

397333623-50044-19961-150-246

From: Marcia K McNutt <mcnutt@usgs.gov>  
Sent: Wed, 4 Aug 2010 15:18:15  
To: GS FOIA 0105 <foia0105@usgs.gov>  
Subject: Fw: Sen Boxer

\*\*\*\*\*

Dr. Marcia McNutt  
Director  
US Geological Survey  
12201 Sunrise Valley Drive, MS 100  
Reston, VA 20192  
(703) 648-7411  
(703) 648-4454 (fax)  
(571) 296-6730 (cell)  
mcnutt@usgs.gov  
www.usgs.gov

\*\*\*\*\*

----- Forwarded by Janet N Arneson/DO/USGS/DOI on 08/04/2010 03:17 PM -----

From: "wereley, Steven T." <wereley@purdue.edu>

To: Juan Lasheras <lsheras@ucsd.edu>

Cc: "Bill.Lehr@noaa.gov" <Bill.Lehr@noaa.gov>, Marcia K McNutt <mcnutt@usgs.gov>

Date: 06/09/2010 01:31 PM

Subject: RE: Sen Boxer

Juan, I agree that we should present a unified front. Beyond my first calculations that I gave to NPR on May 13, I have released no numbers on my own. I have scrupulously resisted doing so. I've been asked by probably hundreds of reporters for new numbers and I have told them that "we're working on it" and that in the absence of an updated FRTG statement I stand by my original calculations from May 13. I have done many interviews in recent weeks because I think it's incumbent upon us as scientists and educators to help non-scientists understand the significance of our conclusions--especially since our first press release was so convoluted--and is still be misunderstood and misquoted. I really hope our updated press release with the plume group's findings for the pre-RITT period clears up a lot of questions.

I did give out my preliminary calculations on the post-cut riser flow to Sen Boxer's office, as I said in the email that you replied to. I don't know if she intends to release it to the media or to use it for background. I made sure that she understood (actually her chief of staff, Bettina) it was a preliminary calculation based on a limited examination of the videos that Boxer's office made available to me. These were not videos delivered to the FRTG. They were requested from BP by Boxer's office and used by me completely outside my FRTG duties. That said, my work on these numbers for Sen Boxer will give me a great jump start on getting my full analysis done

397333623-50044-19961-150-246

for the FRTG. Given the level of coercion we're all experiencing at the hands of the press, I hope we can all get our calculations ready in time for a teleconference tomorrow so that the issue of who should say what to the press fades into the past as our calculations become old news...

One thing that will help us maintain a united front is if we let the group know who is contacting everyone and what they're asking for. If you had sent an email to the group saying that Boxer's office was looking for preliminary numbers and you didn't think the group should give them and let us know your reasons, I may not have provided those numbers or Ira may not have told the NYT that the post-cut flow looked like it was 100 or 200% of the pre-cut flow.

I think we'll all breathe easier when these trying times are over...

Best,

Steve Wereley, Professor of Mechanical Engineering  
Birck Nanotechnology Center, Room 2019, 1205 West State Street  
Purdue University  
West Lafayette, IN 47907  
phone: 765/494-5624, fax: 765/494-0539  
web page: <http://engineering.purdue.edu/~wereley>

-----Original Message-----

From: Juan Lasheras [mailto:[lasheras@ucsd.edu](mailto:lasheras@ucsd.edu)]  
Sent: Wednesday, June 09, 2010 12:28 PM  
To: Wereley, Steven T.  
Subject: RE: Sen Boxer

Steve,

397333623-50044-19961-150-246

This group is totally out of control. Are we working as a group or as a bunch of cowboys shooting from the hip?

We either work as a group or this will become a circus. In fact, it is already a circus!!!

I was also contacted by Senator Boxer (my senator from California) and I asked them to wait until the calculations are done. We should not go around in the press reporting bits and pieces of half-cooked calculations. This is not the way that a serious scientific group should work.

