

# BP WELL BORE/CASING INTEGRITY ISSUES AND SENATOR NELSON'S STATEMENTS

One week ago, on the morning of June 7, I wrote about questions on the substantive physical integrity of the BP Macondo well casing and bore, and statements by Florida's Senator Bill Nelson on the same, as well as potential resulting seepage from the sea floor surrounding the well head. To say the least it raised a few eyebrows.

I have again attached the FDL video from the appearance Nelson made on the Andrea Mitchell MSNBC show where he became the first official to materially discuss the game changing issue of sea floor seepage from a structurally compromised well below the surface. Since Nelson first made the statements and raised the questions, I have spoken to his office several times.

Here is a quote given directly to Emptywheel/Firedoglake by Senator Nelson:

Why do scientists and others suspect the well casing is breached beneath the seafloor? Well, for one, in one of my briefings I learned that a lot of mud used in the so-called "top kill" attempt didn't come back up after it was pumped down there.

Clearly, from Senator Nelson's quote, he has received multiple briefings in addition to the information in the public domain, and he is hearing other private disturbing reports. Quite frankly, this should be of no shock in light of that which is, and was, already in the public domain. In this post, mindful of the fact there is likely a wealth we in the public do not yet know, I would like to delve into the public

evidence Senator Nelson was relying on and why this is an issue that should, and must, remain squarely in the forefront of public and media conscience.

First off, it is clear Senator Nelson's measured statements to Andrea Mitchell were not an off the cuff or uninformed gaffe by Nelson. Quite the contrary, he and his staff had been probing the issue of the integrity of the well bore long prior to the MSNBC appearance. On June 2, Sen. Nelson directed the following correspondence to BP:

June 2, 2010

Mr. Lamar McKay  
Chairman and president, BP America, Inc.  
501 Westlake Park Boulevard  
Houston, Texas 77079

Dear Mr. McKay:

I understand the priority of your company right now is capping the Deepwater Horizon well. But new information about the accident has come to light in two recently published accounts that raise serious questions I hope you can promptly address.

Specifically, a recent Wall Street Journal account indicates that BP altered the design of the Deepwater Horizon well even up to five or six days before the rig exploded. And one of these design decisions, according to drilling experts cited in the Journal, could have left the well more vulnerable to the blowout that occurred April 20.

Also, a Washington Post report cites sources including a BP official saying that sometime during or after the recent abortive top kill operation, new damage was discovered inside the underground well. Some of the drilling mud that was forced into the well was moving sideways into rock formations, sources told the

newspaper.

If the sourced information is accurate and mud leaked out the side of the well casing, oil and gas likely are leaking beneath the seafloor as well, according to Professor Ian R. MacDonald, an oceanography expert at Florida State University who advised my staff.

Both of the published accounts, then, raise serious questions. Please address these accounts and provide my staff with any and all information and documents regarding the following:

- The discovery of breaks or leaks in the well casing beneath the seafloor;
- Records of any monitoring BP is undertaking of the Deepwater Horizon wellbore for structural integrity;
- Records of any monitoring of the seafloor surrounding the Deepwater Horizon well, including any geological or geophysical information showing changes in the formations within the proximity of the Deepwater Horizon well;
- Records reflecting whether any oil, natural gas, or residual drilling mud might be migrating to the seafloor beyond the boundaries of the casing, including any analysis of how this might impact the drilling of two relief wells or other methods to mitigate the flow of oil;
- All documents related to BP's casing strategies for wells in the Macondo prospect.

Thank you in advance for your prompt response.

Sincerely,

Bill Nelson

The first of the two articles Nelson relies on in his June 2 correspondence to BP is from the

Washington Post on May 31, 2010. After noting that drilling experts were afraid the failed "Top Kill" attempt by BP, which involved shooting drilling mud down through the heavily damaged blow out preventer (BOP) and into the well "might have done further damage to the well", the Post article stated:

Sources at two companies involved with the well said that BP also discovered new damage inside the well below the seafloor and that, as a result, some of the drilling mud that was successfully forced into the well was going off to the side into rock formations.

"We discovered things that were broken in the sub-surface," said a BP official who spoke on the condition of anonymity. He said that mud was making it "out to the side, into the formation." The official said he could not describe what was damaged in the well.

Therein lies the issue at the heart of the issue regarding the lack of well integrity; with the Post citing multiple (if some unnamed) sources confirming the well casing was completely breached to such an extent that, when the Top Kill attempt was made, they lost drilling mud out through the breached casing, well walls and into the surrounding rock formation. Now the other thing I find absolutely fascinating about this Washington Post article in the discussion of Dr. Steven Chu and the Department of Energy (DOE) tucked in toward the end:

"At the end of the day, the government tells BP what to do, and at the end of the day, we will hold BP accountable for all of this," she said.

