

U.S. Department of
Homeland Security

United States
Coast Guard



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16452
14 Dec 2022

MEMORANDUM

From: LCDR C. J. Graham
Executive Director, Interagency Coordinating
Committee on Oil Pollution Research

To: Members, Interagency Coordinating Committee on Oil Pollution Research (ICCOPR)

Subj: FY 2023 FIRST QUARTER ICCOPR MEETING MINUTES

General: ICCOPR members, member agency representatives, and invited guests met via Microsoft teams on Wednesday March 23, 2022. LCDR Cliff Graham (USCG) called the meeting to order at 9:00am and it continued until 11:25am. LCDR Graham (USCG) reviewed the agenda (Enclosure 1). Representatives of ICCOPR agencies that were in attendance via phone and/or video were:

CAPT Trey Wirth, ICCOPR Chair, USCG
Mr. Aaron Parker, ICCOPR Vice Chair, NOAA
LCDR Cliff Graham, Acting ICCOPR Executive Director, USCG
CAPT. Greg Hall, USCG
CDR Tracy Wirth, USCG
Ms. Kirsten Trego, USCG
Mr. Alex Balsley, USCG
Ms. Karin Messenger, USCG
Mr. Marion Lewandowski, USCG
Dr. Benedette Adewale, USCG
Mr. John Tarpley, NOAA
Dr. Robyn Conmy, EPA
Dr. Kiara Lech, EPA
Dr. Zhen Li, BOEM
Dr. Eric Miller, BSEE
Dr. Karen Stone, BSEE
Dr. Steven Wong, DOE
Dr. Sailendra Mahapatra, DOE
Mr. Barry Forsythe, USFWS
Mr. Robert Smith, PHMSA
Ms. Jo Ellen Hinck, USGS
Mr. Brendan Booker, USACOE

Guests:

Norwegian Coastal Administration

1. Welcome and ICCOPR Opening Remarks

Capt. Wirth (USCG) and Mr. Aaron Parker (NOAA) opened the meeting and welcomed both ICCOPR members and guests. They reported out agency updates and expressed their gratitude and appreciation for the guest speaker's support to ICCOPR.

2. General Updates/Announcements

LCDR Graham (USCG) provided general updates to ICCOPR and went over ground rules for the meeting. Introduced Mr. Rune Berstrøm, Norwegian Coastal Administration (NCA), to kick off guest portion of meeting.

3. Norwegian Coastal Information – R&D Activities

Mr. Rune Berstrøm, provided an overview of the research conducted over the past five years, which includes a total of 80/86 completed R&D projects, 20 ongoing projects, and participation in 50 external projects:

- NCA Action Plan for R&D for 2018-2023
 - Annual prioritizing and budgeting
 - Improving operational capabilities (lowest ecological impact)
 - Improving equipment or methods
 - Surveillance, e.g. leaking World War II wrecks, integration of sensor data, new potential pollutants carried on board ships
 - Efficient action management & decision support tools
 - Logistics
 - Environmental vulnerability

4. Norwegian Governmental Forum for Cooperation on R&D Concerning Oil Spill Response (the forum)

Ingvild Liland, Senior Advisor at the NCA, provided an overview of ongoing coordination efforts relating to R&D through a new and developing governmental forum:

- Established in 2020 and inspired by USCG & ICCOPR the forum, which is composed of the NCA and the Norwegian Environmental Agency, is focused on promoting more environmentally friendly and efficient national oil spill preparedness and fostering coordinated research efforts.
- R&D conference consisting of a mix of presentations, workshops, and dialogue, with an emphasis on knowledge gaps and research needs, is held annually regarding research topics closely related to the focus of the NCA action plan such as clean-up efficiency and improving clean-up operations
- Next steps for the forum include creating the 2023-2027 Action Plan, finalizing a research database containing research publications (English version available in around January 2023)

5. Improving Response Capabilities and Understanding the Environmental Impacts of New Generation Low Sulphur MARine fuel Oil Spills (IMAROS) Project

Ms. Siljie Berger provided a background and results of the IMAROS project, which was conducted from 01JAN2020 – 30JUN2022 in order to examine the range of products that constitute the new ultra low Sulphur fuel oil (ULSFO) and very low Sulphur fuel oil (VLSFO).

