



## UNIVERSITY of NEW HAMPSHIRE

### Dispersant Working Group

November 14, 2012

(In conjunction with Clean Gulf, New Orleans, LA)

### *Meeting Notes*

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#### **Attendees:**

Nancy Kinner, CRRC	Robyn Conmy, USEPA (call)
Michel Boufadel, NJIT	Ken Lee, DFO Canada
Eric Demicco, ExxonMobil	Joe Banta, PWS RCAC (call)
Victoria Broje, Shell	Kurt Hansen, USCG R&D
Tom Coolbaugh, ExxonMobil	Lori Medley, BSEE
Matt Dean, Chevron	Christa McKinney, BSEE
Ellen Faurot-Daniels, CA Fish & Game	Jill Rowe, RPSAS
Per Daling, SINTEF (call)	Mark Swanson, PWSRCAC
Al Venosa, USEPA (call)	

This meeting was to review and update the status of Funded Research Projects specifically on Dispersants.

#### **I. Per Daling (SINTEF)**

- Lab studies – 6' high underwater releases with different oils and different dispersant injections
- Bench scale – 80cm high, screening of different kind of dispersant reduction in distribution size
- Fate and effects of dispersed oils – dispersed droplets
- Biodegradation of dispersed oil
- Helping industry in operational aspect offshore industry, Norwegian Coastal Administration. Response analysis using models. Part of documentation
- Involved in arctic/ice study as well

#### **II. Lori Medley (BSEE)**

- FY11 award to Paul Panetta of Applied Research Assoc to use ultrasound to determine subsea dispersant application efficacy. Project included testing @ SINTEF. Phase 1 of report available early 2013. <http://www.bsee.gov/Research-and-Training/Technology-Assessment-and-Research/Project-697.aspx>
- FY12 funding added to the above mentioned project to measure natural gas bubble. The transponder (ultra sound device) will be tested both at Ohmsett and SINTEF and algorithms will be developed. <http://www.bsee.gov/Research-and-Training/Technology-Assessment-and-Research/Project1002.aspx>
- SL Ross workshop at Ohmsett – draft invitees in process to look at what is feasible to do at Ohmsett and what is needed to enhance and upgrade Ohmsett tank. However, tank received some damage from Hurricane Sandy. Classroom is fine to can still hold



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workshop in late Jan/early Feb. <http://www.bsee.gov/Research-and-Training/Technology-Assessment-and-Research/Project1011.aspx>

- FY13 BAA not yet developed, may not do all through BAA, may do some "interest" projects and other avenues of funding.

### III. Kurt Hansen (USCG R&D)

- New technologies for nearshore (i.e., ASOS), 3 contracts
  - Particles in water column - Both sensors being investigated by Wet Labs (see above) and the NORBIT Sonar are trying to differentiate amount oil droplets, air and sediment in the water column.
  - Two of the contractors have been selected to develop prototypes. One of the WET Labs proposals, Wide-angle-scattering Inversion to Detect Oil in Water (WINDOW), is being designed to measure wide-angle scattering from various particles and build a library so that oil can be differentiated from sediment or other constituents. Two different sensors will be evaluated and then teamed with a LISST particle size analyzer and a conductivity, temperature Depth (CTD) sensor that provides salinity, etc. The NORBIT sonar is a wide-band multibeam system is being used in the 200-440 kHz range. A three-dimensional picture can be obtained if two systems are mounted orthogonal to each other. For testing at OHMSETT a bottom mounted pipe with different size holes may be needed as well as dispersant runs in the Fall of 2013.
  - CCPD technical
  - Dispersant bubbles (oil vs. sand vs. bubbles)

### IV. Robyn Conmy (USEPA)

- Project with ESO Canada, series of wave tank exposures. Cold & warm temperatures, sensors, chemistry data for subsea blowout
- Project with BSEE, fluorescent of modeling variety of oils, more quantitative (16 months)
- Internal project (Venosa) on wave tank studies, difference between chemically & physically dispersed oil
- Lab studies on higher rate of variability of Corexit & JD200 another dispersant. Project finished.
- Add no with different oils, Alaska crude oil IFO120 at 25<sup>o</sup> C
- Oil at BSEE was blown away during Hurricane Sandy, Alaska North Slope (ANS oil)-BSEE will be purchase for ICC month and could give to Al. need 1 barrel of each, no ANS left. No more South Carolina crude. Need products consistent for additional upcoming testing 1 barrel of each is needed. They are looking at comparing dispersed and undispersed oil. Hope to submit to journals for publications

### V. Ken Lee (Bedford Institute of Oceanography, DFO, Canada) per Al Venosa

- Preparing wave tank research

### VI. NOAA via CRRC (Nancy Kinner)

- RFP on dispersant related research; 1 year projects ending January 2014 for final reports. Projects funded are:
  - Eric Schott, UMCES: impact of dispersed oil & dispersants on blue crab larvae. Tom Coolbaugh is sharing oil for this project.