She also sought to portray the administration as in charge and engaged. She said an administration "brain trust" led by Energy Secretary Steven Chu urged BP to stop adding pressure to the well

through the top-kill maneuver because “things could happen that would make the situation worse.”

But she stopped short on CBS of saying that Chu ordered an end to the top-kill maneuver.

✖ Well, Carol Browner may have “stopped short” of saying that Dr. Chu and the DOE were the ones who ordered the premature termination of the ill fated Top Kill attempt by BP, but it is pretty clear that is *exactly* what happened.

A decent question is by what mechanism did Chu and DOE come to be so in the middle and calling the shots on the Top Kill operation? Not that DOE has no interest, but MMS/Department of Interior are the lessors, and generally the well operation authority, for the government for this area of the Gulf; why is DOE micro-managing well operations? A copy of the actual BP lease for the Macondo Well at Mississippi Canyon 252 is here. And who else from DOE beside Steven Chu was tasked to this “brain trust” and calling shots for the BP Macondo catastrophe reclamation effort? What information and evidence regarding the compromised and blown state of the Macondo Well are they *still* withholding from the public? Oh, and another thing, under the terms of the lease, BP was, and is, supposed to be providing weekly reports, well logs and other information to MMS. Where is all that information, and why is none of it, apparently, available to the public?

The Wall Street Journal article Nelson cited only reinforces the the above facts, issues and questions, but also gives a view of how rickety the BP casing work was on its Macondo well, why there was an almost immediate blowout and why it is a given there is little, if any, integrity of the well bore:

By April 14, when BP filed the first of three permits that would later be

amended, the London-based oil company had already faced many problems with the well, including losing costly drilling fluid and fighting back natural gas that tried to force its way into the well. The problems had caused BP to use eight pieces of steel pipe to seal the well, rather than the planned six pieces. The permit filed on April 14 dealt with the eighth and final section, which hadn't yet been installed in the well.

BP had hoped to get a 9 7/8-inch pipe—big enough to handle a lot of oil and gas—into the reservoir. But for the final section, the largest pipe they could fit was a 7-inch pipe. The company had to decide whether to use a single piece of pipe that reached all the way from the sea floor down to the oil reservoir, or use two pipes, one inside the other.

The two-pipe method was the safer option, according to many industry experts, because it would have provided an extra layer of protection against gas traveling up the outside of the well to the surface. Gene Beck, a longtime industry engineer and a professor at Texas A&M University, said the two-pipe method is “more or less the gold standard,” especially for high-pressure wells such as the one BP was drilling.

But the one-pipe option was easier and faster, likely taking a week less time than the two-pipe method. BP was spending about \$1 million per day to operate the Deepwater Horizon.

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At 9:54 a.m. on April 15 BP filed another permit informing the MMS of a correction. Rather than using a 7-inch-wide pipe the whole way, it planned to run a tapered pipe that was wider at the top than at the bottom. This was

approved by the MMS seven minutes later.

Then, at 2:35 p.m., BP filed another revision. This one informed the MMS that it had “inadvertently” omitted mention of a section of pipe already in the well. Four and one-half minutes later, MMS approved this permit also.

Last year, the MMS floated a proposal to require all companies to “document and analyze” all major changes. BP responded during a comment period that the proposed safety rules were unnecessary.

Less than five days and a whole lot more warning signs later, the Macondo well had blown, the Deepwater Horizon rig had exploded and was on fire and the biggest environmental disaster in American history was well underway. And now, 55 days later, and a series of ever more destructive and futile attempts to stanch the flow of hydrocarbon from the mouth of the Macondo, we stand with a well head leaking more than ever into the waters of the Gulf of Mexico and its fragile ecosystem. Not to mention serious concerns as to whether the oil and gas pollutants are also seeping up from the immediately surrounding sea floor.

To return to the original issue of this post, it appears quite clear Florida’s Senator Bill Nelson was on very solid ground with his statements about the compromised state of the Macondo well casing and well bore walls, there is a record of everyone from BP officials to government officials to drilling professionals to outside experts agreeing on the substantial loss of well integrity. The only part of the well that appears to still have any known integrity is the cement collar immediately below the well head, and there is little reason to believe even that will necessarily remain intact under the circumstances.

The only question at this point whether or not there has been seepage or leakage detected from

the sea floor surrounding the Macondo well head as suggested by Senator Nelson and Professor MacDonald and, if so, to what extent. Senator Nelson and the public are entitled to answers from BP, and for that matter from the Obama Administration and its officials, to the material and germane questions raised in Nelson's June 2 letter to BP, and they are entitled to them immediately. Lastly, the Obama Administration, the DOE and its head Steven Chu, and BP should all explain exactly what role each played in the ill fated Top Kill and Junk Shot operations, and why the DOE, and through what agents, was so centrally involved in the Top Kill/Junk Shot and what damage they caused to the Macondo well structure in the process.