Acquisition Directorate

Research & Development Center

Alternative Response Technologies Evaluation System （ARTES）

Deepwater Horizon Response

RRT I, September 8-9, 2010

RDC | Kurt Hansen

Improving Response by Leveraging Technology

- **ARTES History**
- **ARTs Deepwater Horizon**
  - Objectives
  - Organization
  - Processes
  - Numbers
- **IATAP Comparison**
- **Example Technologies**

NOAA ARTES (started by Morris J. Berman Spill in 1994)

Purpose and Function by NOAA:

Evaluate the use of new appropriate technologies to address operational needs in spill response.

Emphasis on other than mechanical cleanup methods (but not excluded), that can be employed to address an oil spill.

Help and not hinder operations and FOSC

"It is designed to evaluate potential response tools on their technical merits, rather than on economic factors. ARTES is designed to work in concert with the **National Contingency Plan (NCP) Product Schedule** and the **Selection Guide for Oil Spill Applied Technologies**".

http://epasg.genwest.com/#

ARTES History

- Developed by RRT2 and 3 and adopted nationally
- Address new technologies pre-response of during event
- Operational need driven during event
- Not a substitute for R&D (use of OSLTF is limited)
- Background/ and forms at http://response.restoration.noaa.gov

ARTES During Deepwater Horizon

Provide a mechanism for the evaluation and use of appropriate technologies, new, improved and emerging, to address operational needs in spill response.

- Establish a system to gather and categorize new ideas from public.
- Institute technical review teams to evaluate and rank technologies within specific categories.
- Prioritize technologies to address operational needs.
- Establish and implement testing protocols.
- Conduct tests and provide feed-back to Command.

ARTES During Deepwater Horizon

Specific tasks

- Handle all ideas entered in multiple ways
  - ARTES database – direct submissions & BP call center
  - Operations & field-derived (sometimes only documentation)
  - VIP submissions – inputs received at Unified Area Command and Incident Commanders
  - “Open House” Meetings held at parishes
- Coordination with Federal Interagency Alternatives technology Assessment Program (IATAP)
- Coordinated with operational needs
- Assisted with environmental permitting issues

Timeline

April 20 - Platform Explodes

April 27 - Houston Call Center starts

May 2 - RDC representative arrives at ICP Houma

Early May - Teleconferences (3X/week) begin

May 12 - NOAA CA/OSPR Personnel arrive

May 20 - High Interest Technology Testing (HITT) Strike Team established (arrives in Mobile 1 June)