Marcia or Bill should put a press release with our conclusions. I believe they have sent Boxer our Monday's conclusions.

Juan

-----Original Message-----

From: Wereley, Steven T. [mailto:wereley@purdue.edu]

Sent: Wednesday, June 09, 2010 8:27 AM

To: Franklin Shaffer; ira.leifer@bubbleology.com; Bill.Lehr@noaa.gov;

Marcia

K McNutt

Cc: pdy@clarkson.edu; pmbommer@mail.utexas.edu; savas@newton.berkeley.edu; antonio.possolo@nist.gov; pedro.espina@nist.gov; aaliseda@u.washington.edu; rileyj@u.washington.edu; lasher@ucsd.edu; mark\_sogge@usgs.gov

Subject: Sen Boxer

Hi all. Sorry to bother you again. Sen Boxer is having a hearing today and

wanted to get my preliminary impressions of the high resolution video we all

got yesterday. She said there was some urgency in getting her numbers. I wouldn't have given this number to the media directly but it may end up there. I don't know if she intended to use it at the hearing or use it for background, but you may hear my preliminary numbers floating around the

397333623-50044-19961-150-246

media later today. I sent her a summary of my initial calculations which don't show a tremendous increase in flow but are surprisingly in line with BP's 20% claim. Specifically I stated that thought the minimum flow rate was 25,000 bbl/day and expected value was in the 30-40 kbbbl/day range. I put lots of provisos in my statement saying it's not the work of the FRTG but just my own opinion and even that is preliminary. However, if she uses this in her hearing, the press may be looking for comment. Just tell them it's the opinion of one member of the group and not the group's opinion.

Best,

Steve Wereley, Professor of Mechanical Engineering  
Birck Nanotechnology Center, Room 2019, 1205 West State Street  
Purdue University  
West Lafayette, IN 47907  
phone: 765/494-5624, fax: 765/494-0539  
web page: <http://engineering.purdue.edu/~wereley>

-----Original Message-----

From: Franklin Shaffer [mailto:Franklin.Shaffer@NETL.DOE.GOV]  
Sent: Monday, June 07, 2010 11:09 PM  
To: ira.leifer@bubbleology.com; Bill.Lehr@noaa.gov; Marcia K McNutt  
Cc: pdy@clarkson.edu; pmbommer@mail.utexas.edu; savas@newton.berkeley.edu;  
antonio.possolo@nist.gov; pedro.espina@nist.gov; Wereley, Steven T.;  
aaliseda@u.washington.edu; rileyj@u.washington.edu; lasher@ucsd.edu;  
mark\_sogge@usgs.gov  
Subject: RE: draft conclusions

Regarding the second statement about the team having more video samples now,

I will simply say again that all of the video samples we have, combined,

are

less than 1% of the period over which we are asked to estimate total average flow rate.

And we have been able to get velocity data from about 30 minutes or less of the video. So our estimate of total average oil flow rate over a period of more than one month is based on data sampled over a period that is <0.05 % of the total period.

I don't know why I didn't realize this before. I guess I looking at the leaves with a microscope and failed to see the entire forest.

Frank

>>> "Marcia K McNutt" <mcnutt@usgs.gov> 6/7/2010 10:05 PM >>>

Bill et al.:

Does the team also want to consider providing some context for the policy folks who will be the greatest consumers of this information of why the lower range of these numbers is (slightly) higher than the lower bounds previously provided and why you are now more confident providing an upper bound?

I hesitate to put words into your mouth, so correct this if this is wrong. Seems to me that two things have changed that are worth mentioning that would allow policy makers to have added confidence in your results, namely:

(1) there is reduced uncertainty in the oil/gas ratio, and in fact the number you now prefer is larger than what the previous lower bounds were

based on;

(2) you have been provided with more complete video segments that allowed analysis of longer time periods in order to assess whether the flow estimates you had were representative of low, average, or high flow conditions.

