



RE: FW: Pls validate Subteam objectives ASAP

Moore, David M. t  
o McNutt, Marcia  
:

05/23/2010 01:02 PM

Marcia,

Looks fine.

David

**From:** Marcia K McNutt [mailto:mcnutt@usgs.gov]  
**Sent:** Sunday, May 23, 2010 12:54 PM  
**To:** Moore, David M.  
**Cc:** Moore, David M.  
**Subject:** Re: FW: Pls validate Subteam objectives ASAP

Thanks, David, See my suggestions below. Let me know if this sounds okay.

Marcia

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From: "Moore, David M." <David.Moore@mms.gov>  
To: "McNutt, Marcia" <mcnutt@usgs.gov>  
Cc: "Moore, David M." <David.Moore@mms.gov>  
Date: 05/23/2010 12:37 PM  
Subject: FW: Pls validate Subteam objectives ASAP

**From:** Moore, David M.  
**Sent:** Friday, May 21, 2010 4:39 PM  
**To:** Witkop, James  
**Cc:** Cesnik, Catherine M; Hauser, William; Slitor, Doug; Moore, David M.  
**Subject:** RE: Pls validate Subteam objectives ASAP

Jim,

Here is what I had in mind. Feel free to modify.

The final deliverable is a range of values that reconcile independent methods for estimating flow volume and express the federal government's official evaluation of the spill rate (barrels of oil per day) that has occurred since the spill began. To do this we need experts in two-phase fluid flow, reservoir engineering, remote sensing, and modeling. One group will do the actual work, and one group will perform the peer review.

David

**Reservoir Modeling Team** - Using open-hole logs; pressure, volume, and temperature data; core samples; and analog well or reservoir data; populate computer model to calculate fluid flow that would occur from an open hole that penetrated all targeted sands at the location of MC252 #001. Identical sets of modeling variables will be provided to at least two different institutions that have proven expertise in reservoir modeling and that use unique state-of-the-art models. Results will be peer reviewed by at least two subject matter experts.

**Nodal Analysis Team** - Using pressure data obtained during drilling and from the BOP (post-event), input from the reservoir model, wellbore configuration, current understanding of wellbore flow path, radiograph data of BOP and riser, riser kink geometry, assumptions of restrictions within BOP and riser, calculate discharge rates from each leak point in damaged riser. Identical sets of modeling variables will be provided to at least two different institutions that have proven expertise in nodal analysis and that use unique state-of-the-art models. Output would include estimates of total discharge rates at 24-hour intervals. Results will be peer reviewed by at least two subject matter experts.

**Plume Analysis Team** - Phase one involves analysis of a single 15-minute video of the spill plume from the largest discharge point using particle image velocimetry measurement techniques. Results will be peer reviewed with final estimated discharge volumes to be forwarded by the Interagency Solutions Group to the NIC on Sunday, 23 May. Phase two involves particle velocity measurements of available videos of each spill point at 24-hour intervals throughout the entire spill event - with the goal of estimating daily flow rates. Results will be peer reviewed by at least two subject matter experts.

**Remote Sensing Team** - Estimates of oil volume on the ocean surface at a certain epoch will be adjusted for the volume skimmed, burned, dispersed, and evaporated before yielding an average rate of release over that time period.

Results of nodal, plume, and remote sensing analysis will provide the basis from which the final discharge volume deliverable will be generated. All results will be published under the banner of the NIC Interagency Solutions Group.

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**From:** Witkop, James

**Sent:** Friday, May 21, 2010 2:53 PM  
**To:** Moore, David M.  
**Cc:** Cesnik, Catherine M  
**Subject:** Pls validate Subteam objectives ASAP  
**Importance:** High

David,  
NOAA Administrator Dr. L and Tom Strickland (and others, including USGS) asked for a description of the subteams to help determine who should be on what team. I made these descriptions up, please validate so Catherine can propagate to subteam members and to those who may want to be on the team but don't know how they can help. Also, Bob Pond may need them for the Fact sheet that is being readied for JIC release to clarify BP's statements from earlier today. thanks.

Reservoir Modeling: Understand what is under the seafloor, including composition of the geologic formations as well as the pressure involved, and makeup of the oil, natural gas, and other compounds that are being released.

Nodal Analysis: Will use pressure estimates from reservoir modeling to assist with flow rate range calculation

Plume Analysis: Describe what happens to the oil, gas, and other compounds that are (have been) released from the various openings and where they go.