- Project partners from six (6) European countries and SINTEF: Norway, Belgium, Denmark, Malta, Sweden, and France
- The project was composed of four (4) work packages (WP):
 - WP1: Project Management
 - WP2: Compilation of knowledge
 - WP3: Chemical Characterization
 - WP4: Response Options
- The results of the project provide insight and data on the flammability, persistence at sea, potential density, pour point, ecotoxicity, mechanical recovery, dispersibility, burning efficiency, adhesion to shoreline of ULSFO and VLSFO. Highlights included:
 - How relatively high pour points of ULSFO and VLSFO present a challenge to skimming operations
 - ULSFO and VLSFO seeped into the granite test tiles rather than only adsorbing to them like other oils, which indicates the oil may penetrate bedrock
 - Aquatic toxicity is within the range observed in traditional fuel oils
 - Further research needed
- IMAROS deliverables are online:
 - <https://www.kystverket.no/oljevern-og-miljoberedskap/forskning-og-utvikling/imaros/rapporter-fra-imaros>
- IMAROS seven (7) minute summary video:
 - <https://www.youtube.com/watch?v=oe0ppJewjtl&t=5s>

6. Oil Spill Response Viability in Norwegian Waters (Norwegian COSVRA)

Mr. Rune Berstrøm, provided an overview of the oil spill response viability analysis for Norwegian marine waters, which is a qualitative assessment of (statistically) how often defined oil spill response systems can operate successfully based on historical data for wind, waves, visibility, temperature, and sea ice. The analysis indicates the seasonal and geographical viability of each of the defines spill response methods and systems in relation to weather and sea states as well as determining what factors are limiting. The analysis is also being used in order to produce the ability to forecast sixty-six (66) hours into the future in order to inform operations during an incident and plan ahead.

7. Emergency Preparedness and Response Analyses 2021

Mr. Rune Berstrøm, provided an overview of the Emergency Preparedness and Preparedness and Response analysis. The purpose of the analysis is to ensure that the NCA's preparedness is adapted to the environmental risk at any given time, with environmental risk defined as the probability of accidents with oil spills in an area multiplied by that environment's vulnerability (sensitivity). Goals include:

- Setting requirements for basic preparedness
- Set more strict requirements for emergency preparedness for areas with elevated environmental risk
- Identify gaps between current preparedness and desired preparedness
- Recommend and prioritize measures to reduce knowledge gaps

8. Oil on Water Trials 2022

Ms. Siljie Berger and Bjørn Frost provided a summary of the results of the Oil on Water trials conducted at sea in cooperation with the Norwegian Clean Seas Association for Operating Companies (NOFO) and the NCA. The trials took place in the North Sea close to the border to the United Kingdom in an area that has oil infrastructure. Participants included Kystverket (NCA), NOFO, Tiepont, SINTEF, Kongsberg Satellite Service, Metocean, FURUNO, Norbit Aptomar, and the Norwegian Meteorological institute. The objective was verification of methods and equipment as a final step that the response operations planned for an oil field (NOFO) or results from an R&D initiative (NCA) are working, specifically:

- Study the flow and recovery of crude oil emulsion with high wax content/high pour point
- Mechanical recovery of a VLSFO with a brush skimmer and an adhesive band skimmer
- Behavior and natural dispersal of a 10m³ Marine Gas Oil (MGO) slick over time (compare to a modeled outcome)

9. Stratus 2000-LT Helicopter Dispersant System

Mr. Tor Age Thomassen from the department for logistics and technology in Svalbard provided an overview of an improved method to deploy dispersant from a helicopter in arctic (-20°C) conditions. The experiment emulated varying conditions, such as different load capacities. The main goal of the project is to configure a system with low weight and high aerodynamics loaded and unloaded with dispersant. A fully operational system is anticipated to be completed in summer 2023.

10. ICCOPR R&D Update

5-minute R&D updates were provided by all participating agencies.