#### Coastal Response Research Center

Gregg Hall, 35 Colovos Road, Durham, New Hampshire 03824-3534  
Tel: 603-862-0832 fax: 603-862-3957 <http://www.crrc.unh.edu>



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- o Adriana Bejarano, RPI – creating a database for inclusion in NOAA database on toxicity literature review, concentrations useful for spill and planning on toxicity issues
- o Ann Hayward Walker, Sea Consulting: social media, risk communications, sociological techniques for data coordination, sub-contracting with UW

### VII. No projects being funded:

- Tx GLO-no report
- LOSCO – now defunct
- CA OSPR-some \$ coming in for research program, proposals currently in suspension (encountered a contracting problem) so will re-open and will be able to work with industry & others. \$200k – dispersant priority – Ron Tjeerdema, UC Davis, red avelona (proxy for black)
- New dispersants for licensing and CA OSPR may do some simple studies on those
- Received \$1M proposals for only \$200k
- OSPR & Chevron workshop in San Ramon on dispersant training. A technology workshop scheduled in February

### VIII. Joe Banta, John French, Mark Swanson (PWS RCAC)

- Two projects underway:
  - o Toxicity of dispersed oil on whales (with University of Southern Maine). Status - Research ongoing
  - o Synthesis on uptake and effects of dispersed oil droplets by zooplankton, (Skidaway Institute of Oceanography). Status - Draft report under review
- Two ongoing projects that are nearing completion:
  - o Work with Department of Fisheries and Oceans Canada on salmon, cod and herring exposure to dispersed oil. Status - Final report in drafting stage
  - o Work with National Marine Fisheries Service Auke Bay Lab on pink salmon and herring exposure to dispersed oil. Status - Draft final report being written
- Available:
  - o An annually updated bibliography (through June 2011, in Excel spreadsheet form) of recent dispersant articles  
[http://www.pwsrcac.org/projects/EnvMonitor/dispers\\_bib.html](http://www.pwsrcac.org/projects/EnvMonitor/dispers_bib.html)
- Other Work:
  - o [Alaska Regional Response Team](#) - The council actively participates in an ARRT workgroup process to update the Alaska Dispersants Use Guidelines. Following are comments that the council has submitted during available comment periods:  
[July 30, 2012 \(Unable to access\)](#)  
[July 20, 2012](#)  
[June 18, 2012](#)  
[Feb 15, 2012](#)  
[July 2009](#)

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### IX. Nick Nicholls (per al Venosa) SubPar J

- Still under agency review
- OMB for review next

Discussion: Al addressed Victoria's question. Did EPA compare chemically vs. slicks on surface. Lab shakes flasks on undispersed oil – emulsified. Chemically dispersed oil degrades faster.

### X. Michel Boufadel (NJIT)

- Investigate WAF \* CEWAF and salinity with PWS. Using water from PWS. Project starts soon. Got oil from Ohmsett before storm.

### XI. Tom Coolbaugh (ExxonMobil and API)

- Ongoing projects dispersant in-situ
- Coordination of JIP, API OGP
- Per Daling subsea
- R&D literature – for industry API to evaluate to respond as industry 2012 funding. 2-yr project. Summary publication & potential recommendation and rebut.
- GOMRI – different consortia, steering committee members – overview of January 2012 workshop [http://crrc.unh.edu/workshops/r&d\\_forum\\_12/index.html](http://crrc.unh.edu/workshops/r&d_forum_12/index.html). API funded CSE to host this workshop
- API planning to fund CSE for March 2013 dispersant workshop
- BSEE – API sponsoring an open house at tank in 2013 in order to better understand work/research

### XII. Victoria Broje (Shell)

- OJP and API JIP projects and European JIP projects
- Field test protocols on subsea
- 2 RFPs on oil in ice and modeling
- Newfield project completed and proposed publications (via Univ of Alaska)

### XIII. ICCOPR

- CRRC & SEA have been sub-contracted to revise & update the 5-year R&T plan. Proposals for funding project going forward. Report deadline by May 2013. 24 topic; recommendations forthcoming.
- Subsea Blowout Modeling workshop in Berkeley, CA for all (industry, agencies, academia) <https://ceprofs.civil.tamu.edu/ssocolofsky/nfm/>
- 5, 0 -5 degradation in Arctic environments in concert with Brakstad. No biodegradation with protist in 0 and -5. Only WAF and only PAHs and metagenomics

XIV. Please check for project updates on the CRRC website. Let Kathy know of edits, changes, completions and where to locate final reports. <http://crrc.unh.edu/dwg/research.htm>

XV. Next meeting: **Clean Gulf**, November 12-13, 2013 in Tampa, FL

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