



M/V JOHN B. CADDELL

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Abstract

Hurricane Sandy hit the East Coast of the United States on October 29th, 2012, caused over \$63 billion in damage, destroyed thousands of homes, left over 8 million people without electrical service, and killed at least 131 people in eight states. Amongst the damage was the unique case of the grounded Tank Vessel, JOHN B. CADDELL on New York's Staten Island. The CADDELL posed a distinctive challenge to pollution mitigation and eventual vessel removal efforts, being stateless/ownerless, and commanded high profile media/public attention. Responders used a variety of creative methods to ensure the surrounding environment was not further affected by the grounded vessel, including the authorized use of solidifying agents.

This poster describes the procedures used to determine vessel disposition and explores the innovative use of solidifiers in this particular case. Determining final disposition of the vessel involved an extensive process of multi-agency cooperation and coordination. Leveraging the existing authorities of the New York's Sheriff's Department to dispose of abandoned vessels, the Coast Guard was able to work with local, state and federal partners to implement a removal plan.

Additionally, National Strike Force and Coast Guard Sector New York personnel utilized the cutting edge technology of solidifying polymer agents to effectively reduce the amount of contaminants onboard the vessel. As per the Area Contingency Plan, the Regional Response Team-Region 2 (RRT-2) was activated, and was used to brief Federal and State member agencies on the planned protective use of a solidifier by the Federal On-Scene Coordinator during cleanup efforts. RRT-2 was provided a current situational brief, objectives, and a proposed application plan. RRT-2 concurred with the utilization plan, and contributed some additional recommendations, which enhanced cleanup operations conducted under the ESF-10 Mission Assignment from New York State.

M/V John B. Caddell beached on Staten Island



Pollution Mitigation and Vessel Removal



Oiled Engine Room prior to use of solidifier



Solidifying agent being applied to engine room



Condition of engine room with improved visibility after use of solidifier granules.

Problem: 184' single hull vessel was beached on Staten Island with 80% of vessel out of the water. Engine room pumped of 815-gal oil-water mix however on flood tide it refilled with sea water from the surrounding environment therefore there was free communication between the M/T and surrounding sea environment.

Overall Plan of Response:

1. Small scale pilot test of solidifier agent using small volume of fluid from internal tanks and engine room were treated prior to salvage operations.
2. If solidifier agent passed pilot test, the plan was to boom off the sea around the Caddell in preparation for full scale treatment and barge lift operations.
3. After full scale application and during salvage, if fluids were to escape the vessel into the sea, it would be boomed off already and there was also a ready mix of solidifier for quick recovery and cleanup.
4. The Caddell would then be lowered onto blocks so holes in the single hull could be patched by welding before test floating and towing to a ship salvage facility in the Port of New York for cleaning and decontamination prior to dismantling.

Solidifier Use

Oil spill mitigation actions were taken, as a continuous pollution threat to the environment existed due to unknown breaches in the vessel that allowed tidal flooding of engine room spaces and certain cargo tanks. As a result of the flooding, a slick of approximately 1/16" to 1/8" of bunker fuel blanketed the engine room (~ 50' x 35'), where responders were unable to visually inspect certain machinery areas and any sources of flooding.

The operations involved an approved solidifier manufactured by CI Agent Solutions that was introduced onto the oiled surface of the water in the engine room. Phases of operation included de-watering the engine room to a safe operating level for workers to apply the solidifier granules, introduction of the granules to the surface oil, herding of oil by use of low pressure pump/hose that allowed for additional solidification due to agitation, and retrieval of solidified oil by use of skimming nets.

During the application, it was noted that it took stronger agitation of the oil to solidify with the granules. This could have been due to the characteristics of the oil (severely weathered), oil to water ratio, and/or very little environmental conditional factors in the protected area of the engine room. Through herding and agitation with the application of solidifier granules, approximately 50 lbs of solidified oil (roughly seven gallons – liquid volume) was removed from the engine room space allowing for improved visibility of the machinery equipment and spaces in the engine room that resulted in the visual observation of one breach in the port side bulkhead of approximately a 2"x2" hole that was quickly mitigated.

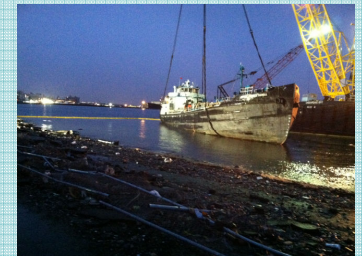
The solidifier granules were successful for the removal of the small amount of the weathered surface oil, it should be noted that this application did not effectively remove all contaminants from this location. The solidified oil byproduct also had adhesive characteristics, that was noticed by responders after elimination of the solidified oil and during decon of equipment, resulting in more challenging removal due to the tackiness of the material.

RRT Approval Process

Before implementing the solidifying agent, we required Regional Response Team 2 (RRT) approval. Several manufacturers of solidifier agents are listed on the NCP Product Schedule, but only one was available for use. (<http://www.epa.gov/ceppo/web/content/ncp/>)

Authority

Emergency Support Function (ESF) #10 of the Stafford Act provides for a coordinated federal response to actual or potential oil and hazardous materials incidents (<http://www.fema.gov/pdf/emergency/nrf/ef-esf-10.pdf>) however no provision in the law currently covers costs associated with marine salvage alone. Therefore, the federal response here made use of ESF #10 funds to monitor debris disposal and stabilize the vessel for personnel safety reasons and during cleaning operations to contain hazardous materials before its potential release to the environment.



Vessel Removal Operations

For More Information

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