing the wheel. The Petroleum Safety Authority (PSA) is the regulator and single point of contact for regulatory compliance issues such as training requirements. For example, everyone in Norway assuming a supervisory position must take a five-day course on Norwegian Health, Safety and Environmental (HSE) Legislation, and the Working Environment and Workman Protection Act. Additionally, a Working Environment Committee (WEC) is established consisting of employee and employer representation to discuss HSE and Working Environment issues. This WEC normally meets four times per year and is required to submit an Annual Report to the PSA— just one example of many formal communications with the regulator.

"It's not so much the amount of training as it is that it's all different; much of the same material we already have in place isn't recognized by the Norwegian government," says Ocean Vanguard OIM John Hogarth. "We've had to add eight to ten courses in Norway, half of them just to fall in line." Language can be challenging, too. Government mandated courses come only in Norwegian, so Hebert must bring a specialist in from the U.K. to translate each course and rebuild it in English.

"Most Norwegians speak English very well," he says, "but British and American workers don't typically understand Norwegian. At the end of the day, we're operating in Norway and have to learn to operate as Norwegians. We're working hard to accomplish that goal. This operation has to be one culture; we can't have cultural silos."

The crew of Hebert's *Ocean Vanguard* is about 50 percent Norwegian and 50 percent British, with a few Americans. This blend of cultures creates interesting working and living dynamics. "What one person does can affect everyone on the rig," notes Hogarth, "so all of us have to work together through both positive and negative feedback, to build a single culture."

One difference in working styles between Norwegian crews and their British or American counterparts revolves around crew involvement. "Here, every decision, all planning, reviews of any kind typically entail a lot of crew participation up front," says Hebert. "That's atypical compared to our usual model where management comes up with a plan and then says: 'OK, now you guys go attack!'"

Just everyday living on *Ocean Vanguard* also gets interesting. The challenges are mostly the little things: the galley crew had to experiment with menu options to suit both the Norwegian and British pallets (Americans eat anything). The traditional British breakfast, for example, consists of sausage, bacon, eggs, toast and beans, while Norwegians prefer to go for bread, cheese, cold ham and the like. But at dinnertime, everybody likes pizza.

Despite the challenges of re-learning to operate in this exciting new territory, and the stress that comes with investing the people, assets and time into making everything work, a stint in Stavanger can be rewarding. "Now that we are getting over the hump of learning how to work in Norway, we are looking forward to operating here for the long term," says Hebert.

Steering a Company in the Fast Lane

In boom times or bad, safety pays. BHP Billiton Petroleum has become an important offshore player by combining technology and the drill bit with a "Do No Harm" operating mandate that drives the company's culture.

BY MOLLY GLENTZER

From his office overlooking Houston's bustling Uptown area, Mike Weill, BHP Billiton Petroleum's President of Operations & Technology-Americas, can see cars going in all directions. But he's focused on the traffic inside, steering a business in the fast lane. "We had six major projects come onstream between December 2004 and January 2005, across the globe," Weill says.

Only a decade ago, BHP Billiton, the world's largest diversified resources company, was primarily a mining firm with a few world-class petroleum assets offshore Australia. "Fast forward to today," Weill says, "and we're operating in Pakistan, Algeria, the United Kingdom, Australia, Trinidad and the Gulf of Mexico (where the company has interests in nearly 450 lease blocks)." He's charged with keeping the growth in the Americas on track in spite of escalating operating costs and the inherent challenges of offshore, ever-deeper drilling.

"In many respects, it feels like 1980 all over again," says Weill. "Very high prices, and the same kind of noises about excess profits coming out of Washington and London. But this is the most un-boomlike boom we've ever had. The last time, the Arab-Israeli war and the Iranian embargo of '79 created a supply anomaly. This time, it's more about demand and the 'BRIC' countries—Brazil, Russia, India, China—developing countries with large populations trying to achieve first-world status.

Weill and his staff are clearly on the right track. In 2005, BHP Billiton Petroleum saw record production, with an EBIT increase of 31.6 percent. (Petroleum is one of the company's seven customer sector groups. The others are Aluminum, Base Metals, Carbon Steel Materials, Diamonds and Specialty Products, Energy Coal and Stainless Steel Materials.)

Among BHP Billiton's high-profile oil and gas projects are the development of the Minerva gas field offshore Eastern Australia, a fifth LNG train expansion on Australia's North-West Shelf, development of Algeria's Rhourde Oulad Djemma oilfield, development of the Angostura integrated oil and gas field offshore Trinidad, and development at the Mad Dog and Atlantis fields in the Gulf of Mexico.

The activity gives Weill a sense of déjà vu. Born in Aruba, where his father was a chemist for a major oil company, he entered the business in 1980 with a chemical engineering degree from Cornell University and spent 16 years with Shell before joining BHP Billiton about eight years ago.

"In many respects, it feels like 1980 all over again," he says. "Very high prices, and the same kind of noises about excess profits coming out of Washington and London. But this is the most un-boomlike boom we've ever had. The last time, the Arab-Israeli war and the Iranian embargo of '79 created a supply anomaly. This time, it's more about demand and the 'BRIC' countries—Brazil, Russia, India, China—developing countries with large populations trying to achieve first-world status."

Weill (r) and BHP Billiton's worldwide drilling manager, John Stobart (l), insist that the company's commitment to health, safety, environmental responsibility and sustainable development are also integral to its success. "The way we run safety is driving a lot of efficiency in our drilling operations," Stobart says.

One of his biggest issues is cost containment. "There's a steady state here we haven't found," he says. "Costs have been driven almost out of perspective. Clearly we're all living in a high-price world. When a couple of subsea wells cost $100 million or more to tieback to a facility, they become marginally viable even in a high-price environment.

At BHP Billiton, however, Weill has the benefit of a unique perspective. Looking at a project through a different lens can be helpful in the decision making process. "The people on the mining side of the house, for example, have seen any number of things that typically petroleum guys don't think of. They tend to focus on day-to-day operating costs, whereas we've traditionally looked at capital costs that affect our amortization base for an asset's entire life."

Part of BHP Billiton's strategy has been strengthening its position as an operator and steering organic growth through exploration rather than acquisitions. "You gotta be prepared to work your own ideas," Weill says. "The best value creation opportunities come from good exploration ideas and getting in there early." Operating its assets also gives the company more control over project timing and pace.

BHP Billiton's unique technological pedigree also serves it well in today's extreme deepwater environments. "Our history is largely offshore. Twenty years ago, we were one of the first users of floating production systems and subsea wellheads in the North Sea and Western Australia. We got very familiar with the technology—and that's exactly the technology you apply in any of the deepwater basins of the world today," says Weill.

In December 2005, the company announced a discovery at Knotty Head—the deepest discovery to date in the Gulf of Mexico. "We're not only drilling in deeper water, but in deeper stratigraphy," Weill says. The Knotty Head exploration well, about 170 miles southeast of New Orleans, saw an initial wellbore drill to a total depth of more than 34,000 feet and encountered more than 500 feet of net oil pay.

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"Good safety and good business performance are indelibly linked," Weill adds. "And the safety part has to come first. You can achieve good business results without a good safety record, but you can achieve better business results with a good safety record."

BHP Billiton's drilling organization is qualified as ISO 14001 environmental standard and OSHA 18001 safety standard. "And we prefer to use drilling contractors that meet those requirements," Stobart says. "We spend a lot of time monitoring; working with the crews and rig managers to make sure they're up to our standards and improving them all the time."

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Diamond Offshore, he notes, is among BHP Billiton's most progressive contractors. "When I want a top-level industry opinion or advice on safety matters, Rodney Eads (who heads up worldwide operations for Diamond Offshore) is one of the first guys I call," Stobart says.

"Fostering those kinds of relationships is an important part of how we do business," Weill says. "Internally, we've coined the phrase 'zero

From his office overlooking Houston's bustling Uptown area, Mike Weill, BHP Billiton Petroleum's President of Operations & Technology, can see cars going in all directions. But he's focused on the traffic inside, steering a company in the fast lane. "We had six major projects come onstream between December 2004 and January 2005, across the globe," Weill says….Weill and his staff are clearly on the right track. In 2005, BHP Billiton Petroleum saw record production, with an EBIT increase of 31.6 percent.

harm.' The idea is, every person goes home in the same condition that they came. That means no injuries, no fatalities. We're not there yet, but we're making progress."

"We're actually trying to get people to go home in better shape," Stobart adds. Wellness programs on the rigs and production platforms encourage individuals to set their own health targets. "It's astonishing when you see 60 guys out of 80 coming back with lower cholesterol and lower blood pressure."