May 25 - Initial sorbent boom testing

June 4 - IATAP announcement

June 23 - Biological and Chemical Technology Strike Team established

July 15 - Well is shut in

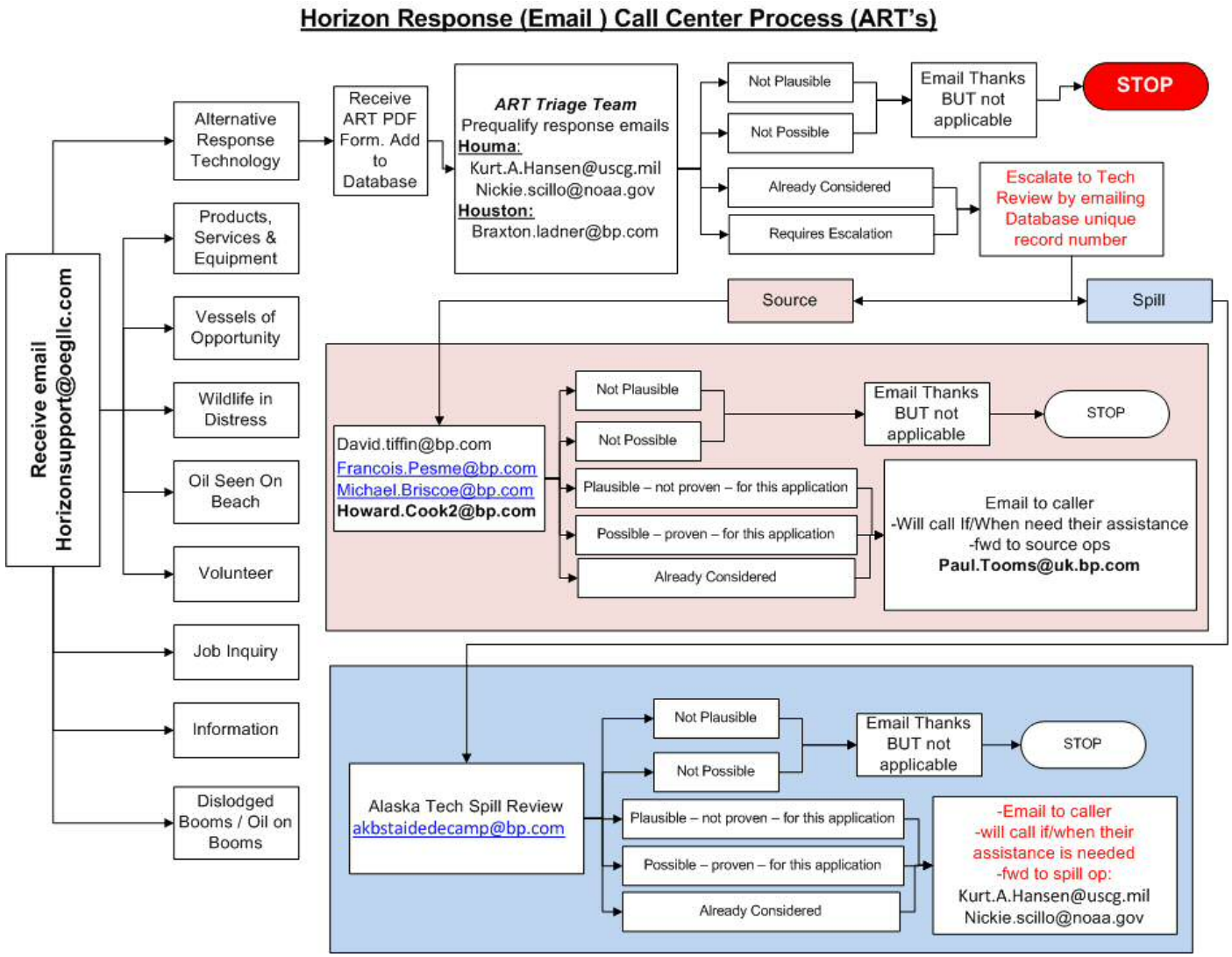
July 27 - Final 41 technologies identified for evaluation (some desktop eval)

