METAIRIE, La. — BP sliced off a pipe with giant shears Thursday in the latest bid to curtail the worst spill in U.S. history, but the cut was jagged and placing a cap over the gusher will now be more challenging, Coast Guard Adm. Thad Allen said.

BP turned to the shears after a diamond-tipped saw became stuck in the pipe halfway through the job, yet another frustrating delay in six weeks of the Gulf of Mexico spill.

The cap will be lowered and sealed over the next couple of hours, Allen said. It won’t be known how much oil BP cansiphon to a tanker on the surface until the cap is fitted, but the irregular cut means it won’t fit as snug as officials had hoped.

“We’ll have to see when we get the containment cap on it just how effective it is,” Allen said. “It will be a test and adapt phase as we move ahead, but it’s a significant step forward.”

Even if it works, BP engineers expect oil to continue leaking into the ocean.

The next chance to stop the flow won’t come until two relief wells meant to plug the reservoir for good are finished in August.

This latest attempt to control the spill, the so-called cut-and-cap method, is considered risky because slicing away a section of the 20-inch-wide riser could remove kinks in the pipe and temporarily increase the flow of oil by as much as 20 percent.

Live video footage showed oil spewing out of the top of the blowout preventer, but Allen said it was unclear whether the flow had increased.

“I don’t think we’ll know until the containment cap is seated on there,” he said. “We’ll have to wait and see.”

President Barack Obama will return to the Louisiana coast Friday to assess the latest efforts, his third trip to the region since the April 20 disaster. It’s also his second visit in a week.

BP’s top executive acknowledged Thursday the global oil giant was unprepared to fight a catastrophic deepwater oil spill. Chief executive Tony Hayward told The Financial Times it was “an entirely fair criticism” to say the company had not been fully prepared for a deepwater oil leak. Hayward called it “low-probability, high-impact” accident.

“What is undoubtedly true is that we did not have the tools you would want in your tool-kit,” Hayward said in an interview published in Thursday’s edition of the London-based newspaper.

Oil drifted six miles from the Florida Panhandle’s popular sugar-white beaches, and crews on the mainland were doing everything possible to limit the catastrophe.

The Coast Guard’s Allen directed BP to pay for five additional sand barrier projects in Louisiana. BP said Thursday
the project will cost it about $360 million, on top of about $990 million it had spent on response and clean up, grants
to four Gulf coast states and claims from people and companies hurt by the spill.

As the edge of the slick drifted toward Pensacola’s beaches, emergency workers rushed to link the last in a miles-
long chain of booms designed to fend off the oil. They were slowed by thunderstorms and wind before the weather
cleared in the afternoon.

Forecasters said the oil would probably wash up by Friday, threatening a delicate network of islands, bays and white-
sand beaches that are a haven for wildlife and a major tourist destination dubbed the Redneck Riviera.

“We are doing what we can do, but we cannot change what has happened,” said John Dosh, emergency director for
Escambia County, which includes Pensacola.

The effect on wildlife has grown, too.

The U.S. Fish and Wildlife Service reported 522 dead birds — at least 38 of them oiled — along the Gulf coast states,
and more than 80 oiled birds have been rescued. It’s not clear exactly how many of the deaths can be attributed to
the spill.

Dead birds and animals found during spills are kept as evidence in locked freezers until investigations and damage
assessments are complete, according to Teri Frady, a spokeswoman for the National Oceanographic and
Atmospheric Administration.

“This includes strict chain-of-custody procedures and long-term locked storage until the investigative and damage
assessment phases of the spill are complete,” she wrote in an e-mail.

As the oil drifted closer to Florida, beachgoers in Pensacola waded into the gentle waves, cast fishing
lines and sunbathed, even as a two-man crew took water samples. One of the men said they were hired by BP to
collect samples to be analyzed for tar and other pollutants.

A few feet away, Martha Feinstein, 65, of Milton, Fla., pondered the fate of the beach she has been visiting
for years. “You sit on the edge of your seat and you wonder where it’s going,” she said. “It’s the saddest
thing.”

Officials said the slick sighted offshore consisted in part of “tar mats” about 500 feet by 2,000 feet in size.

County officials set up the booms to block oil from reaching inland waterways but planned to leave
beaches unprotected because they are too difficult to defend against the action of the waves and because they are
easier to clean up.

“It’s inevitable that we will see it on the beaches,” said Keith Wilkins, deputy chief of neighborhood and community
services for Escambia County.

Florida’s beaches play a crucial role in the state’s tourism industry. At least 60 percent of vacation spending in the
state during 2008 was in beachfront cities. Worried that reports of oil would scare tourists away, state officials are
promoting interactive Web maps and Twitter feeds to show travelers — particularly those from overseas — how large
the state is and how distant their destinations may be from the spill.