Safety starts at the top, Weill says, and is just as important at the design stage as it is on working rigs. "It's an attitude in the company, combined with some very high-caliber people who've been empowered to be innovative, with a very clear view that we expect high levels of safety performance."

Stobart explains, "If we see activities that people typically get hurt doing, we work to make the activities safer, or to eliminate them altogether. We've identified several on rigs: man-riding activities, confined space activities, a lot of dropped object risks."

A case in point is a new device developed at BHP Billiton that automates the tank cleaning process at onshore bases—a task that traditionally requires a cleaner to descend into tanks full of oily mud and fumes. "People entering tanks is inherently a dangerous thing to do. So how can you engineer around it?" Weill says. Ultimately, the new device will be pre-installed into ships' tanks.

"Quite often, when you get a safety benefit, you also get a performance benefit. In cases like this, you get an environmental benefit as well," Stobart says. "The new system will recycle a heck of a lot of washwater that once had to be disposed of."

World's best-practice management systems are especially critical to excelling in more challenging and remote operating environments. In places like Trinidad, Algeria and Pakistan, safety aspects may be less visible to the outside world, but environmental and community relations issues are huge. "How you react with the community is critical," Weill says. Sustainable development is an operating mandate at BHP Billiton.

The company's Trinidad project—with an offshore operation, a pipeline to an onshore facility and an onshore terminal near Guayaguayare Bay (where there was a hostile attitude to multinationals) —serves as a model. "During construction, we went out of our way to employ as many locals as possible, and qualified a number of the locals as welders—a skill they can take with them, post-production, to other places," Weill says. Equally important, the company established an agricultural project, training residents in cassava cultivation to help the poverty-stricken village sustain itself long-term.

BHP Billiton's high standards also served it well during last year's three major hurricanes in the Gulf of Mexico. Two of the company's offshore production facilities were badly damaged by *Hurricane Rita*, and one is still out of commission. "But the fact remains that there were no major oil spills from offshore and no oil put on a beach anywhere," Weill says. "This wasn't just a result from one company. It reflects the entire industry operating in the Gulf of Mexico. From an environmental perspective, it was as successful as you can be in a horrible hurricane season."

Like other Gulf of Mexico operators, BHP Billiton may be impacted by the loss of refinery capacity and onshore infrastructure for some time. "It was a tough deal, trying to get started again," says Stobart. "And the number of rigs that got loose and drifted around the Gulf of Mexico, with the potential to damage pipelines as well as stationary production platforms, is something the industry's addressing right now. We don't know what the ultimate solution is."

Weill, who's a member of the Board of Directors of the National Offshore Industry Association as well as participating in numerous other industry associations, is also concerned about access issues, long-term. While news reports make it sound as if resources are being developed all over the U.S., he explains, "The reality is, the Arctic National Wildlife Refuge has not opened up onshore. And offshore California, Florida and the East Coast are largely off-limits."

Weill notes that 20 years ago, the industry walked away from gas along the East Coast. "Today, you'd go after it. We've gone, in the last 10 years, from an overabundance of natural gas, priced as low as $1 or $2 per Mcf, to spot prices today pushing $14 per Mcf. What are we going to do to satisfy that demand?"

Molly Glentzer is based in Houston.

FORTY MILES OUT AND FOUR MILES DOWN the *Ocean Titan* drills for natural gas reserves deep in the Gulf of Mexico.

Back to the Future with jack-ups

BY SANDY FRUHMAN

Effective utilization rates are at 100 percent in every major international market. And dayrates and demand have returned to levels last seen in 1980; almost as if the drilling industry was a passenger in the plutonium-powered DeLorean time machine of Marty McFly, the teenage hero of the 1985 hit movie Back to the Future. But there are important positive differences in commodity prices, equipment supply and demand, and dayrates between today's market and past strong markets, some of which collapsed in tidal waves of overbuilding.

Nowhere has the most recent round of changes been more dramatic than in the Gulf of Mexico (GOM) jack-up sector, where Diamond Offshore has 14 percent of the total marketed supply, and is number two in jack-up rigs rated for drilling depths of 300-ft. or greater.

At a time when strong demand and scheduled rig departures already had utilization rates for marketed GOM jack-ups pegged at 100 percent, hurricanes *Katrina* and *Rita* roared across the Gulf, taking out 10 percent of the active jack-up fleet and idling a much larger percentage for varying periods of time. In the space of just over a month, tight supplies turned into shortages, creating a positive step change in pricing and an increasing bias on the part of operators and drilling contractors alike for term contracts versus well-to-well agreements.

JACK-UPS CATCH UP

When the most recent surge in offshore drilling began in the summer of 2004, not all segments of the market recovered at the same pace, according to John Gabriel, head of contracts and marketing. The floater segment led the recovery, first with an increase in utilization and dayrates, then with the emergence of term contracts in place of single or multi-well contracts. "We have been experiencing that second stage, particularly in the deepwater floater market, for at least a year," he said.

Although the jack-up recovery began first, the movement was much slower than the floater market, particularly in the GOM. It was a classic case of the tortoise and the hare. But the hurricane season kicked in the afterburners on the jack-up market. "The market is really tight at the moment," said Jennifer Sivley, managing editor of the Gulf of Mexico Report at ODS-PETRODATA.

"The jack-up losses this hurricane season have really exacerbated an already tight market. Dayrates for 300-ft. independent cantilever jack-ups that were in the high $30,000s in November 2004 had risen to over $125,000 in November 2005—that's unprecedented," she added. "In terms of utilization, we're at 100 percent of the marketed fleet—in other words, all the rigs that are working or can work—in fact there is a deficit."

As a result of the tight market for jack-ups, term contracts are starting to emerge in place of single-well or multi-well contracts, signaling the second step of the recovery. In the GOM, where 11 of Diamond Offshore's 13 jack-ups are operating, Sivley is starting to see six-month contracts and even a couple of one-year contracts.

"In a rising market, drilling contractors don't like to term-up the jack-ups because they can play the market and increase the dayrate," Sivley explained. "However, they will take a term contract if the dayrate is worthwhile, and we're talking up to four times what the rig would normally get. The emergence of term contracts is certainly indicative of a supply deficit, and may also speak to the potential longevity of the market as operators seek to assure rigs for extended drilling programs. Operators are worried about the supply, and they're willing to pay the price to term-up the contracts so they don't lose those jack-ups," she said.

WHAT'S DRIVING THE "DELOREAN"?

Strong demand, driven by a dramatic escalation of product prices over the past two years, has been the primary driver of the bullish market for rigs of all types. But external forces that reduced the rig supply clearly weighed in on the GOM jack-up market in the late Fall, agrees Victor Marchon, a top energy analyst with RBC Capital.

"When you look at the upturn in pricing for jack-ups, and specifically in the Gulf, we started to see modest but steady increases around the middle of 2003, which continued until recently," Marchon said. "Right after the hurricanes, given the number of jack-ups lost, damaged, or set to leave the region, we expected to see a step-change in pricing late this year or early next. Pricing to date has already exceeded those expectations."

Katrina and *Rita*, the destructive duo that tore through the GOM within a month of each other, destroyed nine jack-ups, or 10 percent of the active fleet, and damaged many others. Some of the rigs that remain idle in shipyards due to storm damage will be out of service for an extended period, if they can ever be brought back to work.

In addition, the GOM is experiencing heightened competition for jack-ups from other parts of the world, notably the Middle East. "The Gulf of Mexico jack-up fleet, at least the mid-to-upper-end, competes on a world-wide basis," Gabriel explained. "There has been a very dramatic increase in jack-up requirements in the Middle East for LNG projects." In an exodus that began in 2004, 23 jack-ups have left the GOM or will leave, with eight of the departures slated for 2006.

"Between the rigs leaving and the rigs lost, either temporarily or permanently to storm damage, it adds up to about 15 percent of the total supply in a market that already was doing very well," Gabriel said. "The market here in the Gulf has been affected in a very positive way in terms of pricing."

THE NEXT GENERATION OF JACK-UPS

Money talks, and the drilling industry is answering with the first significant additions to the jack-up fleet in two decades. Some 45 new-build jack-ups will come to market through 2008, including Diamond Offshore's ultra-premium rigs *Ocean Shield* and *Ocean Scepter*, both slated for delivery in the first quarter of 2008.

The industry is not just adding supply. Also being added are new features and capabilities that operators need for the type of drilling they are doing today—two million pounds of hook-load capacity, three or four mud pumps and the ability to drill to 35,000 ft. are hallmarks of these rigs. "The new markets for the jack-ups are all pretty much for premium and ultra-premium rigs," Sivley said. Whereas the ability to drill in deeper water was a key feature of the last generation of jack-ups, today operators want to drill deeper wells in relatively shallow water.

