

SHALLOW WATER WORK

Seaflex Ltd have supplied civil and offshore contractors with many tonnes of buoyancy to handle pipelines in shallow shore areas. These pipelines may be the start-up or ending of offshore trunklines, water authority outfalls, river crossings or float outs - by definition we refer to this work as 'shallow water work'.

The two main problems facing the contractor in these areas is water depth and lift. The reduced water depth will limit the type of equipment or vessels that can be used. The pipeline however, will still require lift or reduced weight for either surface or on bottom operations. Seaflex conventional air lift bags or the patented dedicated pipe buoyancy system Kraken is used to improve pipe handling in shallow water for such operations.

CONVENTIONAL AIR LIFT BAGS

Seaflex Fully Enclosed air lift bags have been designed to give maximum lift with minimum draft. These bags give point lift at regular spacing which is ideal for use with larger diameter pipelines that are stiff and heavy. These pipes are ordinarily pulled through a trench along the seabed either from or to the shore. Fully enclosed air lift bags can be easily attached by way of steel banding, are robust, economically transported, available in a full range of sizes to suit your requirements and hired on project by project requirements.

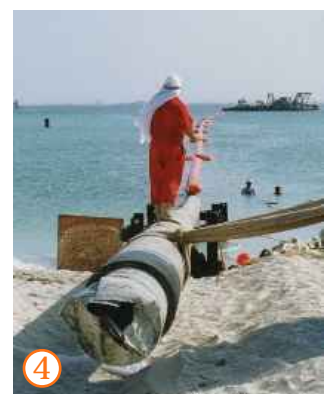
Another consideration is the small volume and weight ratio of the deflated bags (5Te FE unit = 46kg with dimensions of 900mm x 500mm x 350mm when deflated) means very little storage space is required for large weight reduction of the pipeline. In 2000 Seaflex supplied 340Te of lift for a 32" shore approach from a barge anchored 1.2km off the beach. The total weight of this consignment was less than 3500kg and took up a deck footprint of approximately 6m x 6m.

- Barge to shore
- River crossings
- Delta/swamp installations
- Float and tow outs
- Shore to barge
- Outfalls

KRAKEN PIPELINE BUOYANCY SYSTEM

While much of the normal requirement for submarine pipe pull or installation buoyancy is fulfilled by the Seaflex Standard Range of buoyancy units, there are situations where the patented Kraken system can be of great benefit to the contractor. Its capacity to reduce the draft of a pipe in shallow water by as much as a metre compared to conventional buoyancy can reduce dredging depths, allows greater operational flexibility and reduce capital and operating costs.

Kraken is a continuous buoyancy member that runs along the top of the pipe giving support and restricting bend radii in small diameter pipelines. This dedicated buoyancy system can be used on pipes weighing up to 560kg/m.



PHOTOGRAPHS :

- 1: Belfast Lough Crossing - 5Te FE unit on pipeline at high water mark.
- 2: Divers hitching a ride on Ryde Outfall Project.
- 3: Weight blocks being assembled on 1m dia. pipe at Ryde site.
- 4: Floating 475m section off the beach for 5km tow before installation into trench, HIDD Pipeline Project, Bahrain.
- 5: Twin pipeline bottom-pull using 5Te FE units attached to spreader beam, Seraya Power Station Expansion Project, Singapore.