

How salvors carried out Dali wreck removal safely

The salvage of the container ship *Dali* from Baltimore harbour involved a collapsed roadway, dangerous cargoes, a gas pipeline, and power cables.

[Nick Savvides](#), Europe correspondent

December 13, 2024



Credit: USCG Petty Officer 3rd Class Alejandro Rivera

A complex mix of chemicals and water, and the fact that *Dali* was resting on energy lines after it had lost power and demolished Baltimore's Francis Scott Key Bridge in the [US](#), significantly complicated the vessel's recovery.

The bridge collapse killed six workers on the roadway and blocked Baltimore Port for 11 weeks from 26 March to 10 June, 2024.

A toxic cocktail of rainwater, soya beans and sulphonic acid was a major concern for salvors, as was the vessel's position on top of power cables and a gas pipeline. After the bridge collapsed on top of the bow of the vessel, where hazardous cargoes are normally stowed, these factors compounded to make the recovery of *Dali* far more challenging.

Daniel Dettor, business development director at salvor Resolve Marine, told Seatrade Maritime's Salvage & Wreck conference in central London on Thursday that around 3,000 tonnes of steel and asphalt had collapsed onto the bow of the vessel, pinning the vessel onto the riverbed and crushing many containers.

Moreover, the vessel was resting on a "40 inch gas pipeline" with electric power cables also nearby, which meant power and gas supplies needed to be shut down.

"With the DG (dangerous goods) cargo positioned forward, we had all sorts of interesting things: Victoria Secrets perfumes, electric cars, deer skins, soya beans and sulphonic acid. Lots of interesting things to deal with," explained Dettor.

Related:[Dali refloated, under tug escort in Baltimore](#)

This was an OPA 90 response, said Dettor, referring to the Oil Pollution Act of 1990, which was legislated in response to the 1989 *Exxon Valdez* oil spill in Prince William Sound, Alaska.

Exxon Valdez was an oil tanker, but the response legislation is applied to all accidents in [US](#) waters, which means that there is a funding agreement already in place to deal with any incident.

OPA 90 also requires the [US Coast Guard](#) to respond rapidly to the situation and place resources at the scene within a few hours. In other jurisdictions, the authorities must contact owners and insurers to put funding in place, before salvage can be arranged.

A standard recovery has a Unified Command, which then puts the vessel recovery at the centre of the salvage operation, however, Mike Galagher, Senior MD at Ambipar Response Witt O'Brien's, a crisis management company, said the first issue that needed urgent attention was to prevent the rupture of the gas pipeline that *Dali* was resting on.

Another priority was to [open a channel for the port](#) and that needed a plan to dismantle and move the steel and concrete bridge that was now embedded in mud in the murky waters of the Patapsco River.

Related:[Dali owners settle lawsuit with US Government](#)

In addition, the movement of the water around *Dali* was shifting the stern of the vessel so two anchors were dropped to minimise the vessel's drift.

Once the [bridge debris had been broken down and lifted off the vessel](#) it was possible to tackle the toxic cocktail of chemicals that had spilled into the forward hold of the ship and had been fermenting since the accident occurred on 26 March, with 120 containers recovered from the front of the ship by 20 April.

Prior to remedial work to make the vessel safe, there was no hot work carried out on the ship, only cold cutting of steel and concrete, and the separation of containers, which allowed boxes to be removed.

Once the hazardous material was removed, [controlled explosions were used](#) to break up the bridge steel work that was still resting on *Dali*, in order to make manageable pieces for the 1,000 tonne crane to lift and free the ship.

Protection was put in place so that there was no prospect of further damage to the ship or danger of igniting chemicals, including a temporary fire hose system to douse any flames should a fire break out.

Once free from the bridge debris [tugs pulled Dali free and towed the vessel to Baltimore Port](#) for discharge of containers and preparation for its voyage to the repair yard.

Related:[What if a container ship hit a bridge in New York waters?](#)

"Overall, it was a pretty interesting operation, but most importantly it was done in a safe manner, in what was a dynamic and dangerous environment," said Dettor.

In total, the salvage operation was completed in under four months. The achievement is considered a remarkable feat, given the major complexity of an operation which included more than 200 staff in the unified command, salvage experts and divers working in very low visibility situations, and the very real prospect of another accident, caused by sparks or chemical reactions.