"Some key players, including majors, are looking to do deep-shelf wells in this market," Sivley explained. "Deep-shelf wells are often drilled in a few hundred feet of water but to depths of up to 35,000 ft. in search of pay horizons in deep formations. With prices high, they have the budgets to do the more difficult and expensive drilling, and they're looking for the big finds. Operators have used the big semis to go down in deeper water, and they've located some of the bigger pay zones in the Gulf below 25,000 feet. Now they are also looking hard at the shelf. That's sort of the new frontier in the Gulf."

Diamond Offshore's newbuilds will be among the select few suitable for the deep shelf applications. "Although most of the newbuilds are premium units capable of drilling below 15,000 feet, only 12 have the combination of hook-load capacity, mud pumps and drilling depth capability that the Diamond Offshore rigs will have," Sivley said. "So those are in high demand and will continue to be in demand as operators scramble to secure jack-ups for that work."

Able to drill to 35,000 feet below the ocean floor in up to 350-ft. of water, the *Ocean Scepter* and *Ocean Shield* will be on the leading edge of drilling depth capabilities. "The depth that you can drill ties back to the hoisting capacity," explained John Vecchio, who is in charge of technical services for Diamond Offshore. "With derricks rated at two million pounds, our newbuilds will be able to go deeper because they can handle the heavier drill pipe and longer drill strings. They are designed for heavy deck loads to support the high-capacity derricks and to carry more equipment and higher volumes of mud."

Gabriel believes that the company's investment in the ultra-premium newbuilds, added to an already substantial jack-up fleet in the GOM, underscores Diamond Offshore's commitment to being a significant, long-term player in the jack-up market. "We are primarily a deepwater floater company, and that remains our focus. But with 14 percent of the total jack-up supply in the Gulf, and a diverse and expanding fleet that ranks second in the number of high-end jack-up units in the Gulf of Mexico, we are a greater force in the GOM jack-up market than we have been given credit for."

BACK TO THE FUTURE?

With product prices at unprecedented levels and market participants scrambling to cash in, are we headed for the type of building frenzy

"We put out a note in early October of this year predicting that the hurricanes would cause a step change in pricing in the Gulf of Mexico, and that's what we've seen."

Victor Marchon, RBC Capital

that caused the disastrous collapse of the last boom market? Not likely, according to Gabriel, Sivley and Marchon.

"I don't think we're headed down that road," said Gabriel. "Between the dramatic increase in demand and the loss of supply to natural disasters, I think the number of rigs under construction can readily be absorbed into the fleet without having a dramatic impact on utilization and consequently prices," he said.

"Total supply numbers are a bit deceiving, given how long some of these rigs have been idle and the amount of money needed to reactivate them," Gabriel added. "The average jack-up in the world is probably 20 years old. They're not anywhere near the sophisticated drilling tools that these new rigs will be, and we're going to see some of the older rigs fall out of the bottom of the market."

Sivley agreed. "In the 80s, more than 100 rigs were built in one year," she said. "I see people being much more cautious, and the market forces are very different now—they're unprecedented. A lot of the companies, including the national oil companies like Saudi Aramco and Pemex, are in a situation where their reserves are very low. For so many years when prices were flat, they did not turn the drill bit and lagged behind in development work. Some of their large fields have peaked and are on the decline, so they need to work very hard to replenish their reserves. Everything hinges on commodity prices, and I don't see those prices going down."

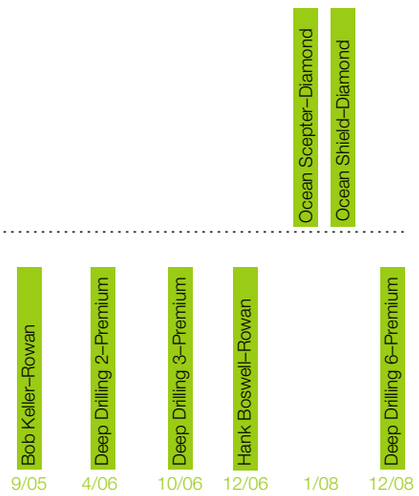
According to ODS-PETRODATA's estimates, worldwide demand for jack-ups will increase by 35–54 rigs over the next two years, with 10–15 new jack-ups needed in Saudi Arabia alone. Combined industry sources estimate that only 46 newbuilds are currently scheduled to come to market from 2005 through 2008.

"As you look at the jack-up markets in 2006, we're very positive," Marchon said. "We see continued pricing gains in the GOM on the jack-up side. By the end of 2006, the global jack-up market is expected to be short by 30 to 40 rigs," he continued. "You only have 10 newbuild jack-ups coming into the market in 2006 and 20 in 2007, and those numbers aren't likely to change much because of shipyard constraints and equipment bottlenecks. You're not going to get a rig before 2008, even if the unit is ordered today.

"What happened with newbuilds in the late 70s and early 80s was excessive," Marchon concluded. "The numbers over the next several years don't suggest we're anywhere near where we were in back then."

Sandy Fruhman *is a freelance writer and public relations consultant with 25 years of corporate experience in the energy industry and two years as an entrepreneur serving clients across a broad spectrum of industries.*

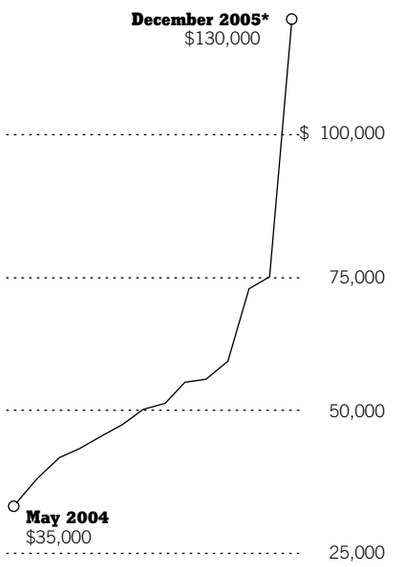
ULTRA-PREMIUM JACK-UPS—
UNITS UNDER CONSTRUCTION
WITH 2MM LBS HOOK LOAD



Source: ODS-Petrodata, Industry Data

All rigs Rated WD 350 ft. with a drilling depth of 35,000 ft.

GOM 300-FT. IC JACK-UP DAYRATES



*Future contract

GAVIN HENDRY

SCOTLAND

SENIOR WAREHOUSEMAN

"What may be done at any time will be done at no time," reads an old Scottish proverb. Scots don't like to waste time when it comes to work. And this work ethic certainly thrives in "local lad" Gavin Hendry of Aberdeen, Scotland.

Prior to joining Diamond Offshore, Hendry worked for the Royal Mail's Post Office warehouse which conducts approximately 2.7 billion transactions per year. After a year-long sojourn in Australia, Hendry decided to channel his efforts into the energy sector. Today, almost everything that goes out to a Diamond Offshore rig in the North Sea's U.K. sector goes through Hendry first.

"I'm in charge of all the shipping operations to our rigs—booking goods and shipping them to the *Ocean Princess*, *Ocean Guardian*, and *Ocean Nomad*." Somebody out there always needs something—and they need it by yesterday. But Hendry's just the sort to get it done. "I'm a busy kind of person," he says. "I don't like sitting down, not doing much. Here I stay busy, and every day seems different. I enjoy the pace."

And he's not just a team player at the office. Outside of work, Hendry plays semi-professional football (soccer), practicing on weekdays and attending games on the weekend. He's also an avid golfer, weightlifter and all around keep-fit kind of fellow. "I'm really a sporty type of person," says Hendry, who takes full advantage of the company's corporate membership at the Newmachar Golf Club.

Here in the birthplace of golf, Hendry and his coworkers carry the Scottish philosophy of making the most of every day into their leisure time too. "It doesn't get dark here in the summer until 10:00 p.m.," says Hendry, "So we get in as much golf as we can; a lot of guys at the office play golf, so it also builds camaraderie. I love that."

The Nationalities of Diamond Offshore

CELEBRATING STRENGTH IN DIVERSITY / PROFILES BY DENISE ZWICKER AND WILLIAM DYLAN POWELL

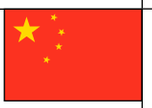
IAN MURDOCH

HARRY REN

ARVE EIKELNAD

HARRY REN

CHINA



SENIOR NAVAL ARCHITECT

After 15 years in the United States, Harry Ren feels comfortable here—so much so that, during a visit with his family in Shanghai, he mentioned "home," referring to Houston. "My mother said, 'I'd like you to say "Houston," and not "home." But this is my home now," he says earnestly. "I like it here, and I'll probably stay here the rest of my life."