- CAPT Wirth - USCG, provided updates on the national review panel results of the review of the thirty-seven (37) coastal ACPs along with the plan to update the ACPs to the new standardized format architecture. Comment period closes 09JAN2023. APT Wirth also provided updates on work done by USCG and BSEE at OHMSETT, as well as the SSDI Work Group updates and the ICCOPR Executive Director position
- Ms. Bernaette Adewale – USCG RDC, provided updates on the following research being conducted by the USCG RDC:
 - Behavior of Diluted Bitumen (Dilbit) in Fresh Water study with the report expected in summer 2023
 - Emerging Pollution Response Technology Evaluation, which qualitatively compares several sorbent pads and how their oil-retaining dynamics with a report expected in spring-summer 2023
 - Maritime Environmental Response Common Operating Picture, to develop a dashboard prototype that displays the habitat ranges of species listed under

Endangered Species Act (ESA) section 7, incorporated into the NOAA Environmental Response Management Application (ERMA) and include limited OILMAP oil spill simulation data for testing and proof of concept. Report is expected in September 2023

- Nearshore and Inland Evaluation of the Estimated Recovery System Potential (ESRP) Calculator, used to estimate recovery system potential nearshore and inland. A review of the ESRP was completed in September 2022. Next steps are to obtain feedback from other groups e.g., EPA OEM
- A new project starting in 2023 called the Hazardous Substance Pollution Response Technology Analysis looks to address
 - Hazardous substance pollution risk knowledge gaps in ACPs
 - Identify and inventory existing hazardous substance response technologies, capabilities, and resources
 - Enhance Captain of the Port (COTP) and Federal On-Scene Coordinators (FOSC) response capabilities
 - Support inclusion of hazardous substance release response resources in facility and vessel response plans
- Dr. Lisa DiPinto- NOAA, provided updates on three (3) projects:
 - Coordinating Recent Advances in Estimating and Measuring Oil Slick Thickness (CAMPRI) Dispersant Field Trials: Special Monitoring of Applied Response Technologies (SMART) Protocol Implementation in tandem with Remote Sensing and Remote Operated Vehicle (ROV), which investigates the behavior when dispersant is applied. The project utilizes tier two (2) protocols (fixed point fluorometry) at one or two different depths below the water surface in conjunction with multispectral sensor equipped overflight to monitor the size and/or disappearance of the plume before, during, and after dispersant application as well as deployment of a commercial, off-the-shelf ROV equipped with a fluorometer and water sampling capability.
 - CAMPRI In-Situ Burn (ISB) Field Trials: ISB SMART Protocol Implementation in Tandem with Unmanned Aircraft System (UAS) Based Smoke Plume Characterization and Mapping, which will fly a small portable air sampler with various sensors that will be deployed in and around the smoke plume in order to better characterize and model smoke plumes. Experiments are scheduled in August 2023
 - Research in Ice Environment, which looks to better characterize oil in arctic environments as well as ice mapping and mapping of marine mammals. The report will be available through the USCG RDC website
 - Planned projects at the National Center of Excellence (NCOE) include:
 - Advancing detection capabilities for monitoring oil spills in Great Lakes ice environments
 - Transitioning research into application for oil spill response and assessments
 - Operationalizing use of UAS and ROV for environmental response
 - Environmental Response Management Application Enhancements

