UNIVERSITY of NEW HAMPSHIRE

Dispersant Working Group

May 25, 2011
(In conjunction with IOSC, Portland, OR)

Meeting Notes

Attendees:

Nancy Kinner, CRRC
Joe Banta, PWS RCAC (call)
Chris Barker, NOAA
Michel Boufadel, Temple University
Victoria Broje, Shell
Leigh DeHaven, US EPA
Ellen Faurot-Daniels, CA OSPR
John French, PWS RCAC (call)
Debbie French McCay, ASA
Alexander Balsley for Kurt Hansen, U.S. Coast Guard R&D
Charlie Henry, NOAA
Bruce Hollebone, Environment Canada (call)
Ken Lee, DFO Canada
Stephane LeFloch, CEDRE
Bill Lehr, NOAA
Buzz Martin, Texas GLO
Lt. Amy McElroy, U.S. Coast Guard
Jacqui Michel, Research Planning
Joseph Mullin, BOEMRE
Robert Pond, U.S. Coast Guard
Nicole Rutherford, NOAA
Susan Saupe, CIRCAC
Dagmar Schmidt-Etkin, ASA
Gary Shigenaka, NOAA
Al Venosa, U.S. EPA
Glen Watabayashi, NOAA
Greg Wilson, U.S. EPA
Lyman Young, Chevron

This meeting was to review and update the Status of Funded Research Projects on Dispersants. There was major interest (e.g., high number of attendees) in the wake of the Deepwater Horizon and the discussion surrounding surface and subsurface dispersant application.

- Ken Lee (Bedford Institute of Oceanography, DFO, Canada)
  - Chemical oil dispersants – a field experience – potentially in 2013 (due to 1 yr for permitting); currently drafting a technical advisory team, funding and proposals for additional Arctic studies
  - Plume dispersion, wavelength studies with BOEMRE
  - Subsea injection – particle size. Can this realistically be done in tank? Could this be done in Arctic too? CEDRE and SINTEF are building tanks. With EPA funding – determine difference between physical vs. chemical velocity of blowout

- Stephane Lefloch (CEDRE) – see attached reports
  - Revision of IMO dispersant guidelines underway (REMPEC)
  - Workshops in western Africa, and West Indian Ocean – guidelines training
  - Toxicity of oil droplet study

- Joint work with CA DFO
- Discobiol – see 2 presentations to be posted on DWG website

- Bill Lehr (NOAA ORR)
  - Droplet size distribution – 2 jets involved at Purdue and/or UC Berkeley through NSF grant, Propose doing studies of jets under pressure through NIST
  - University of Washington – As part of ADIOS3, NOAA is funding Alberto Aliseda to look at droplet size distribution from different nozzle configurations
  - It should be noted that Ken Lee has pressure tank that could be used

- Amy McElroy & Bob Pond (USCG)
  - ICCOPR efforts (public meetings completed)
  - NRT – subsea dispersant work group – interim operating guidelines by end of June to NRT regions so they can work/evaluate/give feedback on these guidelines

- Gary Shigenaka (NOAA)
  - Project funded by supplemental funding $1M to understand research on dispersants in a response plan (Doug Helton is the overseer of this project). CRRC is host. White Papers currently being reviewed.
  - Workshop in September to identify R&D priorities; Jacqui Michel is collecting and organizing data; White papers will be developed on specific dispersant related topics; chemistry is being analyzed by Battelle, after workshop identifies R&D needs there will be an RFP.

- Ellen Faurot-Daniels (CA OSPR)
  - No funded projects
  - Revision to dispersant guidelines in light of lessons learned from DWH

- John Whitney & Glen Watabayashi (NOAA)
  - Environmental Risk workshop to be held in Alaska to update ESI Risk communication, decisions and agreement on best response practices. To be held in Oct/Nov 2011, will include dispersants as response option.
  - Note: end users of research would like to include exposure times too (not just concentrations)
  - Surface oil – different oils (viscosity) as well as different temperatures help in modeling, especially in the Arctic.
  - SL Ross oil characterization on Louisiana oils. Steve Ross has this data.

