

**From:** Tom Hunter  
**Sent:** Wednesday, July 28, 2010 7:04 PM  
**To:** SCHU  
**CC:** Rod OConnor; Ratzel, Arthur C; heather\_r.\_zichal; Ken Salazar; Marcia K McNutt  
**Subject:** Re: Brief summary for tomorrow/whenever

this is the track we are on but it is unlikely we can get the full time frame analysed from the beginning of the incident by friday. we need to be sure that the logic and all the events have been carefully reviewed.. We can probably get the recent cap flow and the correction for cap installation. We will then need an event by event description to look at adjustments and overlay that by a depletion assumption. we need to assure that the pace for getting these results is consistent with the subsequent need for accuracy.

tom

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

**From:** "SCHU" <>  
**To:** "Marcia K McNutt" <mcnutt@usgs.gov>, Tom Hunter  
**Cc:** "Rod OConnor" <Rod.OConnor@hq.doe.gov>, "acratze" <acratze@sandia.gov>, "heather\_r.\_zichal" <>, "Ken Salazar" <>  
**Sent:** Wednesday, July 28, 2010 4:12:37 PM  
**Subject:** RE: Brief summary for tomorrow/whenever

Marcia and Tom,

Just got off the phone from the daily 5 pm tag-ups, led by Sec. Napolitano. What we really need, hopefully by Friday, is the total amount that has leaked out since the beginning of the accident.

I believe we can come to an agreement on the was the rate just before the choke valve was closed. Then we need to correct for the flow before the sealing cap was put on *and* the variation in the flow during the time the reservoir pressure was going down by ~2000 psi.

Steve

Steven Chu  
Department of Energy

**From:** Marcia K McNutt [mailto:mcnutt@usgs.gov]  
**Sent:** Wednesday, July 28, 2010 12:04 PM  
**To:** Tom Hunter  
**Cc:** SCHU; OConnor, Rod; acratze  
**Subject:** Re: Brief summary for tomorrow/whenever

Correct. The estimates below for 95 percent for the choke closure are from NIST, based on the ranges I sent them absent context. And we need to also get WHOI in here but I don't have their final numbers.

**From:** Tom Hunter  
**Sent:** 07/28/2010 03:53 PM GMT  
**To:** Marcia McNutt  
**Cc:** SCHU; Rod OConnor <Rod.OConnor@hq.doe.gov>; acratze@sandia.gov  
**Subject:** Re: Brief summary for tomorrow/whenever

Marcia

these seem like the right 4 pieces for the discussion if there is anything new to say but historically does not include the top hat estimates. Further the DOE group has not really established quantitative

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confidence limits yet.

tom

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

From: "Marcia K McNutt" <mcnutt@usgs.gov>

To: acratze@sandia.gov, Tom Hunter

Cc: SCHU, "Rod OConnor" <Rod.OConnor@hq.doe.gov>

Sent: Tuesday, July 27, 2010 6:22:56 PM

Subject: Brief summary for tomorrow/whenever

Art and Tom -

The rates that will be discussed are as follows:

- The Plume Team rate from PIV (Particle Image Velocimetry) reported a mean of 46,200 and 95% confidence bounds of 24,000 to 123,000.
- The Nodal Analysis group, which performed conceptual flow models through wells, determined a range of 47,000 to 98,000 (just a range, no statistical uncertainty)
- The Reservoir Modeling group, which performed simulations of production from the formation, also reported a range from 27,000 to 102,000.
- The DOE group here in Houston and their Lab associates calculated flow from closing the choke: the mean is 53,000 with the 95% confidence bounds being 48,000 to 57,000.

So maybe the reconciliation isn't such a big deal? The 95% confidence bounds of PIV easily include the choke estimate, and the ranges in 2 and 3 easily include not only the mean, but also the 95% error bounds in the choke estimate. I vote we just take the choke estimate, after ascertaining that we don't have two phase problems and getting buy-in from the other teams.

Marcia

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