Ren, a senior naval architect for Diamond Offshore, was educated at Jiao Tong University in Shanghai, where he received his B.S. and M.S. degrees in naval architecture. "I came to America for my second M.S.—in civil engineering. I got a scholarship to Lamar University in Beaumont, Texas, which seemed like the countryside after living in a big city like Shanghai!"

Ren applied for a job with Odeco and was offered a position even before he graduated. In 1999, he came to work for Diamond Offshore.

Ren's wife, Lin, who was a friend of his family in Shanghai, came here with him after they married in 2002 and also has become accustomed to life in Houston. "We still keep our Chinese traditions," Ren says. "For example, we cook traditional Chinese food, which is more healthy. And I keep photos of Shanghai in my office. But I became a U.S. citizen in 2001 and have made a long-term commitment here. This is my home now."

ARVE EIKELNAD

NORWAY

WELDER

Machines have always made sense to Norwegian Arve Eikelnad. A welder on the North Sea floater *Ocean Vanguard*, Eikelnad hails from just south of Bergen in southwestern Norway—a place where the mechanically inclined have long been held in high esteem. Since the days of King Olaf, this part of Norway has depended on men like Eikelnad to help build machines to harvest the sea's resources. In the past, this has meant shipping and fishing. Today it means offshore oil and gas.

The combination of Eikelnad's natural ability and the dependence of the region on the wealth of the sea have made working on the *Ocean Vanguard* a natural fit for the 15-year energy industry veteran. "I like everything about it," says Eikelnad, "I do everything; welding, mechanical work, it's all very interesting." And he doesn't stop when his rotation offshore finishes. When he's not spending time with his two young children, you'll find him doing everything from construction to auto mechanics in the quest for yet another mechanical challenge.

His energy and taste for problem-solving variety has taken him not just offshore, but also into platform construction onshore, complex downstream refining environments and also copper, diamond and gold mining ventures. Eikelnad currently lives at the very southern tip of Norway in Kristensund, where Diamond has its logistical base tucked in between the shipyards, textile mills and processing plants. And where he can be closer to his next big project.

IAN MURDOCH

SCOTLAND

PLANNED MAINTENANCE SUPERINTENDANT

"In Scotland, people watch TV and see the crime stories and make judgments about America," says Ian Murdoch, a Scotsman who's made Houston his home. "My brother said he'd like to come, but he's worried about the violence. It's the media that give that impression, particularly about the South. But it's not true. My mother, who does come to visit, says she feels perfectly safe here. And I certainly see less crime here than in Aberdeen."

Murdoch maintains his Scottish citizenship, but has lived in Houston longer than anywhere else in his life. "I grew up in Ellon, Aberdeenshire, which is about 15 miles north of Aberdeen, until I was 10.

"I started with Diamond Offshore in 1989 as a motorman on the *Ocean Liberator*. The company asked me to transfer here in 1993. Now I'm a planned-maintenance superintendent—an office job. I'm responsible for ensuring the proper maintenance of equipment on our rigs worldwide."

Murdoch has settled into his life in Houston. "There are 50,000 Britons living in Houston, and I think most of us enjoy being Houstonians. The standard of living is very, very high. It's an easy city to live in: Parking is not a problem, and the traffic congestion is no worse than Aberdeen or a lot of major cities in the world. Houston has a good freeway system, everything is convenient, and shopping is a pleasure."

"All of my friends these days are Americans, and I feel at home here. I definitely plan to retire here," Murdoch concluded.

SARAH LESLIE

SCOTLAND

HSE/QA ADVISOR

Sarah Leslie studied chemistry and biology at The Robert Gordon University, but she found her true passion improving the interpersonal chemistry of Diamond Offshore's North Sea headquarters.

A native Scotswoman who's never moved away from her hometown of Aberdeen, she says it was her university dissertation that first gave her a glimpse of her professional preferences. "It was a year-long dissertation; results don't come in real life the way they did in the lab. It just wasn't for me, after all. I couldn't see myself doing that for the rest of my life!" So she threw her hat into the corporate ring and eventually joined Aberdeen's energy workforce.

Leslie has been key in implementing the Scotland's Health at Work (SHAW) program in the Aberdeen office; a program designed to improve quality of life—and work. "In the past, we've tended to put our focus on the offshore workers," she says, "but we've been neglecting the shorebase personnel. The SHAW program is about helping people here in the office feel better at work. If you're happier and you feel better about yourself, you'll have a better life and be a better worker. We're promoting healthy eating, sponsored walks and a number of initiatives to put the focus on all Diamond Offshore employees, not just the ones on the rigs.

And she practices what she preaches, working out regularly—though she admits she prefers to go jogging only at the gym. "My Mom thinks I'm crazy for paying money to go to a gym just to walk in it when I could run in the street, but give me a treadmill in an air-conditioned room any day." When she's not working out, do-it-yourself projects at her new flat make up the other major element in her week—and yes, she does wear safety spectacles, just like in the old days at the lab.

BOSNIA

IVAN BATINIC

DOCUMENT CONTROL COORDINATOR

Ivan Batinic, a Croat from Sarajevo, Bosnia, didn't come to the United States casually; at 24, he came with great determination. "Sarajevo was under siege; my college was burned. I left the country, along with most of my generation. We had to sneak around and use channels to get to Croatia and then apply for sanctuary to the United States.

It was 1994. Batinic, with an associate degree in mechanical engineering and a B.A. in marketing, came to Houston at the suggestion of the Immigration and Naturalization Service, where he was assured that he would be able to find a job and live fairly inexpensively. Under a special U.S. program for Bosnians, he received an immediate work permit and applied for U.S. citizenship, which he received five years later.

It was a big change for Batinic, who says, "In my country, life is harder. The economy is not that good. Now I was in the most-developed, powerful country in the world, where there are no difficulties getting things done."

After more schooling here, Batinic quickly found a temporary, then part-time job. He began his first full-time, permanent position at Diamond Offshore in 1996. "I belong to the engineering group currently working on *Ocean Endeavor* as the document-control coordinator. The site team is in Singapore. I coordinate all the documentation flow between Houston and Singapore."

Batinic says he enjoys working for Diamond Offshore. "I have good friends who I have worked with for a long time now. I feel lucky to be a part of the team."

But he hasn't forgotten his roots. "It took us years to find each other because we're scattered all over, but now I'm connected with my college friends. We stay in constant touch by e-mail, and we get together every couple of years in a different part of the world. Once a year, I try to go back and visit my parents and brother in Sarajevo, and they've visited me here twice."

Batinic says it took him a while to get used to life in the United States, but now he's very well adjusted. "It's a little harder every year to go home."

PIO D'ACOSTA

BRAZIL

INTERNATIONAL ADMINISTRATION SUPPORT MANAGER

"Home, to me, is where I am right now," says Pio D'Acosta, international administration support manager. "I adjust to new places quickly and easily." His history confirms his statement: Born in Sao Paulo, Brazil, he has lived for long periods in Canada, Central America, virtually every African country and the United States.

D'Acosta lived in Brazil for his first 18 years. "I took 12 years of Greek and Latin, then romance languages at a special school in Brazil," he says. By the time he moved to Canada at age 18, he was fluent in Spanish, Portuguese, English, and French.

In Canada, he received his bachelor of science degree in business finance and management, then worked for Shell Oil and Ford Motor Co. After joining the U.S. Agency for International Development as a consultant, he worked in Central America, then Africa, where he met and married his African/French wife. Today, she and their two children live in Ouagadougou, Burkina Faso, while D'Acosta lives in Houston, visiting them regularly.

"I came to work for Diamond Offshore in 1997 as an administrator on rotation overseas," he says. Today, he and his team members support the administrative and financial activities of Diamond Offshore worldwide.

What has he learned in all his travels? He doesn't hesitate: "The importance of communication: How to communicate with people in all walks of life." He means what he says. In addition to the four languages he's studied formally, D'Acosta also has taught himself to speak some Italian and German, as well as two African languages. "But it's more than that. Communication is not just language, but also the books I read, the television, the radio, and getting to know the culture.

"For example, the fabric of society in Africa is very complex. It's a place of mystery because of their beliefs. Canada and the United States, on the other hand, are open societies that are more materialistic. The spiritual aspect of life is not so visible there. Brazil is closer to Africa in the fabric of the society and common beliefs."

Which place does he call home? "If I'm looking back to my childhood, it's Brazil," he says. "If I'm looking back to college, it's Canada. And, if I'm looking back over my working life, it's Africa." As he said in the beginning, "Home is where I am right now."

MAUNG THAN

MYANMAR

STRUCTURAL ENGINEER

The freedom and individual rights offered by the United States were the big appeal to Maung Than, who moved here in 1992. "We didn't have that in Burma." Ironically, it's come back to haunt him just a little as he and his Burmese wife rear their 11- and 12-year-old daughters, both born in Rangoon, Burma. "They're thoroughly American," he laughs. "We speak Burmese at home, and the kids understand, but they reply in English."