- Joe Banta (PWS RCAC)
  - Marc Swanson presented paper at IOSC on chronic toxicity to salmon/cod/herring (see IOSC papers)
  - PWS has updated their dispersant bibliography. It will be available on their website soon.

- RFP for general research on dispersants is forthcoming (small scale study)

- Greg Wilson & Al Venosa (US EPA)
  - "Sub-part J" will have results by Spring 2012
  - STAR (academic) grants – $2M congressional appropriation, RFP closes June 22, 2011. Topics deal with human health, ecological effects, and counter measure technology
  - Biodegradation study is complete, in process of writing papers and publishing journal articles
  - Another biodegradation test is just getting started
  - In midst of multi-year plan (82 page document) reporting R&D needs required in next few years (i.e., mitigation, human health, stimulate research with ICCOPR agencies. Document draft, already reviewed by EPA's Science Advisory Board, has been sent to USCG

- Bruce Hollebone (Environment Canada)
  - Dispersant model testing and validation, including dispersant-sediment interaction (BOEMRE)
  - Manuscript in preparation is a collaboration between Queen's University, Department of Fisheries and Oceans Canada, and Environment Canada. Citation is: "Comparative Toxicity Of Four Chemically-Dispersed And Undispersed Crude Oils To Rainbow Trout Embryos", Dongmei Wu, Zhendi Wang, Bruce Hollebone, Stephen McIntosh, Tom King and Peter V. Hodson, *Environ Toxicol Chem,* in press.
  - Would also like to move forward to rapid genoassay testing and not use live animals.

- Alex Balsley (USCG R&D)
  - Detection of Oil within the Water column project. Developing a strategy for sampling the water column to detect and track a submerged oil plume. We aim to find the proper detecting technology to go with the efficient sampling plan, something that can provide data in real time for a more effective response operation. We would like for this technology to be able to detect dispersed oil although we have not come up with a MDL (minimum detection level) yet. This project is in its infancy and we will be sending out a Broad Agency Announcement soon to field proposals from potential contractors. It will probably be a couple years before a prototype can be developed

- Chris Barker (NOAA)
  - Next Generation GNOME – this 2- year project will need to include deep water and submerged oil

- Victoria Broje (Shell)
  - NewFields Joint Industry Project on Toxicity and biodegradation rates of dispersed oil in Arctic marine environment. Sponsors are Shell, BP, Conoco, Exxon and Statoil. 2.5+ mln USD. Project is expected to be completed next year.
  - API effort to better understand subsea dispersants injection. A 3-year project for about 10+ mln. Sponsors are API companies. Projects:
    - Evaluate subsea injection methods / equipment and effectiveness
    - Evaluate the biodegradation, bioaccumulation, and toxicity of dispersants & dispersed oil on deepwater communities
    - Enhance existing numerical tools to model dispersed oil plumes resulting from subsea injection
    - Evaluate field monitoring criteria and provide a recommended monitoring plan (includes near, mid, far field monitoring)
    - Conduct Net Environmental Benefit Analysis and develop outreach documents
  - OGP JIP on Arctic oil spill response. 12 projects in total. Few of them are related to dispersants use. The projects will be scheduled at different times over 4 years period. The cost of the entire project is 21.5 mln USD. Sponsoring companies at the moment Shell, Exxon, BP, Statoil, Conoco, Chevron, Total, ENI, + waiting for 1 or 2 more. Relevant projects:
    - Environmental impacts of oil and various spill response techniques (including dispersants)
    - Fate and behavior of dispersed oil under a field of broken ice
    - Field tests with dispersants use

- Per Daling (SINTEF) – please see attached slides for information on their projects

II. Next meeting: Clean Gulf, Nov 30 – Dec 1, 2011in San Antonio, TX