November - Transition to Gulf Cost Restoration Organization

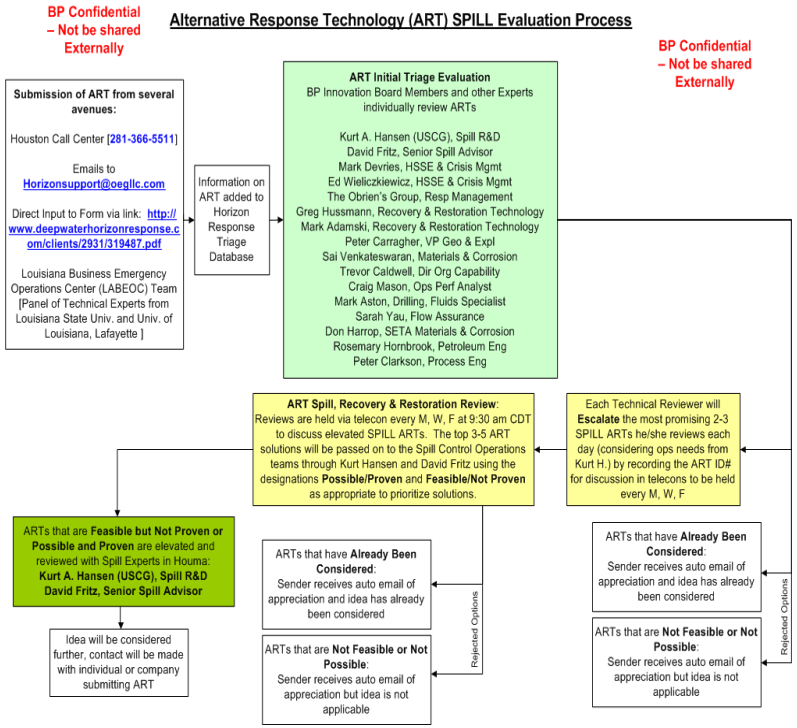
ARTES organization

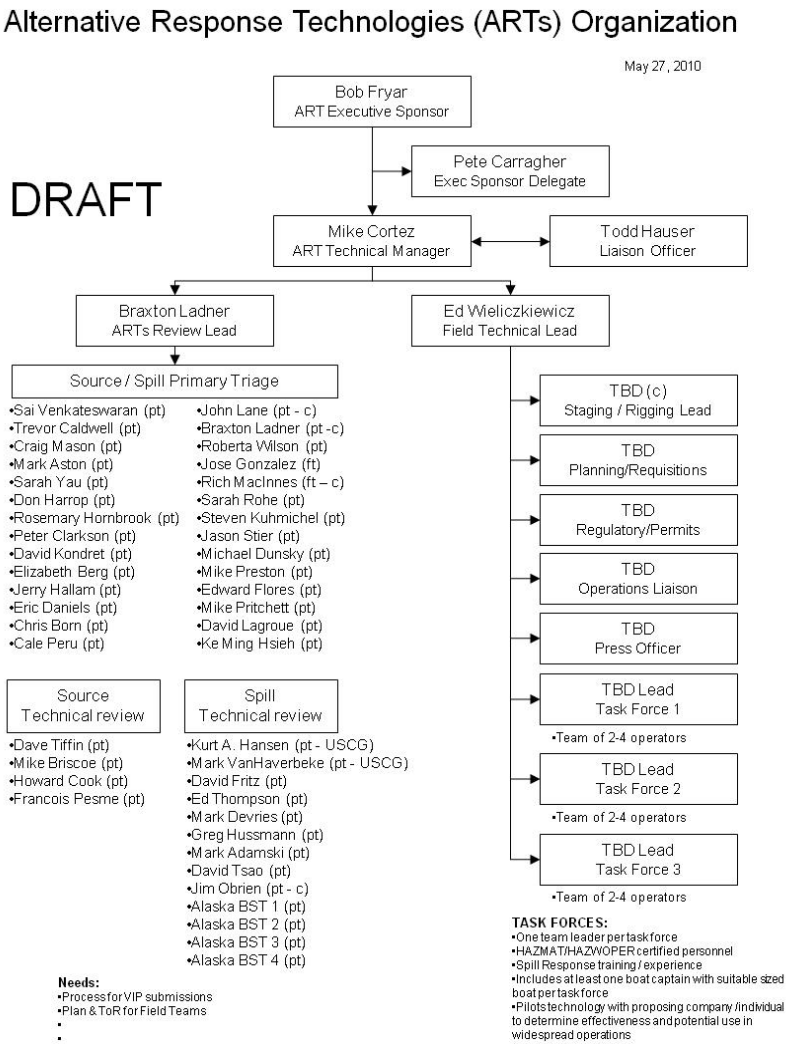
- Database Management and Coordination – in Houston
- Triage: Primary, Secondary, Tertiary - virtual
- Houma ARTES Team (USCG, NOAA, (CA and WA reps) organized under ICP)
- High Interest Technology Team (HITT – BP team with USCG representation)
- Strike Teams as needed (Bioremediation)
- Liaison Officers: ICP Houma and Mobile, Unified Area Command and IATAP Coordination

