



# Acquisition Directorate

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## Research & Development Center

# U.S. Coast Guard Research and Development Center Oil Spill Response Projects

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UNCLAS | USCG RDC Projects Update  
Alexander Balsley | RRT1 & RRT2 Fall Meeting  
October 31, 2018



# RDC FY19 Project Portfolio



**Available at:** <https://www.dcms.uscg.mil/Our-Organization/Assistant-Commandant-for-Acquisitions-CG-9/Research-Development-Test-and-Evaluation/Research-and-Development-Center/>

...or **Google** “Coast Guard RDC FY19 Project Portfolio”

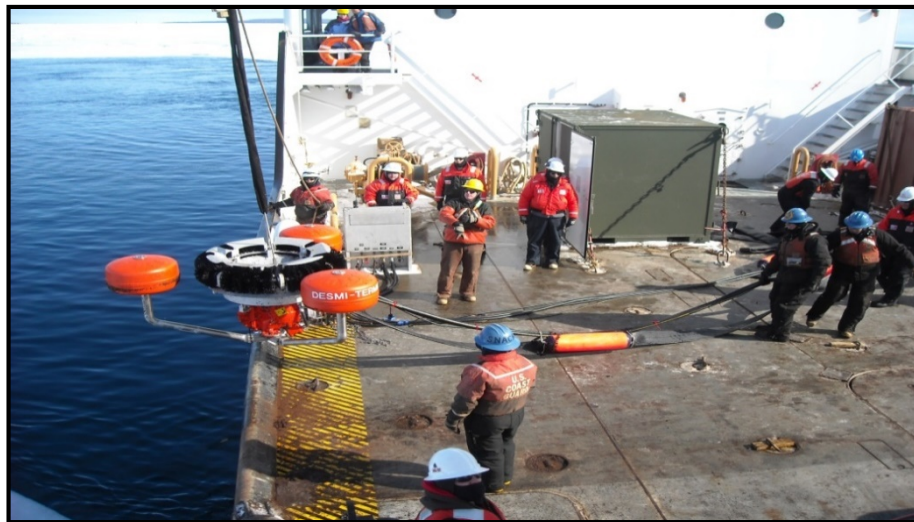


# Market Research of Spilled Oil Recovery System (SORS) and Vessel of Opportunity Skimming System (VOSS) Technologies (Project 4212)



**Mission Need: Replace legacy SORS/VOSS systems with the state-of-the-market, logistically supportable technology.**

- New effort for FY19, overall objective is to research the state-of-the-market for potential technologies that can replace current SORS and VOSS equipment
- Report will help CG-MER to develop a procurement strategy for replacing SORS and VOSS equipment



# In-Situ Oil Burn Research (Project 47041)



**Mission Need: Testing and evaluation of operational tools for using In-Situ Burn (ISB) as a response option.**

- Major improvements implemented
  - Wave generator back online
  - Observation platform, office space, erosion mats
- Full Operational Capability (FOC) burn demonstration
  - September 19, 2018
- Determine path forward for interagency cooperation on ISB research





# FOC Demonstration Burn



# Oil Sands Products Spill Response (Project 4705)



**Mission Need: Develop enhanced decision tools and recovery/mitigation tools for responding to spilled oil sands products.**

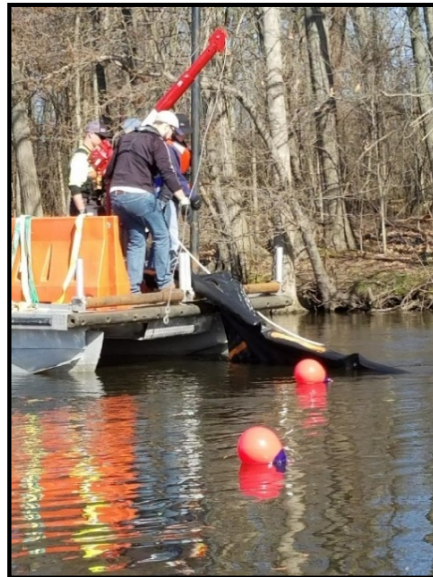
- White paper on skimmer tests with dilbit at Ohmsett available, please contact me for a copy
- Mitigation of sunken oil moving along the bottom
  - Inland/offshore barrier field tests occurred last April/May
  - Plans are underway to develop and deploy third prototype in Kalamazoo River in April 2019 (second inland barrier test)



# Oil Sands Products Spill Response Field Tests in Michigan (April/May 2018)



## Inland test (Kalamazoo River)



## Offshore test (Lake Huron)





# Oil Spill Response Emerging Technology Assessment (Completed FY18)



**Mission Need:** A process for the evaluation of proposed oil spill response technologies for the Coast Guard's use and determination of their technology maturity and economic feasibility.

- Tool to help Coast Guard Office of Marine Environmental Response Policy (CG-MER) assess new and emerging spill response technologies with TRL of 7 or above





# Nearshore and Inland Evaluation of the ERSP Calculator (Project 4710)



**Mission Need: An Estimated Recovery System Potential (ERSP) calculator to include response systems for the entire nearshore and inland operating environment.**

- Contract recently awarded to an environmental consulting company with strong modeling background
  - Investigate factors influencing oil spill response planning for inland environments
  - Determine what features and factors that inland ERSP should include (requirements)
  - Develop ERSP calculator conceptual model
  - Develop algorithms/architecture of the ERSP calculator



# Arctic Technology Evaluation 2018



- RDC team carried out technology evaluations in Prudhoe Bay, AK last July in close coordination with Alaska Clean Seas (ACS)
  - Tested variety of Unmanned Aerial System (UAS) platforms for Search and Rescue operations and communication/observation system network for remote locations with Man Pack Unit 5 (MPU5) radios
- Brief oil spill exercise included remote oil sampling with Swellpro Splash Drone and an unmanned surface vehicle (“Minion”)
  - Used ACS-approved red dye for oil simulation (vegetable based)
  - Observed by AeroVironment PUMA unmanned aircraft system
  - Attended by USCG D17 Intelligence and Response Enforcement offices, American Chemical Society, BP, and Conoco Phillips representatives
- After Action Report to be released December 2018



# Arctic Technology Evaluation 2018



Unmanned surface vehicle (“Minion”) with Splash Drone on top





# Arctic Domain Awareness Center (ADAC)



- Woods Hole Oceanographic Institution (WHOI) and Monterey Bay Aquarium Research Institution (MBARI) working on a Tethys Long Range Autonomous Underwater Vehicle (LRAUV) to operate in high-latitude (icy) environments that can detect oil under ice
  - Sea-Bird SeaOWL UV-A sensor (in-situ fluorometer)
  - Recently performed open water test in Monterey Bay, CA to test navigational and mapping capabilities





# Other Things...



- Arctic Technology Demonstration 2019
  - Potential partnerships with USCG RDC to test oil spill response technologies/strategies from USCGC Healy in July to October timeframe
- MOU with Oil Spill Recovery Institute (OSRI)
- FY20 project portfolio
  - Assessment of Prospective Portfolio (APP) Review scheduled for February 20-21, 2019





# Questions?

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