



Offshore Oil Spill Preparedness in the U.S.

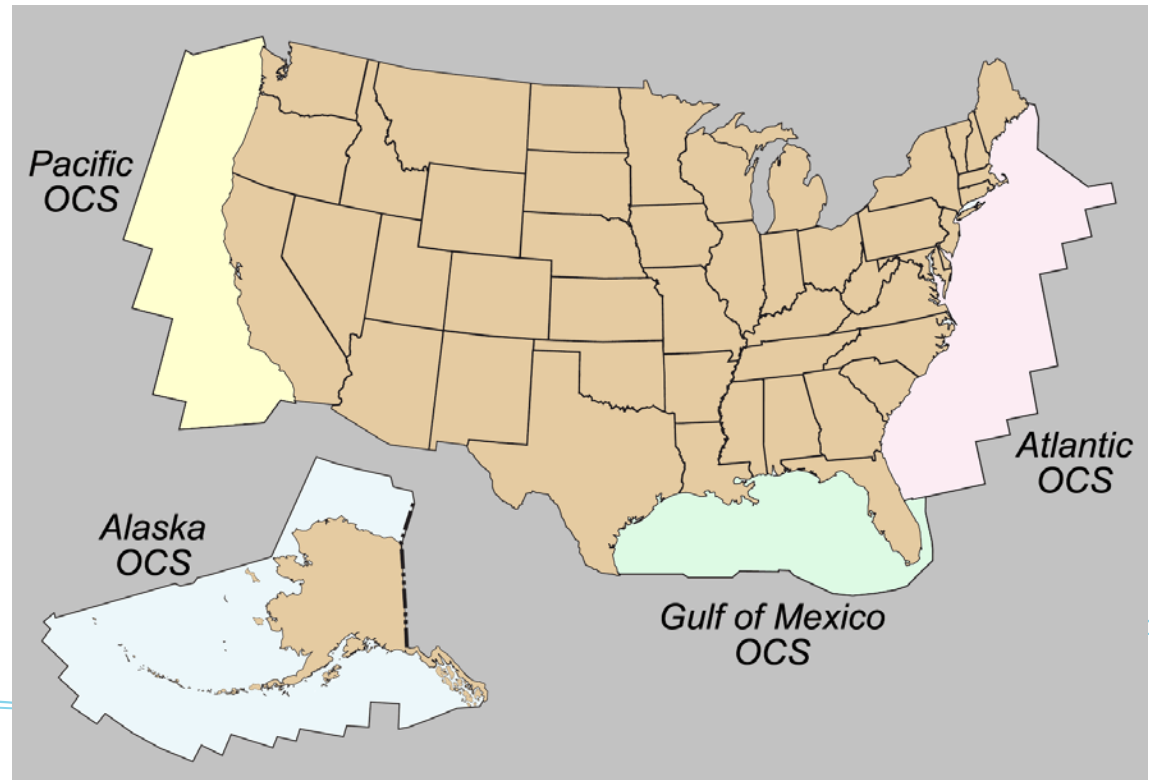
PHMSA Workshop on Oil Spill Planning and Response
Tuesday, 12 April

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Organization and Jurisdiction



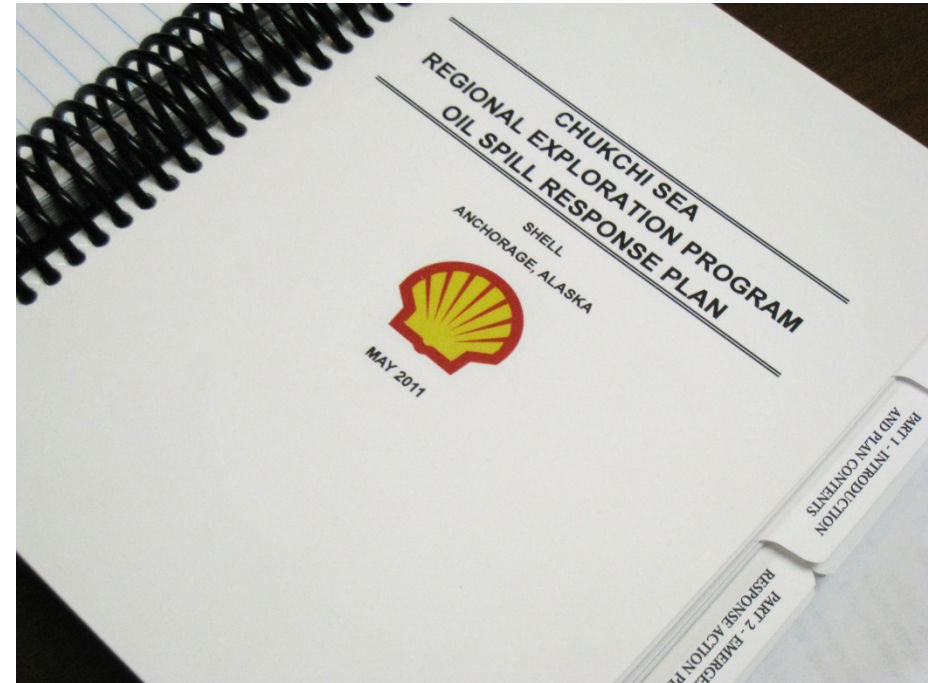
- Bureau of Safety and Environmental Enforcement
- Oil Spill Preparedness Division
 - Authority
 - Jurisdiction
 - Staffing
 - Key Functions
 - Policy
 - Preparedness
 - Research