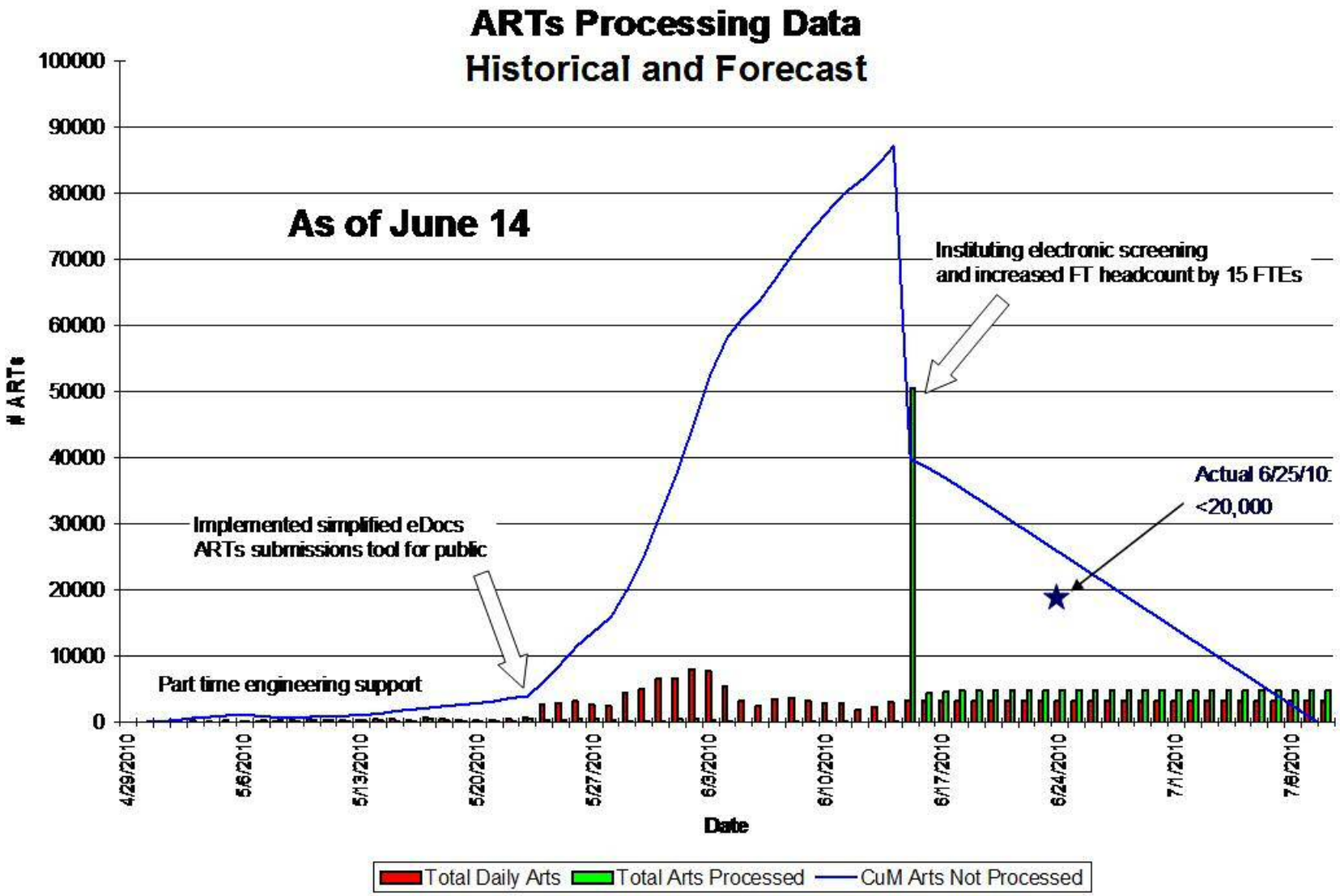
Initial Process (names not important)