Than, who was born in Burma (now Myanmar) and lived there until age 27, moved to Singapore in search of mechanical-engineering work in 1981. He immediately found a job with Keppel-Fels Corp., which later bought a rig-building yard in Brownsville, Texas. "I came to Brownsville with three Singaporeans in 1992 and got my green permanent-resident card," says Than. "After my experience working with shipyards, I decided I wanted to work with a drilling contractor. I moved to Houston to work for a consulting company and, in 2002, came to work for Diamond Offshore."

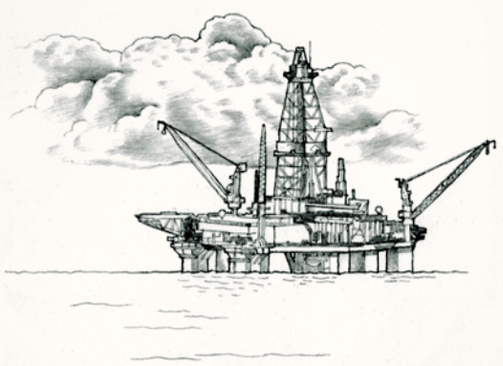
Than became a U.S. citizen in 2004, which makes it easier for him to travel internationally. He last visited his two sisters in Myanmar in 2001. "If I stay healthy, I might go back to live in Myanmar someday, because things there have improved some," he says. "But, if I'm not healthy, I'm staying here, where the health care is better."

Than doesn't miss his home country any more. "There are lots of things to do here, and we are free to do them. I can get Oriental foods, clothing—whatever I want—here in Houston." Than and his family are members of a group of former Burmese citizens who get together to celebrate monthly Burmese festivals. "We have a lot of fun together."

MAUNG THAN

PIO D'ACOSTA

VOICES FROM THE STORM



A glimpse into the
strength and hope
of the
people and friends of
Diamond Offshore
during the
summer of storms.

Letter from
Dewitt D. Goodrum Jr., Electrician, *Ocean Summit*
BREWTON, ALABAMA

FEELING the STRESS of a STORM

In order to know how a storm affects a person, you have to understand the person and the area they are from. Understanding the person and the area:

I was born in 1955 in Coden, Alabama, and my name is Dewitt Dempsey Goodrum Jr. When I was around seven, I remember my father working to feed and clothe the family and mother trying to keep things in order. I know both my parents went without so that we could get our necessities. Time has left them behind in some ways, but what they instilled in us will always be. I remember when we went mullet fishing by cast net, and how my father would let us practice in the yard, and his laugh and the grin he had at our clumsy ways throwing the cast net. At nightfall on weekends, we would go to the front beach, when the tide sat a certain low. I would don a sack, which was called a Croaker Sack (corn sack), and drag it in the water behind my father. I would watch the way he looked at the water and it puzzled me. What could he see, I wondered? And all at once the net would fly and I would look on with intense amazement to see the catch. After we returned home, we would draw and filet the mullet to have them for breakfast or dinner the next day.

We had a small boat, around 25 feet. We would clean it from bottom to top, the bottom was the hardest, and paint it. My father would show me how to caulk the deck with cotton so it would swell and keep the boat from leaking. During the summer months, we would shrimp it during season and oyster fish sometimes during the "R" months—that was a belief among the ones in the bayou. Our place on the boat while young was in the hole. It was fun to see what the net would bring up—all sort of sea creatures. As we got older, dad would let us pull the net and help dump the catch. I always tried to imitate my father on the water because he was the best in my eyes and still is to this day. He taught us to respect the sea. We would go out, and when we were sleeping, he would awaken me in the night and quiz me to our whereabouts. This was in teaching us what later I would use in life.

During the summer we would go to Brother's Warf and swim, it was a popular place. Sometimes, when we were swimming during rainstorms, waterspouts would come up and we would get up under the Warf out of the rain and possible hail. On some weekends, we would get the family together and go gill net and mullet fishing on the west end of Dauphin Island. My mother would take care of us on the beach and father would take care of us when mom gave the order.

We often went to Dauphin Island on the dunes to cover each other up with sand or to swim in the Gulf of Mexico. When winter came, we would have oysters to open and for sale for extra money, or just an adventure with my father and mother. Prayer in our home was often. I can still see my father kneeling by the bed and talking with the Master, and that I will always remember. In all, as I grew, my life grew too. And each day now, I try to remember what we use to do for my children, to read and understand so they also can know about my father and mother. (Father Dewitt D. Goodrum Sr. "Jack", Mother Thelma Lee Shirah Goodrum).

The Storm:

We left on Sunday. Evacuating to Andalusia, Alabama, we traveled east and north. Getting something for everyone loaded up three vehicles, which had been fueled four days earlier before the storm came into the Gulf. We also had an extra six gallons and a boat full of fuel to help, hopefully, when we returned home. With the winds at 30 miles per hour I, one son and a grandson took the lead. My wife, her mother and granddaughter were next, and bring up the rear was my youngest son, daughter and son-in-law in the old Dodge. We had mapped the route earlier that day—provided the hurricane did as we had planned. We arrived at the Scottish Inn at approximately 20:00 hrs. Getting the last of two rooms, we were in luck. We spent Sunday night and Monday night and left for home Tuesday when light had come, to keep from running into anything that had blown to the ground. We started to see trees and small buildings torn up as we drove through Brewton, Alabama. We sat and drove in silence as we entered the road we live on. The first home had the side blown out of it, and my wife's hands went to her face—the stress had hit. We prayed in silence as we drove up our drive. We were spared, our home was intact. On each side of us buildings were gone that went through Hurricane Camille *in '69 and* Fredrick *in '79. We lost our roof shingles and a shed and some vinyl siding. We then started to visit families that had damage beyond belief, water where water had never been, offering help in every aspect. Wednesday, the next day, I had to fly out of Pensacola, Fl., leaving my wife with a generator and a boat full of fuel, hoping this would help her until I could get back home.*

It was hard being at work, calling the cell phone daily trying to get through, sometimes being lucky. After 14 days I returned home, hoping to find a bad dream but knowing that this was not true. We gave ourselves knowledge and body to help in cleaning up the elders homes, washing what was left of dishes, clothing that hadn't ruined—just doing anything , cleaning equipment, anything that could be salvaged.

It was hard, as I sat in silence and looked at the beaches and thought of each family home that was gone. To understand how a thing like that affects a certain person you have to know the person.

Letter from
Ron Martin, Safety, *Ocean Clipper NS-21*
CARRIERE, MISSISSIPPI

I had just arrived home in Carriere, Mississippi, from Brazil on Saturday, August 27. Having seen devastation left in the path of Camille *in August of 1969, I knew the potential of* Katrina. *On Sunday morning, I sent most of my family to Madison, Alabama to stay with my son and his wife. My wife, Joyce, is an RN and was working that weekend at a hospital in New Orleans. So I took water and food and drove into New Orleans on Sunday to be with her during the storm.*

I was one of only two vehicles going into the city. After putting away the supplies, I changed into scrubs and went down to the ER. I am a paramedic and volunteered during the same shifts Joyce was working during the hurricane and aftermath.

Because of the expected storm surge, it was decided to move the ER patients upstairs to the second floor Recovery Room on Monday morning. Not long afterward, we lost elevators, and shortly after, we lost all power except emergency power. We also lost running water. Later, since the generator was in the basement, we lost emergency power, which meant we lost lights and monitors.

So the only lights at this point were our flashlights. Because the Recovery Room had no windows, it was completely dark except for the flashlights. We moved patients to rooms in one of the wings of the 2nd floor so that at least during daylight hours, the sunlight would be a healthier environment than the darkness of the Recovery Room.

Communication was difficult. We had cell phones, but circuits were jammed and towers were down, and it appeared as though only text messaging was working. We turned our cell phone, on once a day to make sure the kids were okay and let them know we were okay, then turned it off because we did not know how long the battery would last.

It was a difficult time, because Joyce and I did not know if the hospital was on anyone's rescue list. We were watching the water rise in the street and saw water up to the wheel wells of vehicles right after the storm. But then after the levees broke, we watched the water continue to rise, cover the vehicles and rise higher still.

Ron Martin

Toward mid-afternoon on Wednesday, August 31, we got word that the hospital was being evacuated. There was a great effort on the part of local fireman and law enforcement officers—our boat driver was from Louisiana Fisheries and Wildlife—to help move our patients out of the hospital. Joyce and I, along with several patients, were on one of the last boats that evening. We were taken about 200 meters to a dry strip of grass and sidewalk where Blackhawk helicopters were taking off and landing to transport people to a staging area on I-10.

