

ANNEX 4: - REQUIREMENTS FOR TOWAGE

- 1.1** With some preparations it is considered that the vessel could be towed to another location for disposal subject to the following:
- 1.1.1 Towage arrangements should, as far as is feasible, comply with the requirements of DNVGL ST N001.
 - 1.1.2 Tow should be planned and executed according to DNVGL-ST-N001 for a restricted tow.
 - 1.1.3 Tow plan to demonstrate that tow can be executed with sea state not exceeding 2.5 meter sea state and 25 knots wind speeds. If tow duration is likely to exceed 72 hours then tow plan should include details of ports / places of refuge where the convoy can shelter should forecasted weather conditions exceed the above limitations. The watertight subdivision between the Propulsion Machinery Room and the Gas Mixing Compartment will need to be re-instated prior to towage unless it can be demonstrated that, should there be a breach into either compartment, then sequential flooding into other compartments will not occur. (Point of note: the removed section of bulkhead is currently in the Gas Mixing Compartment)
 - 1.1.4 Stability information included is for guidance only. We would recommend that a basic inclining test is carried out to confirm stability for towing. Additional ballasting may be required.
 - 1.1.5 To move the vessel, it is suggested that a tug with a minimum bollard pull of 20MT.
 - 1.1.6 The environmental conditions for the tow are limited to a sea state of 2.5m Hs and winds of 25 knots.
 - 1.1.7 Towing operations are to be conducted only during daylight hours.
 - 1.1.8 Prior to towage efforts should be made to remove all bulk pollutants from the vessel.
 - 1.1.9 Prior to towage efforts should be made to remove or secure all loose items.
- 1.2** Tow preparations should, as a minimum, include the following:
- 1.2.1 Establishing a tow connection forward. Given the limited breadth of the vessel a single leg bridle may be the best option.
 - 1.2.2 An emergency back-up tow connection should be fitted complete with floating messenger line and pick-up buoy.
 - 1.2.3 All side shell penetrations should be sealed.

- 1.2.4 Propeller should be locked and rudder should be secured at mid-ships position.
- 1.2.5 Submersible pumps should be located in the major compartments and rigged ready for use. If electrically powered, then a suitably sized generator should be provided and the pumps connected.
- 1.2.6 Paint marks or similar should be placed on the hull just above the waterline forward so that any change in draft can be readily seen from the tug during the tow.
- 1.2.7 The tug should be equipped with a work boat to allow tug crew to board during the tow to activate the pumps if leakage is detected. There should also be sufficient crew to allow for a boarding party as well as crew to operate the tug safely whilst the boarding party are on board the tow should it be necessary to operate the pumps.
- 1.2.8 Access points to allow easy boarding from a work boat should be established on both sides of the vessel.
- 1.2.9 A tow plan should include, at minimum: towing arrangement, appropriate towing gear certificates, voyage plan, and contingencies.