

Horizon Ideas / Alternative Response Technology / Proposed Solution Information Sheet

Submit Form

Contact Information:

First Name: Last Name: Date/Time Field:

City: State: Zip Code:

Phone Number: Cell Number: email:

Brief Description of Technology: (200 words or less)

Type Description of Technology to be employed in the box on the right.

Very large floating booms, each 1-mile long, with one or more central weirs leading to a collection/separation/storage barge(s) behind the weir(s). The design is for continuous operations in waves up to 10' high. Floating booms are 5.0' diameter polyethylene water-supply pipes with well-documented engineering properties. They will be fitted with simple inexpensive skirts, resulting in an effective boom draft (preventing oil escaping underneath) of about 6 feet, and a boom freeboard (preventing oil over-topping) of about 4.5 feet. About 20 years ago I designed a smaller system for the MMS. At that time I was VP of DNV, Americas. The full system requires several hundred booms to allow vessel traffic in the GOM. Example cost for 300 miles of robust STA booms is about \$800 million CAPEX and maybe \$25 - \$50 million per day for OPEX, including continuous oil collection, separation and disposal operations.

Materials Required: (100 words or less)

Type materials in the box to the right

63" OD polyethylene water pipe with approximately 2" wall thickness. Pipe to be delivered to Gulf Coast in lengths up to 53'. US manufacturer is JM Eagle, contact is Dan O'Connor, DanielOConnor@jmeagle.com. Plants are in Georgia and Arizona. Pipes to be assembled (by plastic welding on barges at sea) into 1-mile long booms. 300 booms (300 miles) suggested as initial target length. Engineer's estimate of pipe cost only, is \$250/ft. Production rate is a maximum of 800 feet/day. Smaller diameter (54") can be obtained from other suppliers. +

Equipment Required: (100 words or less)

Type equipment in the box to the right

Barges with simple purpose-built separation equipment. Purpose-built polyethylene pipe fittings for the 63" OD polyethylene pipe, potential supplier Industrial Pipe Fittings, Houston. 30' long, 24" ID flexible marine floating hoses used to couple boom weirs to barges with standard flanged end fittings. Two towing vessels required for maneuvering the booms, recommended minimum 4,000 bhp, or about 50 ton bollard pull. Heavy tarpaulins will make initial skirts, weighted with scaffold poles with a 1" wire threaded through, tensioned at boom ends. +

Expertise Required / Expertise Offered: (100 words or less)

Type expertise in the box to the right

Engineering design, involving wave, wind and current loading computations, dynamic structural/stress analysis of boom system in time-domain with software, for example, OrcaFlex. Design of simple robust separation equipment with barge storage used to increase retention times. Engineering calculations of oil surface thickness increase towards weirs with changes in surface currents (wind-driven and ocean circulation) and towing velocities. Emergency preparedness to prevent boom failures in storm conditions when oil collection must be temporarily abandoned and booms turned to head into waves. +

Your Idea, Alternative Response Technology or Proposed Solution will be reviewed and we will inform you of any further action should we require your support. Please understand that your solution may have already been proposed by another party or attempted.