The staging area was a dry place on I-10 just 3-4 minutes by helicopter from the hospital. There was water as far as we could see from the helicopter, so it was comforting to finally see this dry land. When I say staging area, I mean a place where buses were coming and going to transport people out of the city. There was a restless crowd of 5,000 to 10,000 people on the grass next to the interstate, pushing their way onto the buses. It was beginning to get dark and looked like a bad place to be after dark. There was a man in handcuffs in police custody bloodied from a fight. There did not seem to be a great deal of organization.

This was also a triage area for patients from our facility, at least one nursing home and probably other facilities in the area. The triage area looked to be about a half acre there on the interstate. There were several medics and a doctor working in the triage area. One of the doctors from our hospital went to check on transportation and came back a few minutes later. He said he was trying to arrange transportation but in the meantime, if "anybody has any energy left, follow me" so he, my wife and I, at least one other nurse and another doctor began to work triage along with the medics and doctor already on the scene. Ambulances were cycling through continuously to and from the New Orleans International Airport which was being used as a hospital. (I know there was at least one ambulance from Texas, and I am sure it was not an isolated case.)

An administrative person from a nursing home asked how she could get some of her patients on an ambulance. We helped her do that, and she and a foreign exchange student with her continued to help us triage. Grateful for her help, my wife told her that if we were evacuated by bus, that she and the exchange student should come with us.

About four hours later, about 11:30 p.m., our doctor came by the triage area and told us that a bus had been arranged. My wife and I started toward the bus with this woman and foreign exchange student. We could see the bus was almost full. My wife said a silent prayer asking for four seats. The bus driver at the front of the bus looking toward the back told us it was full but looked again and said, "No, there are two...three...four more seats."

We thought we were going to Houston, but arrived in Lafayette in the wee hours of the morning. Almost everybody disembarked at the Cajun Dome, but we asked to be dropped off at the interstate. We walked to Waffle House to get breakfast. I know we looked like refugees, still had scrubs on and stethoscopes and knapsacks, and I am sure we smelled like refugees because it was

hot and we had waded through the water when we got out of the boat earlier. But the waitress serving us was moved to buy our meal. She had lost her job at another Waffle House damaged by the hurricane and had been working there only two days. We told her it was not necessary, but she insisted. Joyce and I were really touched by her act of kindness. There in Lafayette, we were able to contact our son in Madison. He made arrangements to fly us from Lafayette to Huntsville, Alabama.

For me, this story is about some hardship—but a lot of people experienced a lot more than we did. And it is also about acts of kindness—hospital staff taking care of patients, hospital maintenance people, hospital food service and housekeepers, firemen and other volunteers involved in moving patients, air crewmen in the helicopter and on the ground, medics and doctors and nurses in the triage area, ambulances from Texas, national guardsmen and police in the staging area keeping the peace so others could do their job, bus drivers getting people out of the city, a compassionate waitress at a Waffle House restaurant buying breakfast for people she didn't know...and about the grace of God.

Note from
Benny Aranda, Assistant Driller, *Ocean Whittington*
LAUREL, MISSISSIPPI

I would like to thank all involved for the help my family and I received during the difficult times after Hurricane Katrina. *Knowing that Diamond Offshore was there to help at a time when things were difficult made the ordeal bearable. This is the sort of thing that makes Diamond a cut above the rest.*

E-mail from
Mark V. Griffin, "Tarbaby", OIM, *Ocean New Era*
SILVER CREEK, MISSISSIPPI

After Hurricane Katrina, *I had trees everywhere. One fell on the corner of the house and ripped out the electrical service. The next day we used one of the only phones working in the community to call some of my Diamond friends/family to help me find gas. My nephew was making a trip to Texas to meet a friend of his to get gas, food and general supplies. My nephew called me when he was close to Houston and said he could bring generators, more supplies and gas if I could find a trailer for him. I got on the cell phone and got in touch with my Operations Manager, Louis Scavone. Louis in turn got on the phone with Bob Blank, Greg Broussard and some other Diamond men, and in just a few minutes found a trailer for us. David Wedgeworth, Welding Forman with Diamond, had a trailer and John Hill, Project Engineer, had a generator, drum and pump for gas. My nephew met John in Winnie, Texas and was set to go. This was such a great thing for all those men to help me and my family.*

Mark Griffin

Things were scary around my house in Silver Creek, Mississippi. We are 30 miles from the nearest place that even has generators. No one I had talked to had any luck finding a generator or gas for almost a week. After six days I needed to make a gas run again. One of my good friends, Chad Hornsby, off the Ocean Baroness, *had called my cell phone to check on me just before I set out for a gas run. He got things moving for me. Another friend of mine, Charlie Pritchard, off the* Ocean Ambassador, *brought all the gas containers he could get. Another friend, David Johnson, a former Diamond hand helped Chad round up gas while I drove to their house not far from Jena, Los Angeles. I'm so thankful for the many friends that I have in the Diamond Offshore family. If not for all of them that helped me, I do not know what I would have done. We were out of power for nine days and out of water for two days. Gas was almost impossible to get. Rioting was in the towns next to us, so I did not want to chance that. Because I had so many good friends, I was able to get gas, supplies, and generators trouble free. Diamond Offshore employees stick together, and I'm proud to be a part of that. Most everyone in the company knows me as Tarbaby.*

Letter from
John A. Simon, Rig Superintendant, *Ocean Summit*
LAUREL, MISSISSIPPI

Thursday, September 22, 2005: My crew and I were told to evacuate our initial refuge from Hurricane Rita, *the Holiday Inn Corpus Christi, Texas before daylight and we headed north. During the morning, John Lusk began searching for motel rooms for the night and was having no luck. Our only options were a couple of evacuation shelters that might take us in for the night. Calling ahead, I got through to the shelter at Lufkin, Texas High School that said they would take us. But when we arrived at about 5:30 pm, the first volunteer I met said they were already full and turning people away.*

After discussing our situation with other volunteers, they agreed to send us to the Diboll, Texas Primary School gym shelter. We registered as evacuees and arrived at the Diboll gym around 7:30 pm, where we were greeted by the school superintendent, Bobby Baker, and a local police officer, Jake Denman. They gave me their personal cell phone numbers, in case they could do something extra to help us. Saying that we looked very tired and would not get much rest in the gym with the many families with kids running around all night, the superintended took me down the street to his administration office building and offered it to us for the night, even though it had open offices with computers, desks and supplies. It also had a small break room, a large meeting room with a TV, and most important, quiet.

John Simon

Everybody claimed a spot on the floor for the night. There was no Red Cross assistance, but we had three places for food across the main highway into town. There were cars and people everywhere, and they continued to come. This little town was not prepared for what they got during the night. The least crowded place was a local pizza shop. To speed things up, I ordered seven pizzas and everyone got cold drinks (no, there was no beer). After a very long wait, we carried our meal back over to the admin building and ate in the conference room while watching the Weather Channel. When we left the room, it was cleaner than when we walked in. At midnight, as everyone sacked out, I wrote Bobby a sincere thank you letter, had everyone sign it in the morning and left it on his desk.

His staff was coming in for work at 7:30 am, and we had agreed to be out by 7:00 am. We met Bobby in the parking lot the next morning, and the community looked worse than when we went to sleep. There were cars and trucks parked everywhere with people sleeping in or next to them. Bobby said that he had gotten two hours of sleep and he was still directing the effort on his own with no help from any agencies. All of his staff asked what they could do to help us and even offered for us to sleep there through the weekend if needed. Later in the morning, we got word that the Holiday Inn Corpus Christi would be reopening for limited business that night, and John Lusk had acquired 12 rooms on his personal credit card. We thanked the staff and asked them to let Bobby know how much we appreciated his kindness. This man trusted his building to total strangers.

A lot of people outside of Diamond Offshore deserve thanks for their efforts in the evacuation melee of Hurricane Rita. *The people of Lufkin, Texas, and the people of Diboll, Texas, have surely had their resources strained. Especially Bobby Baker and officer Jake Denman. I also want to thank Calco transportation for the bus driver that we so luckily wound up having for our seemingly endless journey. Jerry Dunaway drove us for hours on end in unbelievably tough driving conditions and never lost his cool. He hung in there with us as part of the crew.*

In addition, our rig crew and the catering crew were very patient through all of this and always waited for my directions, whether it came through my cell phone or we were just winging it. I compliment all the people who made this little road trip with me for their upbeat attitude in a difficult situation. There are good people everywhere and sometimes you are lucky to be right in the middle of them.

