SUMMARY NOTES
Pacific States/BC Oil Spill Task Force
Research and Development Workgroup

December 18, 2012 Annual Conference Call

PARTICIPANTS:

Curtis Martin, Department of Health Hawaii
Laurie Doyle, Ministry of the Environment, British Columbia
D'Arcy Sego, Ministry of the Environment, British Columbia
Scott Smith, Department of Environmental Quality, Oregon
Nancy Kinner; Kathy Mandsager, Coastal Response Research Center, New Hampshire
Lori Medley, Bureau of Safety and Environmental Enforcement (BSEE)
Carl Brown, Environment Canada
Sonja Larsen Department of Ecology, Washington
Judd Muskat, Ellen Faurot-Daniels; Bruce Joab, Office of Spill Prevention and Response, Department of Fish and Wildlife, California
Eric Miller, Interagency Coordinating Committee on Oil Pollution Research, USCG, D.C.
Kurt Hansen, USCG Research and Development Center, Connecticut
Sarah Brace, Oil Spill Task Force, Washington

UPDATES:

Judd Muskat, CA OSPR:

- OSPR submitted a final report to BSEE in October on a study using combined multi-spectral imaging to come up with algorithms to determine oil content in water. (Final report: http://bsee.gov/Research-and-Training/Technology-Assessment-and-Research/Project-658.aspx). Experimentation for this work was carried out at Ohmsett testing site. (See report). This type of imaging was used during Deep Water Horizon Spill. They were able to create images relatively soon after dispersant was applied.
- ERMA southwest – in the process of loading all contingency data into ERMA.

Bruce Joab, CA OSPR:

- The Lempert-Keene-Seastrand Act, which formed OSPR, authorized the OSPR Administrator to do R&D funding via contracts. The Scientific Study and Evaluation Program (SSEP) was created to accomplish that. The OSPR SSEP website is: http://dfg.ca.gov/ospr/Science/SSEP.aspx and reports are can be found at: http://dfg.ca.gov/ospr/Science/SSEPReportsPublications.aspx
- 6 year's worth of studies, carried out between 2003-2009, can be found on that site. Funding has been absent since 2009. Next year's funding is also cut including funding for research studies on effects of dispersants on fish and other biota.

Ellen Faurot-Daniels, CA OSPR:

- Hoping to collaborate with UC Davis to study effects of dispersants and dispersanted oil on red abalone as a surrogate for impacts on black abalone (in decline). Would look at reproductive-age adults, and examine impacts on fecundity, ability to forage, ability to avoid predation, etc. Would like to do these studies but run out of funding.
- May be able in next fiscal year to work at Marine Wildlife Veterinary Care and Research Facility (OSPR-UCSC facility in Santa Cruz) to conduct some side-by-side tank trials CA-licensed products (e.g., bioremediants and surface washing agents).
- Technology workshop on **February 26-28, 2013**. Workshop will be held at the Chevron Facility in San Ramon, CA. No registration fee but limited to 150 attendees. (For more info: http://www.dfg.ca.gov/ospr/public_meetings.aspx). University of Mississippi is coming to the workshop – they have developed a new dispersant that floats on surface and doesn't stick to fur. BSEE and OHMSETT folks will be there. Also invited some oil spill clean-up folks. Full range of folks talking about data gathering, data sharing, SMART results QA/QC. Conventional tech review, applied tech review, agency and response organization updates, data gathering and dissemination (GIS etc).

Q: Eric – There was a call for proposals (from OSPR) for R&D research grants. What's the status?

A: Due to funding shortages, the contract selection process was cancelled.

Scott Smith, OR DEQ

- Not much research going on in OR. Exporting crude oil for the first time this week. Reviewing applications for coal terminals, looking for more research on coal dust and LND impacts. Changed the dynamic of how OR might respond. Historically only imported a small amount of oil
- Oregon is shifting from a fuel importer to exporter. Hope to get more funding for research and response.

Sonja Larson, WA ECY

- WA seeing same thing in as in OR… lots of changes in movement of oil products through our waters. We are currently monitoring projected increases in volumes of oil, coal and other commodities.

- Historically Washington has not had funding for oil spill research programs but a new law passed by the legislature requires Ecology to approve contingency plans based on best achievable protection, which includes using best achievable technology. Under the law we must review and update the regulatory standards every 5 years. The new rule also establishes a 5 year process for evaluating emerging technologies, staffing levels, standards for training and other

operational methods to reach the best achievable protection. Information about the rule can be accessed at:
http://www.ecy.wa.gov/programs/spills/rules/CPlan_Rule_Implementation/Rule_Implementation.html.