- Ms. Jo Ellen Hink- USGS, provided an update on the funding of upcoming proposed projects, and requested from other ICCOPR members about Environmental Mapping that takes into account Environmental Justice (EJ). BOEM mentioned their environmental impact studies in Alaska of potential environmentally vulnerable areas and will provide offline. EPA also mentioned their program office that focuses on EJ.
- Ms. Robyn Conmy- U.S. EPA, provided updates on several publications by EPA on dispersants, toxicity, and aquatic hazard concentrations as well as work with MPRI
- Ms. Kate USACE- Will provide support wherever they can, especially facility-based experiments with oil and ice. Just completed ISB tests with BSEE at Ohmsett
- Mr. Barry Forsythe, USFWS – Barry is now acting Chief, Branch of Environmental Response & Restoration until mid-late NOV 2023
- Mr. Steven Wong- DOE, provided a briefing on the subsea systems institute. The purpose is to focus on offshore energy development including improving sustainable safe development particularly in the Gulf of Mexico.
- Mr. Eric Miller- BSEE, provided a few BSEE announcements, specifically a change in organization layout. Response branch now broken into 2 sections, response and Ohmsett. Also advertised 2 hiring announcements for project managers and physical scientists. Mr. Miller provided information about the new BSEE burner and invited participants to observe upcoming demo.
- Dr. ZHEN Li, BOEM - provided updates for projects, specifically updating BOEMS environmental sensitivity methods and models to support oil, gas, and wind energy development as well as exploring impact of dielectric fluid impacts due to potential offshore wind energy farms discharging into the ocean
- Ms. Karen Stone, BSEE- updated on the recent BSEE research advisory board, which advises on what proposals should get funded. Ms. Gina Coelho is retiring from federal service on 16DEC.
 - Frank Curado provided updates for Ohmsett,:
 - Testing and Evaluation Highlight: Balaena Self-propelled Skimmer 14-18NOV2022, which assessed potential enhancements, and marine debris recovery (nurdles)
 - Testing and Evaluation Highlight: Testing Expertise and Marine Energy (TEAMER)- University College Cork (UCC) – BSEE will be hosting in FEB2023 for research on a Ocean Energy Buoy
 - Provided input on how partners can do business with BSEE through SAM.gov, keyword ‘BSEE’
 - Ohmsett campus restoration, including the recent main bridge restoration and reconceptualizing upgrading other structures in order to improve the facility as a whole
 - Ms. Kristi Mckinney provided updates on two projects:
 - The Testing of oil Spill Technologies (TOST) program, initiated in 2022 with the goal to bring stakeholders and partners to meet a mandate in OPA 90 to evaluate and test technologies developed independently of the ICCOPR. The program aims to fund research, verification tests, or equipment from contingency plans. Opportunities will be posted on SAM.gov as they arise. Past work includes the joint BSEE/USCG RDC testing of innovative sorbents. In 2023, BSEE will work with USCG on

several topics including di-electric fluids and how they behave with current response equipment

- BOWHEAD Ice Management System- project awarded in JUN2022 to advance the BOWHEAD Vessel Ice Management System to recover oil more efficiently in an ice environment using a over-the-side deployed mechanical system. Comparative testing is scheduled in 2023, and will seek to obtain qualitative data to compared to OSRO’s current capability.
- Dr. Jay Cho, BSEE- provided updates on Slick Thickness Characterization based on Low Noise, Polarized Synthetic Aperture Radar (SAR). The objective is to evaluate the capability of low noise L-band (1.26GHz) SAR imagery to characterize oil slicks by thickness, both relative and quantitative, including the effects of wind and sea state and to determine the oil to water ratio of surface oil. This was done on board an aircraft and UAS. The final report will be published to the BSEE website in JAN2023.
- Ms. XXXX, DOE National Energy Technology Laboratory (NTL)- provided an update on three (3) projects:
 - Advanced Infrastructure Integrity Model (AIIM), which utilizes big data, big data computing, multiple learning (ML), spatial-temporal, and advanced analyses to evaluate the current state of offshore platforms, pipelines, and wells. DOE is now able to ingest other environmental loading data as well as wind data and has expanded to integrate pipeline data from PHMSA to evaluate infrastructure integrity and potential future use. The data is envisioned to be released through an online dashboard
 - Climatological Instantaneous Isolation and Attraction Model (CIAM). Updates included testing of outside ocean dynamic models
 - Ocean & Geohazard Analysis (OGA) Smart Tool Workflow, and DOE will provide access to the tool for any ICCOPR members who would like to test

7. Closing Comments and Meeting Adjournment

- Mr. Aaron Parker expressed his appreciation for agency input for ICCOPR. LCDR Graham expressed his thanks, and offered to be the POC for anyone who wishes to collaborate. LCDR Graham also addressed the results of the future ICCOPR meetings (virtual vs in-person).
- The next quarterly ICCOPR meeting as well as the FY23 Q1 Busniess session are TBD

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Enclosures: (1) Meeting Agenda
 (2) UNH CRRC Presentation Slide Deck