

Coastal Response Research Center
Submerged Oil Working Group
18 November 2009 @ Clean Gulf

Notes

Participants:

Nancy Kinner, CRRC/UNH
Fredy Hernandez, NPFC
Denise Coutlakis, NPFC
Kurt Hansen, USCG R&D
Bill Lehr, NOAA
David Fritz, BP

JT Ewing, TX GLO
Amy Merten, NOAA ERD/CRRC
Greg Wilson, US EPA
Debbie Payton, NOAA ERD (by phone)
Chris Barker, NOAA ERD (by phone)

- I. Introductions
- II. Update Reports
 - a. TXGLO – no new updates to report; no current research projects have been funded (DBL152 barge – drags summer 2007 and found no oil)
 - b. BP – in conjunction with above (TX GLO); no additional research to report
 - c. ASA (French McCay) – no report
 - d. NOAA (Bill Lehr) – update on Modeling Working Group (MWG), Katz project “Measurements and Modeling of Size Distributions, Settling and Dispersions (turbulent diffusion) Rates of Oil Droplets” is completed
 - e. Kurt Hansen, USCG – post on CRRC website
 - i. Hansen presenting this afternoon at Clean Gulf (3pm in Room 209)
 - ii. Funded 3 projects (design all aspects) 10 months, 3 contractors (Marine Pollution Control with manned submersible, Oil Stop with CA dredge company; and Alion teaming with Jacqui Michel) nothing too proprietary, will evaluate & compare each project; must answer detection issues; turnkey as possible; budget ~\$500k; due July 2010, evaluate and then fund 1 or 2 to build prototype(s), expect to fund prototype contracts around Oct 1, 2010 then test at OHMSETT in 2011
 - iii. Detection Results – 2 laser fluorometer systems, one sonar and two real-time mass-spectrometers evaluated)
 1. RESON sonar had a semi-automated software system – able to detect 78% of oil successfully with 24% error rate. 8-10 ft depth, resolution is determined from the bottom. Built an environment at OHMSETT with different bottoms (not on clean, clear floor). Still need some real-work testing.
 2. Laser (from EIC, MA) to differentiate between oil and other false targets, (e.g. seaweed) three methods are used. Shape of fluorescence return signal is first method, second method is that

viscous oil polarizes return signal; white tank sides and bottom and sunlight caused problem; added a third method and modulated frequency to exclude the sunlight. 15 lbs, size of water bottle, small and quick, dump in flow streams, real time detection, point source.

- iv. Need real world testing, but not budgeted for this phase.
 - v. Next phase is to evaluate, not to test them in the field.
 - f. Asphalt Workshop – Ohio River still has asphalt on bottom and can use to test. Coal tar also available in a couple of rivers and can be used as test sites.
 - g. NPFC (Hernandez) - Trying to learn as much as possible so they can better address/adjudicate these claims (i.e., DBL 152). (Tammy Ashe recently hired; CRRC will keep them in the loop for this and other Center activities such as the upcoming Arctic Bio Impacts workshop.)
 - h. EPA (Wilson) – no report from EPA
 - i. CRRC
 - i. Bruce Hollebone – submerged oil characterization – this project has been on hold, start date has been delayed for personnel reasons
 - ii. Jim Englehardt – Chris Barker is the NOAA liaison on this project and has done an outstanding job keeping this project on task; Jim specializes in predictive modeling where there is very little data; trying to predict where sunken oil might be going; GPS coordinates are needed, 2-d projection, no need for bottom currents, after 2 days can predict or can add current data to update the model. Tested against DBL152 spill for accuracy. With additional funding (grad student could continue this work) could add bathymetry and bottom current data. This final product will be easy to use, (for use by oceanographers & SSC's), operationally in spreadsheet, and could offer as a CD eventually. This is a probability-based; equation-based outcome. The more data that is collected the better the reliability (can add/put in up to 10 events).
 - iii. Oct 21 a 1-day workshop on liquid asphalt sponsored by Sprague – much interest; topics included: characteristics, fate, behavior & modeling, biological effects, detection, mitigation and recovery. Asphalt Working Group next step.
- III. Submerged Oil Working Group will meet annually.