- Oil Characterization study – We are in the process of scoping a stud To characterize the oil products coming through our waters. We will be partnering with NOAA in the development of the study and will ensure that all study findings are shared broadly with the response community.
- Department of Ecology is also supporting the Puget Sound Vessel Traffic Risk Assessment (VTRA) designed to evaluate changing risks in the Strait and Northern Puget Sound. In November, the Puget Sound Partnership awarded a grant to George Washington University to update the VTRA for north Puget Sound. Supporting materials for the analysis are hosted at Professor Rene van Dorp's GWU website
- The Northwest Area Contingency plan (NWACP) has had a long standing ad-hoc equipment committee which meets annually to evaluate new technologies. Ecology is working with the USCG to restructure the equipment group to support equipment review as required by the updated state contingency planning rule.
- Dispersant SMART protocols study developed by CA – Sonja would like a link to that study.

Comment: Laurie Boyle (BC) has been in contact with a group in Alberta that's been doing research on bitumen and how it reacts in the marine environment.

Carl Brown, Environment Canada

- R&D oil spill -- oil properties database. Looking at the chemical and physical properties of a lot of different oils from Gulf of Mexico, CA and Alaska north slope. They have done some work on biofuels and biodiesels. Looking at oil spill treating agents (STAs) including dispersants, dispersant:oil ratios and possible effects on oil-sediment interactions through Environmental Studies Research Fund (Industry funding). On-going project with CRRC to look at submerged oils, and reasons for submergence. Kalamazoo, MI/Enbridge pipeline spill – working on this due to their experience with other heavy fuel spills.
- BSEE – validating two models to predict the window of opportunity for dispersants. Use in the Gulf of Mexico. Some funding from Natural Resources Canada (NRCan, PERD) to distinguish petrogenic, natural and pyrogenic sources of oil.
- MOU with NOAA to look at Arctic oil spill priorities. This includes; looking at new versions of NOAA's GNOME and ADIOS oil spill models. Oil and chemical properties of Arctic oils (Canadian Beaurfort oil), Arctic ERMA, and Unmanned Aerial Systems (UAS). Referrred to September 2012, NOAA-EC Arctic UAS Workshop in Boulder, CO. Use of unmanned areal tools – looks like an exciting tool for remote sensing. For arctic need to look at some under water and under ice systems.

- Diluted bitumen studies – looking at samples from recent spills.
- Workshop coming up in Calgary: end of January. For development of a strategic plan for Arctic Oil Spill Research - by invitation only, but a few folks have been invited from CA, Europe, etc.
- Reminder: Environment Canada sponsors the AMOP Technical Seminar on Environmental Contamination and Response. The 36th AMOP will be held June 4-6, 2013 in Halifax, Nova Scotia.

Kurt Hansen, USCG

- Recovery of Submerged Oil: Tests using prototype systems were conducted at OHMSETT during November 2012. The tests included systems based on a manned submersible, one using a bottom crawler weighing about 18,000 pounds and one using two remotely operated vehicles (ROV). The ROV system had some control problems and recovered a limited amount of oil. The other two systems recovered oil as well as a large amount of sand and water. A report is attached. The ROV system was taken for a field demonstration in 25 feet of water off of Connecticut that showed off the sonar detection capability that was not demonstrated during at OHMSETT. The crawler has been redesigned to be a smaller unit of about 3200 pounds in air and when permission to demonstrate in CA was not given, a lake in Texas was chosen. The silty bottom was still not firm enough to support the vehicle and it got stuck. The turbidity restricted both the ROV and the crawler visibility. A final report is being written and should be out later in 2013.
- Response to Oil-in-Ice: An oil-in-ice experiment in the Mackinac Straits at the top of Lake Michigan was done the week of January 23, 2012. A CG Buoytender (WLB) deployed a cold-weather version of the spilled oil recovery system (SORS) that removes the containment boom and storage bladder and adds a new Helix brush skimmer and on-deck storage. In addition, a fire-resistant boom, other cold-weather skimmers (drum and rope mop) and an ROV were deployed. A report is attached. Additional work is planned for another equipment deployment the week of February 18, 2013. A current Buster skimming system with a Boom Vane from the US Supervisor of Salvage and Diving (SUPSALV) was deployed off of Barrow in August 2012. A Spilled Oil Recovery Systems (SORS) and a Roclean/Desmi Polar Bear Skimmer were deployed from the CG Buoytender as well. This execution was as a result of additional funding from the DOD Northern Command to charter a barge from Prudhoe Bay to transfer equipment and to use as a staging location in lieu of a pier or dock which are not available in this area. A video of the deployments is being developed. Planning is in progress for a demonstration during the summer of 2013.
- Detection and Collection of Oil in the Water Column: Contracts were awarded to a company (NORBIT) for a multi-beam sonar and two contracts to Wetlabs, a fluorometer company, to develop sensors to find oil in the water column in coastal and river areas. The concept design phase occurred over the past year. Follow-on contracts to test prototypes were recently awarded for the sonar system and the