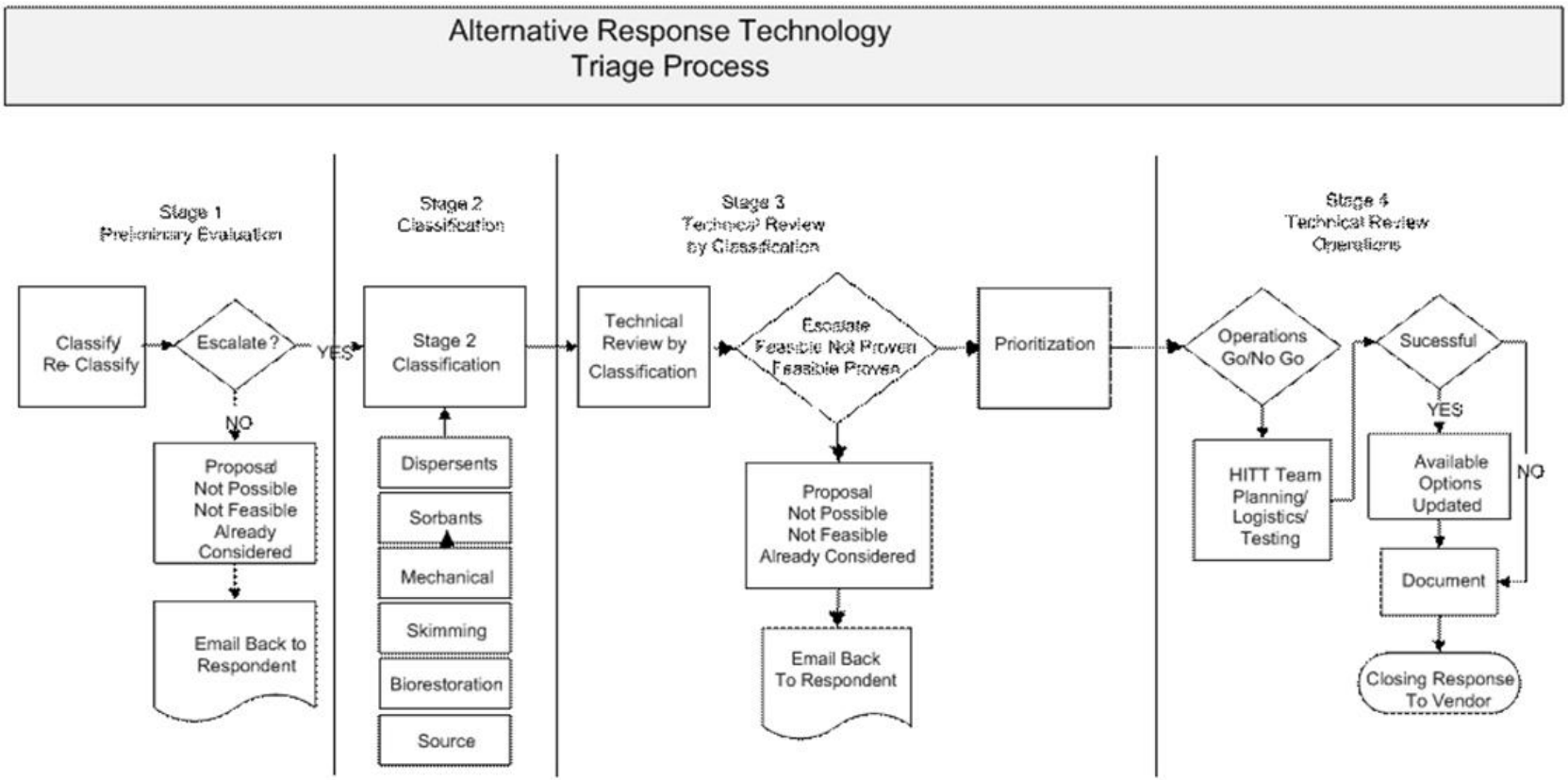
Organization Changes (names not important)






ARTs Processing Data
Historical and Forecast
As of June 14
Instituting electronic screening
and increased FT headcount by 15 FTEs
Actual 6/25/10:
<20,000
Implemented simplified eDocs
ARTs submissions tool for public
Part time engineering support
ARTs
100000
90000
80000
70000
60000
50000
40000
30000
20000
10000
0
4/29/2010
5/6/2010
5/13/2010
5/20/2010
5/27/2010
6/3/2010
6/10/2010
6/17/2010
6/24/2010
7/1/2010
7/8/2010
Date
Total Daily Arts
Total Arts Processed
CuM Arts Not Processed

Evaluation Process



Scoring for Stage 3

- Mission Critical – short or long term
- Accessibility – ease of deployment
- Uniqueness – common approach or not
- Habitat Vulnerability – Sensitive areas or species (main concern)
- Ease of deployment – workers and additional equipment
- Efficiency – does it increase current methods
- Decontamination – more or less effort needed if deployed
- Availability for testing – nearby or not
- Availability for use - in production
- Waste – new waste stream
- Regulatory concerns – permits or RRT permission needed
- Health safety – PPE, trainingg, etc.

