Failure during lift bag operations

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A Member has reported a near-miss during a lift bag operation, which highlights the dangers of inadequate safe rigging practice and of lack of awareness of actual lifting capacity of bags in relation to stated capacity.

What happened?

Saturation divers were operating at seabed level at 19 metres (62ft) and had to move a 600kg (1320lb) blind flange. They had attached a lift bag, nominally rated at 500kg, to the load, so that they could manhandle it more easily into position.

At some stage during the inflation process, the diver lost control and the lift bag, with attached flange, took off towards the surface. When the bag arrived at the surface, it lost some of its volume, resulting in partial deflation. Inevitably, the load fell back to the seabed, away from the dive site, and was later recovered, undamaged.

It was fortunate that there was no harm to the divers and that the bag did not become fouled in the support vessel's thrusters as it rose to the surface.

The company involved has noted the following key issues:

1. All involved in this type of operation need to be aware that there is a potential variance between the stated capacity and actual capacity of lift bags. In this case, the actual capacity was over 25% higher than the stated capacity.
2. Rigging arrangements for lift bag operations should include an 'inverter' line, which must be connected between the top of the bag and a fixed anchor point on the seabed. The length of the inverter line should be such that there is sufficient length to conduct the operational task, but that would it prevent the bag and load from reaching the ship or surface in the event that the bag did over-lift the load and initial control was lost. When the restraint came on, the line would cause the bag to tip, spilling some air and returning the load to safety.
3. When moving long spools, for example with multiple lift bags, it should be ensured that there are adequate anchoring points for each of the inverter lines, with the anchoring positions and lengths of 'inverter' lines suitably calculated to ensure a safe operation.

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