system based on the characteristics of diffracted light from around particles for development of prototype to test at OHMSETT in late 2013.

CDR Eric Miller, USCG

- CDR Miller explained that the Coast Guard serves as the Chair of the *ICCOPR* and works with 13 other federal agencies to carry out its responsibilities. The ICCOPR was established by the Oil Pollution Act of 1990 (OPA 90). The purpose of the Interagency Committee is twofold: (1) to prepare a comprehensive, coordinated Federal oil pollution research and development plan; and (2) to promote cooperation with industry, universities, research institutions, State governments, and other nations through information sharing, coordinated planning, and joint funding of projects. The ICCOPR does not conduct original research itself, but provides a forum for coordination among federal agencies.
- The *ICCOPR* meets on a quarterly basis. The day-long meetings are divided into two parts: the first half provides a forum for R&D speakers from industry, government, and academia to provide presentations to the membership, thereby giving new awareness of projects. The second half of the meeting is devoted to internal *ICCOPR* business.
- ICCOPR submits a *report to Congress* every two years; a new report is scheduled to be submitted at the end of 2013.
- He reported that the Interagency Committee continues improve and publicize its website (www.iccopr.uscg.gov). The website provides continued awareness about a broad array of oil pollution research projects, stakeholders and databases, thereby supporting the Interagency Committee's outreach and coordination responsibilities. In addition, the website serves as a traffic hub that connects public visitor or Interagency Committee members to supporting documents or other research-related websites. There are many different tabs attached to the website to help coordinate and share information. One tab in particular tracks and reports the different oil spill R&D conferences and workshops that have been scheduled. PSBCOSTF members are asked to provide any notifications of workshops/conferences that should be listed.
- The Committee's current high-priority project is the completion of the *2013 ICCOPR Research and Technology Plan.* Congress envisioned this product as a comprehensive plan that includes a description of each agency's role in oil pollution research and an assessment of the current state of knowledge in addition to identifying significant research gaps which would lead to the means to establish research priorities. Dr. Kinner and CRRC are helping the *ICCOPR* to identify and prioritize over 500 different R&D needs that have been collected from a number of published sources. The *ICCOPR* will also be reaching to State R&D programs for their perspectives and priorities. The plan is intended to be updated every 5 years and will likely be published in the Fall of 2013.
- To further its awareness and mutual communications on research needs, the Interagency Committee will *continue to reach out to state research programs, industry, academia and non-government organizations*. This will be especially important for finalizing the 2013 update to the ICCOPR Research and Technology Plan.

- In closing, CDR Miller encouraged everyone to send information to *ICCOPR* regarding their research projects.
- CDR Miller also serves as the Program Chair of the International Oil Spill Conference (IOSC). The IOSC is held every 3 years and the next conference is scheduled for **May 5-8, 2014** in Savannah Georgia.
- A primary feature of the *IOSC* is the presentation of several papers and posters related to the prevention of, response to, and restoration from oil spills. The Call for Papers and Posters will be open from January 15, 2013 through July 15, 2013. Interested authors should visit www.iosc.org and follow the instructions for submitting abstracts for prospective papers and posters.
- The *IOSC* is also excited about launching another website devoted to publishing the *Proceedings* from past conferences at www.ioscproccedings.com . The *IOSC Proceedings* is the official chronicle of the International Oil Spill Conference. Each IOSC since 1969 has published a printed *Proceedings* that contains the peer-reviewed papers presented in each conference. After the *2011 IOSC*, the conference sponsors initiated a project to convert all past printed *IOSC Proceedings* into a digital format to provide increased accessibility for the general public. This innovative project conducted with Allen Press, Inc. resulted in the creation of the *IOSC Proceedings* website that contains over 3000 articles related to oil spill prevention, response, and restoration. Spanning over 40 years of oil pollution issues, the online *IOSC Proceedings* provides easy access to unique articles and perspectives not available elsewhere. Future conference *Proceedings* will only be published in an electronic format. Access to all content on the *IOSC Proceedings* website is free. Financial support to maintain the online *IOSC Proceedings* is achieved from a portion of the proceeds collected from the conference's registration fees.