From this morning on news-press.com

Almost a mile down in the Gulf of Mexico, the site of the Deepwater Horizon oil spill is a dark, alien world where
pressure is 152 times the pressure at the surface.

While not devoid of life, it’s an environment not conducive to repairing an oil well.

“If this blowout had been in shallow water, they would have capped it, boom, boom, boom,” said
Phil Newsum, executive director of the Houston-based Association of Diving Contractors International. "There are huge differences between drilling in shallow water versus deep water, and a mile down is definitely deep water."

The average depth of the Gulf is 5,300 feet. The Deepwater Horizon well is at 5,000 feet, and the Sigsbee Deep is the Gulf's deepest point at more than 12,000 feet.

Light diminishes with depth in any body of water.

From the surface to 330 feet is the euphotic zone, where photosynthesis, the process by which plants convert sunlight to energy, takes place and most marine animals and all marine plants live.

Between 330 and 3,300 feet is the dimly lit disphotic zone, also known as the twilight zone.

Beyond that is the aphotic zone, where no light exists.

**Life in the deep**

This does not mean, however, that no life exists in the depths.

"There's quite a bit of life," said Tammy Frank, an associate research professor at Harbor Branch Oceanographic Institution at Florida Atlantic University. "You do see shrimp and fish, squid and hagfish, but they tend to be few and far between. This is where you get some really large shrimp because of lack of predators."

The floor of the Gulf also has methane seeps, areas where methane bubbles up from the bottom.

"At the methane seeps, there are methane eating bacteria, which are food for worms, mussels and clams," Frank said. "There is a whole ecosystem around the seeps."

Documentary filmmaker Pat Clyne of Key West has been to the ocean's depths.

In 2000, he rode a Russian submersible to the wreck of the Titanic, which lies in 13,000 feet of water.

"It's like going from one world to another and into a third," Clyne said. "It's dramatic. You go from the beautiful blue of the ocean surface into dark blues, dark purples, then dark blacks.

"Then we turned on our big halogen lights, and as we were going down, the fish we'd been seeing disappeared, and we saw more crustaceans and simpler organisms like jellyfish."

**Spill threats**

With oil spills at sea, people are typically concerned about sea birds, sea turtles and marine mammals, but the Deepwater Horizon spill will probably affect deep-water animals as well, Frank said.

"I think we'll see a substantial decrease in biodiversity," she said. "Animals that have gills like fish and shrimp will be significantly affected by the oil. They need a big gill surface to absorb oxygen, and if they survive the toxic effects, the oil will get clumped in their gills."

**Pressure**

Animals living at 5,000 feet have adapted to the tremendous pressures at that depth - at the surface of the sea, the pressure is 14.69 pounds per square inch; at 5,000 feet, it's 2,236.5 psi.

Humans can't survive such pressure - the world record depth for a scuba diver is 1,044 feet, where the pressure is 478 psi.
Pressure and near-freezing water temperatures are why repairing the Deepwater Horizon leak has been so difficult.

"The biggest impediment to doing anything that deep is that you can't get men to the wellhead or anywhere near the wellhead," said Paul Bommer, senior lecturer in the Department of Petroleum and Geosystems Engineering at the University of Texas at Austin. "Everything has got to be done by remotely operated vehicles or submersibles.

"It's like working on the moon, except the moon might be easier because you have a human being right there where you're trying to operate."

Although remotely operated vehicles and submersibles can go to extreme depths, the technology has not been developed for them to do the kind of work needed to stop an oil spill under extreme pressures, Newsum said.

"The differences in pressure between working at 5,000 feet and 1,000 feet are huge," he said. "Even if an ROV could perform all the tasks a man could, the extreme pressure and temperature at those greater depths would make the equipment unworkable.

"This is really new ground. Talk about lessons learned the hard way: This is one of those."

The Loop Current

The status of the Loop Current — an undersea conveyor belt that carries the warm Gulf water through the Straits of Florida — remained unchanged Wednesday, said George Maul, an oceanographer at the Florida Institute of Technology in Melbourne.

An eddy continues to cause the Loop Current to pinch off at the Florida Straits and move oil from the Deepwater Horizon disaster to the west, Maul said. If large amounts of oil get into the Loop Current, it could push the oil south to the Gulf Stream, then up the east coast.

"Some models show the eddy not completely separating from the loop, which means there's still a pathway for oil to get from the Gulf of Mexico to the east coast of Florida," Maul said.

University of South Florida professor Robert Weisberg has said the risk to Southwest Florida beaches remains low. The Loop Current runs some 200 miles west of Southwest Florida. "I'm more concerned with the North Florida beaches than I am with the west coast," he said.

— By Chris Umpierre, cumpierre@news-press.com