E-mail from
Craig Small, BCO, *Ocean Rover*
CROSSROADS, MISSISSIPPI

My parents, who are in their mid-80s, evacuated Crossroads, Mississippi to come to McComb, Georgia for Hurricane Katrina. *Nothing would do my mother but to return the very next morning. I had them follow me, and we literally had to wait for the National Guardsmen and prisoner volunteers to clear a one-lane path through the highways. Their home somehow made it without any damage, but was surrounded by many fallen pine trees. I cleared one side of their drive to allow access to the carport. And my oldest son and I returned in a few days to bring them another generator and gasoline. One of my mother's freezers was ruined, and while I was in the process of cleaning it out, a pick-up truck pulled into the front yard. It was a man who often helps them with odd jobs, since my father is in poor health. He immediately fired up a chainsaw and began cutting up the trees blocking the other part of the drive. We went out to help. The purpose of this all is to say that this gentleman, who in the hottest part of the day and without being asked, was cutting and throwing large chunks of wood and limbs out to the side, was himself 80 years old.*

Note from
George Morgan and Family, BCO, *Ocean Ambassador*
NEW IBERIA, MISSISSIPPI

The gas I received in New Iberia after Hurricane Katrina *was a blessing and was very much needed. Some may think it was not much, but blessings don't come small. I was in Mexico, not able to contact my family for eight or nine days, and it was hard to stay focused on my job. But we got through it.*

I had some damage to my home, but when I finally got a call through, I found out that my family was OK. I wanted to go home, but I knew that others needed to go more than I. I can honestly say that was my hardest hitch ever. When the hitch was over, and I finally got home, it was easy to see how blessed I was. There was a lot of damage in southern Mississippi where I live. It will take some work and a lot of prayers to get back to normal, but it will happen.

Thank you all so much, and God bless you.

E-mail from
Michael Walters, Mechanical Supervisor, *Ocean Whittington*
SLIDELL, LOUISIANA

I do not have a personal story, but I think that it should be mentioned that Brian Maness of the training department sent his travel trailer down to Slidell, Louisiana to provide shelter for Gordon Powell, the OIM for the Ocean Rover, *and his family of four. Gordon Powell's home stood under 4 ft of water for a week or more. Mr. Phil Tobey, rig manger for the* Ocean Endeavor *sent much needed food to Gordon and his family. Several of the rig crew from the* Rover *came to Gordon's aid by bringing him Brain's trailer and then helping Gordon move some of his furniture out of his home to try and save it. This was also the case with several other people here who donated mobile living quarters for our fellow Diamond Offshore family members.*

Letter from Gloria Smith, wife of
Jerry Paul Smith, Crane Operator, *Ocean Concord*
LAUREL, MISSISSIPPI

To: Diamond Offshore—Mr. Floyd Daley

Thank you so much for the care packages. We were so proud to get them. Our grocery stores sold out of everything before the storm and afterwards they had no electricity to open for business. We were without power seven days and could not get bread or ice until the Wednesday after the storm. We sat in a gas line for three hours one day for enough gas to fill my mail truck so I could work. Everything is so much better now, and I appreciate electricity and water more than ever. We did not have much damage to our home. Loose shingles and some downed trees.

ILLUSTRATED ARE WILLIAM HARRY, KEITH TISDALE AND TERRY MANUEL.

OCEAN NEW ERA AND OCEAN AMERICA

SAVING LIVES

During the Fall Safety Department Representative (SDR) meeting, three SDR's were honored for extraordinary life-saving incidents in 2005.

Keith Tisdale. When a Deck Coordinator on the *Ocean America* suffered a severe crushing chest injury, Tisdale was summoned to the sack-room to find the patient trapped in a forklift—pupils fixed and signs of purple coloring to the lips (cyanosis). When the patient was placed on the floor, he was not breathing. Tisdale started manually bagging the man, and the patient began to breathe on his own, though it was labored and shallow. The treating physician said that "the Safety Rep. on the rig kept this guy alive." The man is recovering.

William (Bill) Harry. When a third-party contract worker fell from underneath the *Ocean New Era* approximately 95 ft. to the dry dock, Harry responded within one minute—even though he had to travel down 120 ft. of stairs and 50 to 100 yards across the dock to the patient's location. Harry's initial reaction was to check vitals and professionally immobilize the patient to keep him from further injuries. In the treating physician's opinion, this treatment saved the patient significant additional recovery time and rehab before he will recover full mobility.

Terry Manuel. Not all incidents that occur offshore are the result of accidents, and our SDR's are trained to respond to many types of medical emergencies. When an electrician on the *Ocean New Era* went into cardiac arrest, Manuel placed him on the Zoll monitor/defibrillator just as the patient went into Ventricular Fibrillation (VF). Manuel shocked him, but the heart rhythm went to a flat-line. The emergency response team began CPR and, shortly, the heart rhythm went back into VF. Manuel shocked him again, and this time the heart started beating normally. The patient was transferred to the hospital and required several more shocks before stabilizing. One quadruple bypass later, the patient is recovering. Manuel accomplished this life-saving task within two hours of arriving at his new rig assignment.

OCEAN BARONESS

BEGINS WORK IN GULF OF MEXICO

The 5th generation semisubmersible *Ocean Baroness* has mobilized to the Gulf of Mexico from Southeast Asia and is working under a contract that will keep the unit busy until late 2009. The Victory-class rig, which is capable of drilling in water depths of up to 7,500 ft., was upgraded in 2002 for deepwater high-specification drilling and had operated in Southeast Asia since its modernization.

OCEAN BOUNTY

COMING TO A FISHERMAN'S AID

On September 23, 2005, the *Ocean Bounty* was conducting well testing operations in a remote location in the Timor Sea offshore Australia for ConocoPhillips—an approximate 90-minute helicopter flight from Darwin. ConocoPhillips was contacted by Canberra's Search and Rescue Centre requesting that the *Ocean Bounty* provide medical assistance for a fisherman who had been stung by a Box Jellyfish approximately 5 hours from Darwin.

A sting by a Box Jellyfish is normally lethal without treatment, and even after the antidote has been administered, it is possible for the victim to relapse. A Box Jellyfish causes excruciating local pain and necrosis, and has components that affect cardiac function and respiration.

The work-boat *Pacific Wrestler* contacted the rig to enable normal communications to be established at approximately 1930 hrs. Through co-ordination with Conoco's John Willis, company men John Dale, and Don Presnel, as well as *Ocean Bounty* Operations manager Tom O'Neill, and the OIM, Donnie Owens, a decision was made to shut down operations on the rig and release the *Bounty's* safety department representative (SDR) Gordon Sand to assist the injured seaman. This required co-ordination from five different organizations—Diamond Offshore, ConocoPhillips; Farstad; S&R and Royal Darwin Hospital.

Sand was lifted down to the vessel *Pacific Wrestler*, which sailed toward the fishing boat, *Star Fish*, that was also sailing towards the *Ocean Bounty*. After approximately 3 hours–at 2300 hrs., the fishing boat was intercepted. Sand boarded the *Pacific Wrestler's* fast rescue craft and was taken to the fishing boat. Once on board, he liaised with the doctors at Royal Darwin Hospital, administered the antidote, the patient for side effects from the antidote, stabilized the patient, and transferred him to the fast rescue craft to travel back to the *Pacific Wrestler*, and then on to the *Ocean Bounty*. From the *Bounty*, the patient was medivaced via helicopter back to Royal Darwin Hospital, where he successfully recovered from the Box Jellyfish sting.

The assistance provided by the *Ocean Bounty*, ConocoPhillips and Farstad is an example of excellent teamwork, commitment to safety (including shutting down rig operations while the safety representative was not on board) and corporate citizenship.

OCEAN EPOCH

ASSISTING AN APPARENT KIDNAP VICTIM

A man was found swimming in the waters offshore Malaysia by the supply vessel *Pacific Battler* shortly after midnight on November 14, 2005, and was rescued. The vessel contacted the *Ocean Epoch* for assistance and the man was transferred to the rig by personnel basket at approximately 0100 hrs. Upon examination, he had normal vital signs with no visible injuries. The man said he had been kidnapped by pirates five months earlier and forced to work on a fishing boat as free labor, but reported that he jumped overboard after witnessing nine other kidnapped crew members being murdered. The man spent the night on the *Epoch* and was escorted to shore base by police and immigration authorities at 1130 hrs. via chopper.