Curtis Martin, Dept of Health HI

- Hawaii Dept of Health is continuing to track the dispersant issue. Clean Islands Council is the lead on implementing oil spill response – also engaged in this topic.

Laurie Medley, BSEE

- Preparing a paper summarizing previous studies on dispersants and current research.
- Other research underway: technology assessment of temporary oil spill storage options; oil spill recovery in low light; bioremediation with dispersants.
- 2012 awards – See their website. Topics include: dispersants, AV under ice to detect oil, developing ultrasound to measure droplet size of oil.
- Feb/Mar – skimmer testing at OMSETT in ice.
- Work with NOAA setting up an Arctic ERMA – available now where public can look at it.
- Chemical engineer vacancy – will be announcing position soon.

Q: Status of OMSETT Tank?

A: Significant damage. One building storing equipment was destroyed – lost a lot of equipment. Tank damage as well -- however tank is being utilized this week so it is functional.

Nancy Kinner, UNH

- No information solidified yet on the **Arctic ERMA®-Canada/International Workshop** being held on February 12 & 13, 2013 in Edmonton, Alberta. Stay tuned for more details.
- Newly funded research projects: Dispersant-related RFP: http://crrc.unh.edu/rfp/2012dispersant_initiative_rfp_instructions.pdf Funded projects abstracts can be found here: http://crrc.unh.edu/rfp/2012FundedProjects_abstracts.pdf

  Projects include: Blue crab larvae and impacts of dispersants; Database on all the work published on biological effects of dispersants; Risk communication and use of social media in communicating risk. All 1-year projects. Completed by Jan 2014 -- final reports will be completed by March 2014.
- Probable API funded workshop for CSE to host similar **workshop** in Baton Rouge during week of March, 2013. Focus on dispersant related research (old, new, GoMRI researchers) together to discuss results thus far and implications for response. Details forthcoming.
- ICCOPR R&T Plan (Eric Miller gave a good overview of this. CRRC priority is collecting research and gaps and priorities.
- NRDA & Arctic ERMA workshop was held in Kotzebue, AK in May - workshop report is completed and posted here: http://crrc.unh.edu/workshops/nwab_12/index.html and Barrow, AK in November (report forthcoming) here: http://crrc.unh.edu/workshops/nsb_12/index.html

  Purpose was to bring together Alaska Natives in NW Arctic and North Slope to talk about NRDA and EMRA to figure out what a NRDA might look like up there and what kind of baseline data is being collected.
- Oil Sands Products Training, sponsored by ME DEP and EPA, Reg 1, held in Portland ME on Dec 4-5, 2012, report forthcoming.
  Day 1 focused on presentations on various oil sands products including chemical properties, toxicology, fate behavior in fresh vs. marine waters. Day 2 concentrated on the key issues in Maine using different scenarios and spill responses. Workshop agenda and presentations available at: http://crrc.unh.edu/workshops/oil_sands/index.html
- Institute for Oil Spill Response and Restoration Education (IOSSRE) at the University of New Hampshire – draft informational page attached.
- Link to Arctic ERMA>> https://www.erma.unh.edu/arctic/erma.html
  Arctic Feb 12-13 in Edmonton

- Will be running another workshop in March bringing together folks from Gov and state agencies with researchers doing dispersant work. During week of **March 11, 2013**. Purpose of workshop; bring together folks from State, fed, NGOs, etc. to hear what folks are doing for research. What they are finding and thinking through actual response. Not only Gulf use, but dispersants in general.
- UNH is setting up a new institute, primarily with and education function. Goal is to educate graduate students, public and decision-makers.

NEXT STEPS

1. Send edits and comments on draft summary notes to Sarah by **January 10, 2013.**
2. Post meeting notes on Oil Spill Task Force website by January 15, 2013 (Sarah)
3. Follow up with R&D workgroup periodically throughout the 2013 year to keep tabs on new and emerging projects, events, and reports. Share these with R&D workgroup and Pacific States/BC Oil Spill Task Force members. (Sarah)
4. Schedule 2013 R&D Workgroup conference call in early November 2013 (Sarah/Judd).