Oil Spill Response Plans



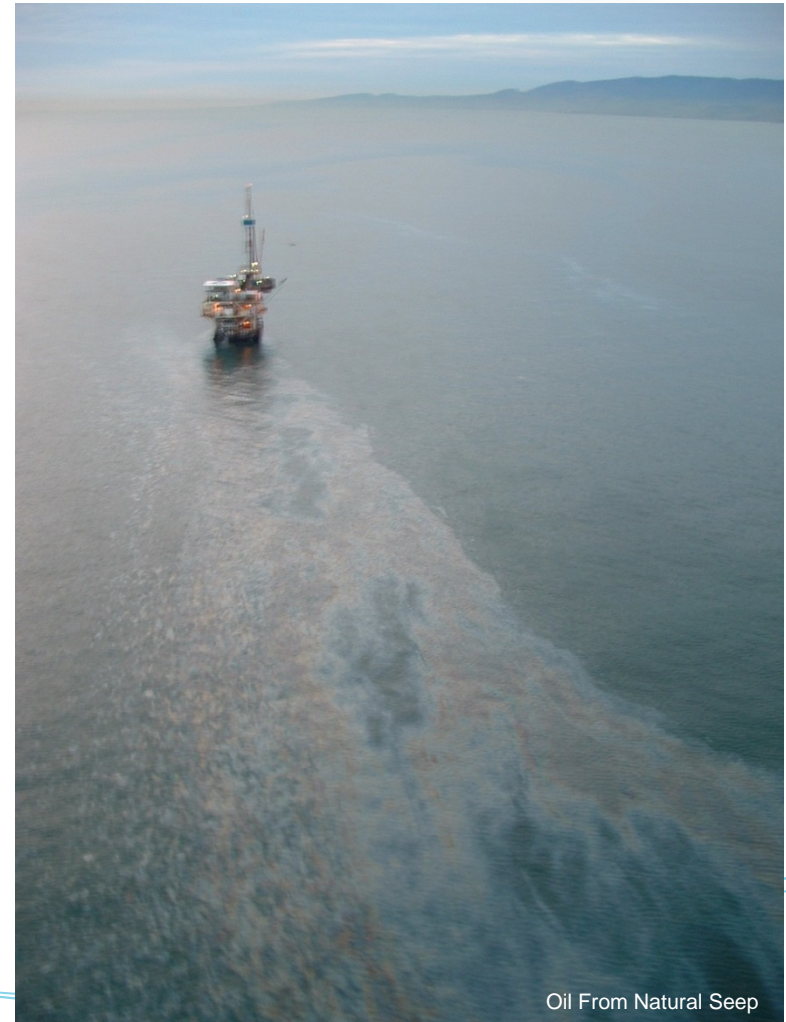
- Covered Facilities
- Types of Plans
- National Plan Consistency
- Key Components
 - OSRO Contracts
 - Command Structure
 - Sensitive Resources
 - Worst Case Discharge Scenarios
- Life Cycle



Worst Case Discharge Scenarios



- Selection Criterion
- Scenario Requirements
 - Volume
 - Trajectory Analysis
 - Protection Strategies
 - Response Equipment
 - Responding in Adverse Weather
 - Personnel and Support Vessels
 - Oil Storage



Oil From Natural Seep

Response Planning Standards



- Effective Daily Recovery Capacity
- Estimated **Recovery** System Potential (ERSP) Calculator
- Estimated **Burning** System Potential (EBSP) Calculator
- Estimated **Dispersant** System Potential (EDSP) Calculator
- Recovery System Evaluation Tool (ReSET)
- <http://www.bsee.gov/About-BSEE/Divisions/OSPD/index/>



Estimated Recovery System Potential (ERSP) Calculator v-160225

The ERSP, EBSP, and EDSP Calculators are intended as planning tools for estimating the potential of different oil spill response systems to mitigate (recover, burn or disperse) discharged oil relative to one another. These planning tools are NOT intended to be used as models for calculating system performance during an actual oil spill, which is affected by many factors such as the distribution of oil on the water surface, oil weathering, and other ambient onscene conditions which are not included in these Calculators.