Marcia

---

From: ira leifer <ira.leifer@bubbleology.com> [mailto:ira leifer <ira.leifer@bubbleology.com>]  
Sent: Monday, June 07, 2010 9:27 PM  
To: Bill.Lehr@noaa.gov  
Cc: Alberto Aliseda <aaliseda@u.washington.edu>; James J Riley <rileyj@u.washington.edu>; Juan Lasheras <laseras@ucsd.edu>; "savas@newton.berkeley.edu" <savas@newton.berkeley.edu>; Poojitha Yapa <pdyc@clarkson.edu>; "Espina, Pedro I." <pedro.espina@nist.gov>; Franklin Shaffer <Franklin.Shaffer@NETL.DOE.GOV>; Paul Bommer <pmbommer@mail.utexas.edu>; "wereley@purdue.edu" <wereley@purdue.edu>; antonio.possolo@nist.gov; Marcia K McNutt <mcnutt@usgs.gov>; Mark K Sogge <mark\_sogge@usgs.gov>  
Subject: Re: draft conclusions

Dear Bill and colleagues,

I would like to suggest adding the words in <<<below>>>, to really emphasize that our numbers are only as good for the time of the data. It is possible that the data set of five minutes prior was double the flow (or half). I consider this a very important statement, as BP could release such video tomorrow (or in two years). I know Bill that the text

you have written expresses this idea, but I really think it needs to be very very clear, and right near the numbers to reduce the likelihood of this conclusion being misused.

I also plan in my report to note that the analysis is of the oil and bubble plumes we could observe.

However, what I think we can congratulate ourselves. Given decent video data, we all analyzed the data by different approaches and arrived at a similar conclusion. Of course the conclusion is only as good as the data and our overall understanding of the processes involved. But, I think we can express confidence that as we receive other data, we have the capability to analyze it as well as is technically feasible.

Warmest regards,

Ira

On Jun 7, 2010, at 4:23 PM, Bill Lehr wrote:

As with earlier estimates, the conclusions in this report are only to aid the Response, not to determine the final Federal estimate of spillage. Because of time and other constraints, only a small segment of the leakage time was examined, and assumptions were made that may through later information or analysis be shown to be invalid. For example, the Team assumes that the average flow between the start of the incident and the insertion of the RITT was relatively constant and the time frames that were included in the examined videos were representative of that average. If this were not true, then the actual

spillage may differ significantly from the values stated below.

Most of the experts have concluded that, given the limited data

available and the small amount of time to process that data, the best estimate for the average flow rate for the leakage prior to the insertion of the RITT is between 25 to 30 thousand bbl/day. However, it is possible that the spillage could have been as little as 20,000 bbl/day or as large 40,000 bbl/day. <<<<It also is possible that the data provided was unrepresentative of typical seabed emissions at that time period, with greater uncertainty for earlier time periods.>>>>.

Further analysis of the existing data and of other videos not yet viewed may allow a refinement of these numbers.

The team has not estimated the flow rate during the period of active measures to reduce leakage such as after the insertion of the RITT or during and immediately after Top Kill. It is expected that the flow rate increased with the severing of the riser above the BOP. However, the team is still examining the video of that flow and will produce an addendum, if appropriate, with an updated leakage estimate.

<:}}}}}}> \* <:}}}}}}> \* <:}}}}}}>

Marine Sciences Institute  
University of California  
Santa Barbara, CA 93106-5080 USA  
(805)893-4931 (Tel)  
<http://www.bubbleology.com>

OFF CAMPUS OFFICE - Preferred for ship/Fax/mail

6740 Cortona Dr, UCSB Engineering Research Center

397333623-50044-19961-150-246

Ocean Engineering Laboratory,

Goleta CA 93117

Fax (805)893 4927

<:}}}}}> \* <:}}}}}> \* <:}}}}}>