OCEAN TOWER

OUTSTANDING IFO PERFORMANCE

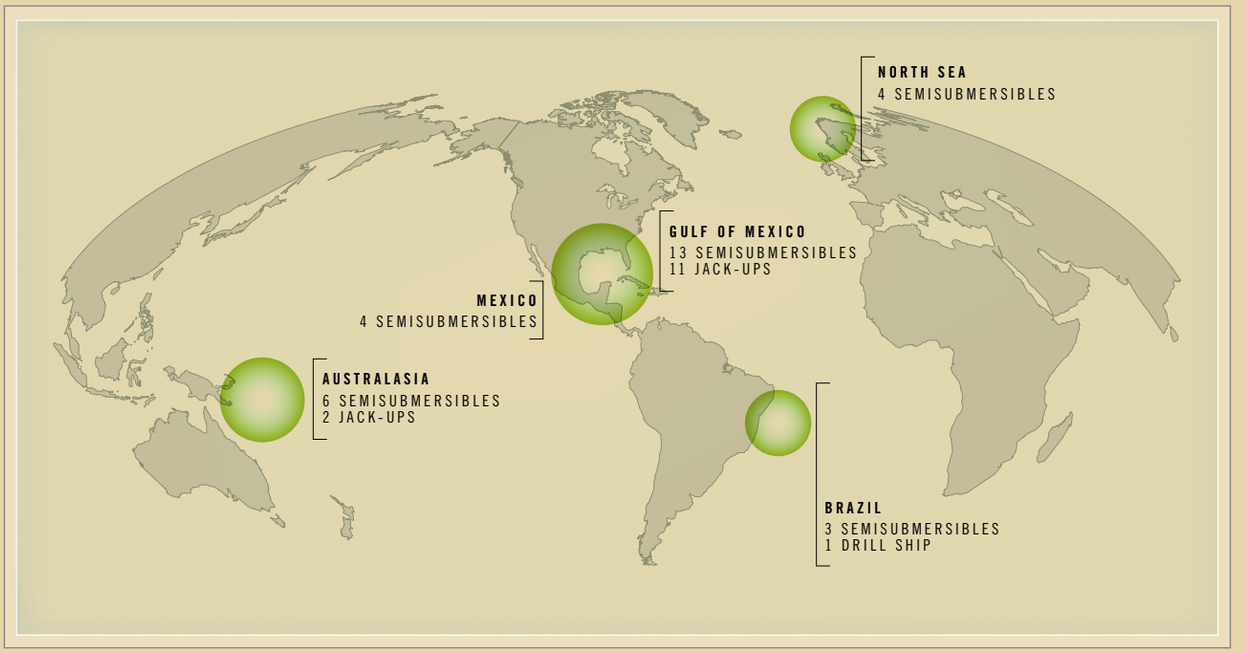
Drill Reps., pls. pass this on to the crews of the *Ocean Tower*, and prepare the paperwork to process the IFO performance award as we prepare to close the books on Cadillac.

As of today, we have been on the Cadillac location with the *Ocean Tower* for 267 days. The scope of work on this well has presented many challenges, such as heavy lifts, specialty drill pipe and other tubulars, CO2 contamination, excessive mud temperatures, four mud swap-outs (some under adverse conditions), and management of excessive wellbore gases for extended periods (with much of this handled thru the choke).

Additionally, operations were conducted in a constrained environment because of a bead recovery unit, a cuttings recovery system with a vacuum set-up, a huge rental stack, huge rental choke and kill lines, rental choke manifold, and rental HP pump, manifold, and green chic-san lines. Also, wellbore ballooning and flow situations presented major challenges. But the end result shows how well these situations were handled for casing running, bit trips and extended time open-hole EL runs. In addition, the well and rig were successfully secured for three major storm evacuations, and operations resumed as normal with no serious negative effects on well integrity while maintaining a safe re-entry of the open-hole.

Under these adverse conditions, it is clear that the leadership and crews of the *Ocean Tower* have done an outstanding job in maintaining IFO focus since the one recordable incident that occurred in the galley on April 15, 2005. As of today, you have gone 168 days IFO since this one incident! It is with great pleasure to inform you that once the work on the Cadillac project is complete, you will be rewarded with an IFO bonus for your excellent performance. Congratulations, and keep up the good work! Let's stay focused so we can look forward to going IFO on Bristol!

Byron Sketchler
Cheveron Drig. Supt.



RIGS AND LOCATIONS

DIAMOND OFFSHORE RIGS BY TYPE AND LOCATION

SEMISUBMERSIBLES

OCEAN CONFIDENCE	7,500	DP; 15K; 4M	GOM–US
OCEAN BARONESS	7,000+	VC; 15K; 4M	GOM–US
OCEAN AMERICA	5,500	SP; 15K; 3M	GOM–US
OCEAN STAR	5,500	VC; 15K; 3M	GOM–US
OCEAN VALIANT	5,500	SP; 15K; 3M	GOM–US
OCEAN VICTORY	5,500	VC; 15K; 3M	GOM–US
OCEAN QUEST	3,500	VC; 15K; 3M	GOM–US
OCEAN VOYAGER	3,200	VC	GOM–US
OCEAN CONCORD	2,200	3M	GOM–US
OCEAN LEXINGTON	2,200	3M	GOM–US
OCEAN SARATOGA	2,200	3M	GOM–US
OCEAN NEW ERA	1,500		GOM–US
OCEAN WORKER	3,500	3M	MEXICO
OCEAN YORKTOWN	2,850	3M	MEXICO
OCEAN WHITTINGTON	1,500	3M	MEXICO
OCEAN AMBASSADOR	1,100	3M	MEXICO
OCEAN GUARDIAN	1,500	3M	NORTH SEA–UK
OCEAN PRINCESS	1,500	15K; 3M	NORTH SEA–UK
OCEAN VANGUARD	1,500	15K; 3M	NORTH SEA–NORWAY
OCEAN NOMAD	1,200	3M	NORTH SEA–UK
OCEAN ROVER	7,000+	VC; 15K; 4M	MALAYSIA
OCEAN EPOCH	1,640	3M	MALAYSIA
OCEAN GENERAL	1,640	3M	MALAYSIA
OCEAN BOUNTY	1,500	VC; 3M	AUSTRALIA
OCEAN PATRIOT	1,500	15K; 3M	AUSTRALIA
OCEAN ALLIANCE	5, 000	DP; 15K; 3M	BRAZIL
OCEAN WINNER	4,000	3M	BRAZIL
OCEAN YATZY	3,300	DP	BRAZIL

INTERNATIONAL DRILLSHIPS

OCEAN CLIPPER	7,500	DP; 15K; 3M	BRAZIL

JACK-UPS

OCEAN TITAN	350	IC; 15K; 3M	GOM–US
OCEAN TOWER	350	IC; 3M	GOM–US
OCEAN KING	300	IC; 3M	GOM–US
OCEAN NUGGET	300	IC	GOM–US
OCEAN SPARTAN	300	IC	GOM–US
OCEAN SPUR	300	IC	GOM–US
OCEAN SUMMIT	300	IC	GOM–US
OCEAN COLUMBIA	250	IC	GOM–US
OCEAN CHAMPION	250	MS	GOM–US
OCEAN CRUSADER	200	MC	GOM–US
OCEAN DRAKE	200	MC	GOM–US
OCEAN HERITAGE	300	IC	QATAR
OCEAN SOVEREIGN	300	IC	INDONESIA

UPGRADING

OCEAN ENDEAVOR	8,000+	VC; 15K; 4M	SINGAPORE
OCEAN MONARCH	8,000+	VC; 15K; 4M	SINGAPORE

UNDER CONSTRUCTION

OCEAN SHIELD	350	IC; 3-4M	SINGAPORE
OCEAN SCEPTER	350	IC; 3-4M	GOM–US

KEY

DP=DYNAMICALLY POSITIONED/SELF-PROPELLED
IC=INDEPENDENT-LEG CANTILEVERED RIG
MC=MAT-SUPPORTED CANTILEVERED RIG
MS=MAT-SUPPORTED SLOT RIG
VC=VICTORY-CLASS
SP=SELF-PROPELLED
3M=THREE MUD PUMPS
4M=FOUR MUD PUMPS
15K=15,000 PSI WELL CONTROL SYSTEM

Ruminations

"He who travels happily must travel light," noted one famous European aviator. This travel tip also holds for those traveling by helicopter—though it doesn't pertain to one's thoughts. So what's this passenger thinking as he roars over Norway's coastal waters?

Perhaps he's thinking of the North Sea's legacy of influence over European power and commerce. Maybe he ponders the longboats of the Vikings, slicing the waves of the 10th Century. Or how useful the Eurocopter Super Puma in which he's flying would have been to Charlemagne when the crumbling Roman Empire stretched from the North Sea southward.

Maybe he's calculating how many cod, haddock and herring are below him right this second. Or imagining the day when industrious textile engineers will design comfortable yet stylish survival jeans and t-shirts. Or perhaps he simply wishes he'd traveled a little lighter by refusing that third cup of coffee.

BY WILLIAM DYLAN POWELL


rigamarole
DIAMOND
OFFSHORE