Numbers

Total	**123,000 individual ideas**
Subsurface well issues	**80,000**
Spill Control	**43,000**
Within Spill Control	
Ideas worth considering	**470**
Remediation	**170**
Booming, skimming, sand cleaning, mechanical, sorbents, etc.	**300**
Formally evaluated or tested in Field	**100**
Significant Use	**25**

IATAP Totals

Numbers reflect more rigorous contracting process

BAA Assessment As Of:	9/2/2010 2:09
Total Submissions Received in Homeport	3929
Screening in Process	5
Remaining to Be Screened	2
Does Not Meet Reqmts/ Withdrawn/ Duplicates	262
Screening Complete	3660
Does Not Support DHR	3428
Recommended for Further Evaluation by IATAP SME	49
Recommended for Immediate Consideration by FOSC	183

Technology Gap Submissions				
Alternate	Damage	Traditional	Wellhead	Sensors
643	256	492	2358	180
0	3	1	0	1
561	233	445	2258	163
522	183	343	2252	128
4	19	8	3	15
35	31	94	3	20

Examples of Techniques Implemented

Skimmers – "Buster" technology, Big Gulp

Beach – Beach scrappers (Sand Shark, Cherringtons, Gravely) and sand cleaning (MI-SWACO)

Booming – silt fencing, rigid boom

Boom Cleaning - "Boom Blaster"

Subsurface – Net trawls

Others

- Degreasers (for decon)
- Opflex sorbents

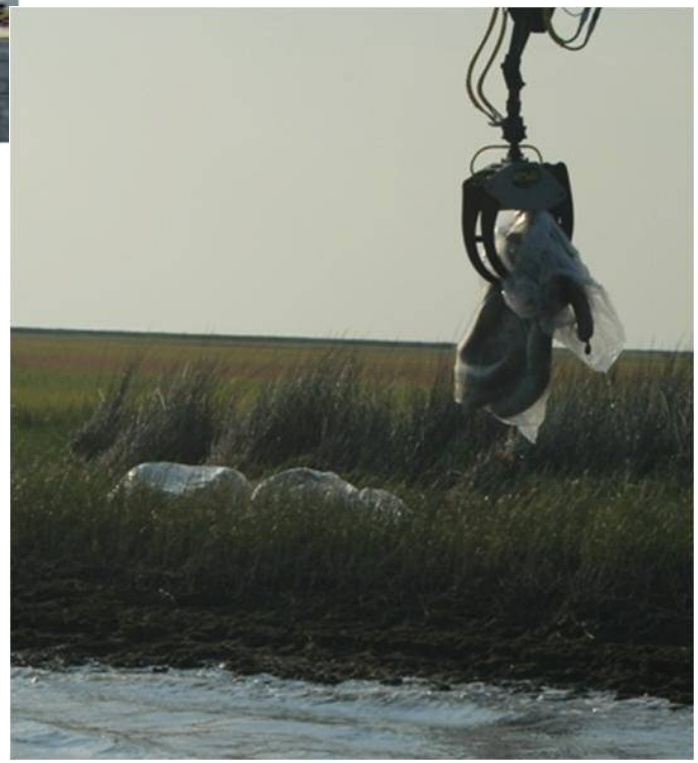
Beaches

A Whale

Rigid Boom

Big Gulp

Marsh Equipment



Boom Blaster

Silt Fencing

Oil-Water Separators

Summary

- Need to organize and stand-up team early
- Staff at appropriate level including test team
- Provide timely feedback to submitters
- Need direct link to operations for questions and testing
- Need new section in ICS manuals (locate in Operations or Environmental Unit?)
- Information evolving into Gulf Coast Restoration Organization (GCRO)

Questions

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