WASHINGTON — Internal documents from BP show that there were serious problems and safety concerns with the Deepwater Horizon rig far earlier than those the company described to Congress last week.

The problems involved the well casing and the blowout preventer, which are considered critical pieces in the chain of events that led to the disaster on the rig.

The documents show that in March, after several weeks of problems on the rig, BP was struggling with a loss of “well control.” And as far back as 11 months ago, it was concerned about the well casing and the blowout preventer.

On June 22, for example, BP engineers expressed concerns that the metal casing the company wanted to use might collapse under high pressure.

“This would certainly be a worst-case scenario,” Mark E. Haflé, a senior drilling engineer at BP, warned in an internal report. “However, I have seen it happen so know it can occur.”

The company went ahead with the casing, but only after getting special permission from BP colleagues because it violated the company’s safety policies and design standards. The internal reports do not explain why the company
allowed for an exception. BP documents released last week to The Times revealed that company officials knew the casing was the riskier of two options.

Though his report indicates that the company was aware of certain risks and that it made the exception, Mr. Hafle, testifying before a panel on Friday in Louisiana about the cause of the rig disaster, rejected the notion that the company had taken risks.

"Nobody believed there was going to be a safety issue," Mr. Hafle told a six-member panel of Coast Guard and Minerals Management Service officials.

“All the risks had been addressed, all the concerns had been addressed, and we had a model that suggested if executed properly we would have a successful job,” he said.

Mr. Hafle, asked for comment by a reporter after his testimony Friday about the internal report, declined to answer questions.

BP’s concerns about the casing did not go away after Mr. Hafle’s 2009 report.

In April of this year, BP engineers concluded that the casing was “unlikely to be a successful cement job,” according to a document, referring to how the casing would be sealed to prevent gases from escaping up the well.

The document also says that the plan for casing the well is “unable to fulfill M.M.S. regulations,” referring to the Minerals Management Service.

A second version of the same document says “It is possible to obtain a successful cement job” and “It is possible to fulfill M.M.S. regulations.”

Andrew Gowers, a BP spokesman, said the second document was produced after further testing had been done.

On Tuesday Congress released a memorandum with preliminary findings from BP’s internal investigation, which indicated that there were warning signs immediately before the explosion on April 20, including equipment readings suggesting that gas was bubbling into the well, a potential sign of an impending blowout.

A parade of witnesses at hearings last week told about bad decisions and cut corners in the days and hours before the explosion of the rig, but BP’s internal documents provide a clearer picture of when company and federal officials saw problems emerging.

In addition to focusing on the casing, investigators are also focusing on the blowout preventer, a fail-safe device that was supposed to slice through a drill pipe in a last-ditch effort to close off the well when the disaster struck. The blowout preventer did not work, which is one of the reasons oil has continued to spill into the gulf, though the reason it failed remains unclear.

Federal drilling records and well reports obtained through the Freedom of Information Act and BP’s internal documents, including more than 50,000 pages of company e-mail messages, inspection reports, engineering studies and other company records obtained by The Times from Congressional investigators, shed new light on the extent and timing of problems with the blowout preventer and the casing long before the explosion.

Kendra Barkoff, a spokeswoman for the Interior Department, declined to answer questions about the casings, the blowout preventer and regulators’ oversight of the rig because those
matters are part of a continuing investigation.

The documents show that in March, after problems on the rig that included drilling mud falling into the formation, sudden gas releases known as “kicks” and a pipe falling into the well, BP officials informed federal regulators that they were struggling with a loss of “well control.”

On at least three occasions, BP records indicate, the blowout preventer was leaking fluid, which the manufacturer of the device has said limits its ability to operate properly.

“The most important thing at a time like this is to stop everything and get the operation under control,” said Greg McCormack, director of the Petroleum Extension Service at the University of Texas, Austin, offering his assessment about the documents.

He added that he was surprised that regulators and company officials did not commence a review of whether drilling should continue after the well was brought under control.

Robbie Brown contributed reporting from Kenner, La., and Andy Lehren from New York.