Name of Simulation:

Oleophilic Skimming System

Discharge Type:

Continuous Spill

Batch Spill

Simulation Details:

Encounter Rate

Operating Period [hrs]:

12

Speed [kts]:

1

Swath [ft]:

50

Recovery

Maximum Total Fluid Recovery Rate [gpm]:

2000

Throughput Efficiency [%]:

75

Recovery Efficiency [%]:

75

Storage

On-Board Storage [bbbl]:

2000

Percent Decant [%]:

45

Decant Pump Rate [gpm]:

800

Offload Rig + Derig Time [min]:

30

One Way Transit Time to Offload[min]:

30

Discharge Pump Rate [gpm]:

1500

Calculate

Simulation Notes:

If the entered Swath > MES, the calculator uses the Swath = MES for that day.

Estimated Recovery System Potential (ERSP)
(Total Volume of Oil Recovered in Operating Period)

Operating Period 1
2,103 bbl

Operating Period 2
760 bbl

Operating Period 3
254 bbl

3-OP Total
3,117 bbl

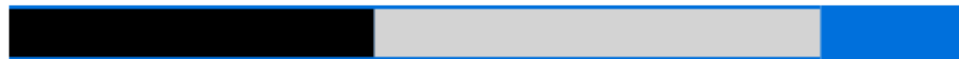
Operating Period 1 Thickness = 0.1 in. Emulsion = 35% Total Recovered and Retained Fluids = 3,829 bbl

 Oil = 2,103 bbl (55%)  Water in Emulsion = 1,132 bbl (30%)  Retained Free Water = 594 bbl (16%)



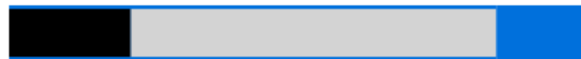
Operating Period 2 Thickness = 0.05 in. Emulsion = 55% Total Recovered and Retained Fluids = 2,000 bbl

 Oil = 760 bbl (38%)  Water in Emulsion = 929 bbl (46%)  Retained Free Water = 310 bbl (16%)






Operating Period 3 Thickness = 0.025 in. Emulsion = 75% Total Recovered and Retained Fluids = 1,201 bbl

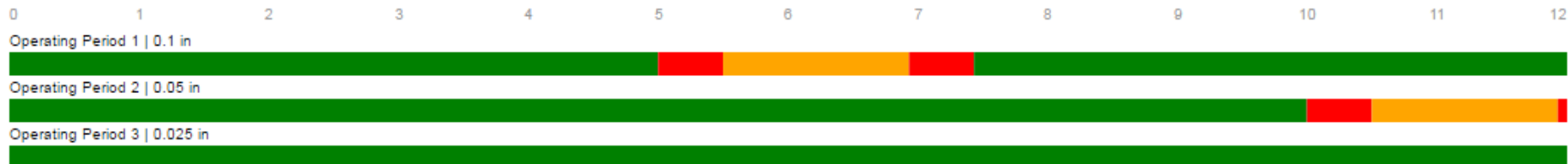
 Oil = 254 bbl (21%)  Water in Emulsion = 761 bbl (63%)  Retained Free Water = 186 bbl (16%)



Recovery Cycle Timeline

 Skim Time  Transit Time  Offload/Rig Time

Operating Period [hrs]



Exercises and Training



- Activity Levels
- Coordination
- Procedures
- PREP
- NEPA and ESA
- Lessons Learned



Oil Spill Response Assets and Verification



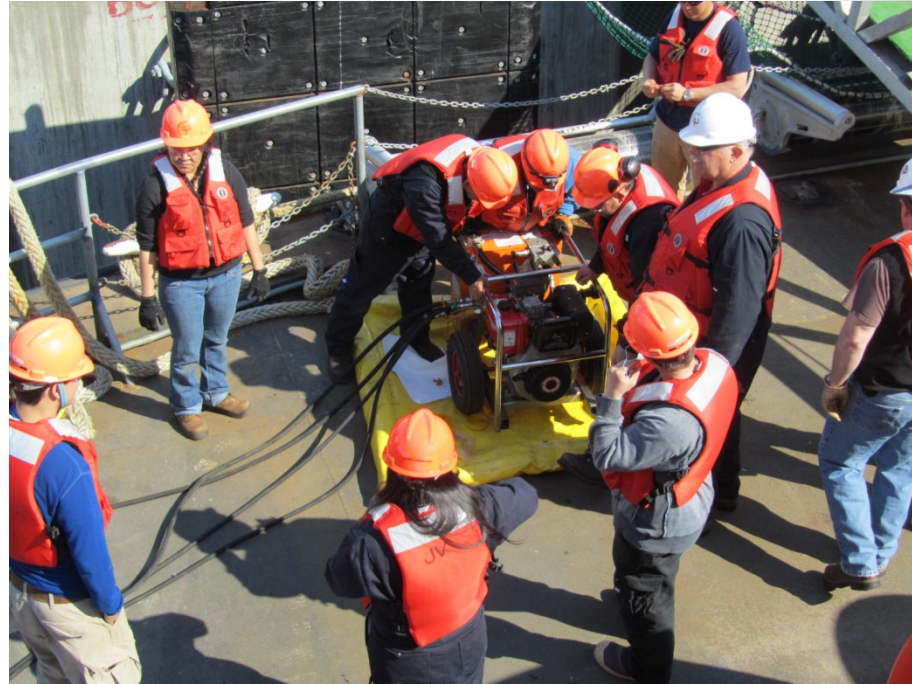
- Oil Spill Removal Organizations
- Equipment Types and Distribution
- Equipment Verification Visits
 - Visual Inspections
 - Deployment



Responder Training and Exercises



- Training
 - Classroom
 - Hands-on
- Exercises
 - Table Top
 - Deployment

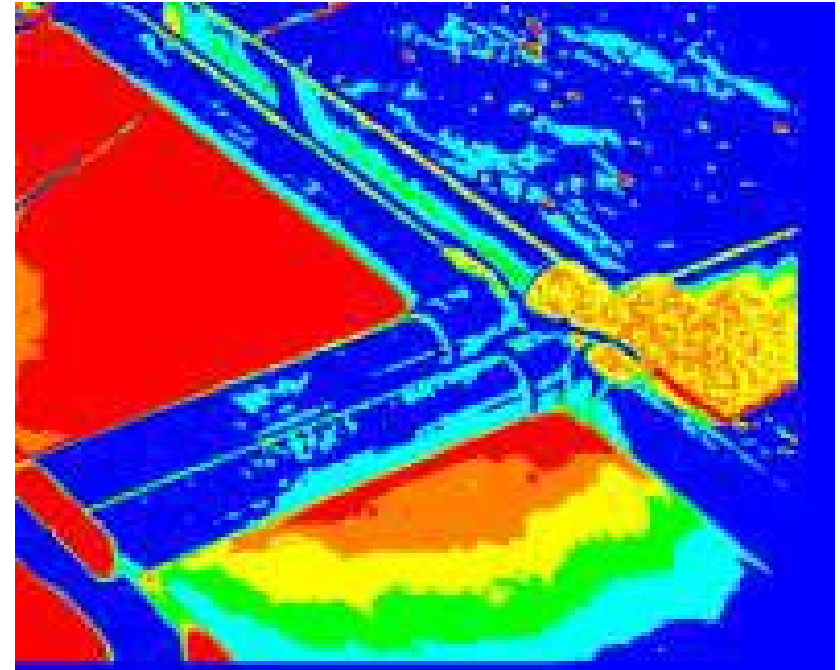


- Government Initiated Unannounced Exercises
- National Preparedness for Response Exercise Program

Oil Spill Response Research



- Activity Level and Trends
- Research Coordination
- Funded Research
- OSPD Research
- Initiatives
 - Peer Review Program
 - Research Follow on Work
 - Internal and External Information Transfer



Current Oil Spill Response Research



- Oil Detection Sensors in Low Light
- Benign Oil Simulants
- Smart Skimming Technologies
- AUV Glider for Hydrocarbon detection
- Dispersant Drift Models
- Offshore Oil Burns
- Ranking Worst Case Discharge Scenarios
- Airborne Oil Spill Remote Sensing
- Crude Oil Combustor
- Quantification of In-Situ Burn Volumes
- Assessment of Wellhead Burning
- Blowout Volume Estimation Video Tool
- Submersible Skimmer Delivery System

Ohmsett – The National Oil Spill Response and Renewable Energy Test Facility





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