DEEPWATER

RETROSLED™
ANODE SLED FOR PIPELINE CATHODIC-PROTECTION RETROFITS

The Retrosled allows operators to easily replace cathodic protection anodes on aging pipelines.

The Retrosled is an aluminum-anode sled designed for offshore pipeline life-extension projects. The Retrosled is lowered onto the sea floor via crane and connected electrically to the pipeline with one or two Retroclamps. Anode sled retrofit sites along the pipeline are determined by our cathodic protection designers using recent survey data and our cathodic-protection modeling system. Taking into consideration seabed conditions and pipeline burial, our engineers pick spots that maximize cathodic-protection potentials while minimizing the number of installation sites required.

Versatile in design

A cathodic-protection retrofit project using the Retrosled system can add 15 to 30 years to the life of an existing pipeline, depending on existing CP potentials and the needs of the operator. The Retrosled is available in two versions: the standard, rigid sled and an expandable version that opens once on the seabed. The expanding sled is used to quickly re-polarize a pipeline with dangerously low cathodic-protection readings; the standard sled is employed for pipelines with depleted anodes, but which are still adequately protected. Both sled models can be installed by diver or ROV.

A reliable connection

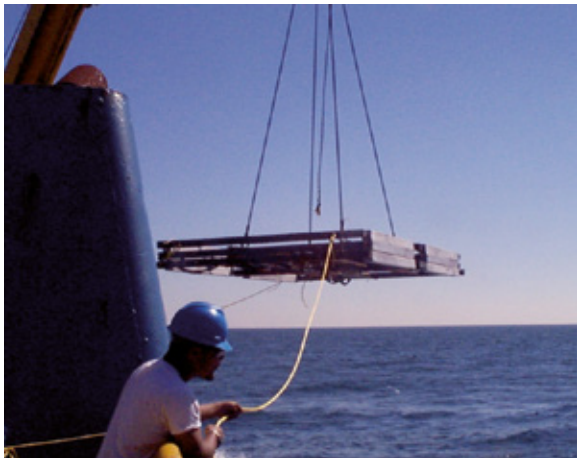
The Retroclamp is patented technology, developed at Deepwater and unavailable elsewhere. The Retrosled connects to the pipeline it protects by using two armored cables attached to the Retroclamp. The contact tip of the clamp that creates electrical contact with the pipeline can be fitted with a soft drill bit, allowing it to penetrate concrete weight coats. The Retroclamp is diver and ROV-friendly; the floating plate on the top of the clamp ensures a strong and constant connection that will not damage pipes. The ease with which it is installed makes the Retroclamp incredibly cost-effective compared to underwater welding or other attachment methods. For a buried pipeline, only part of the pipeline must be visible for the diver to install a Retroclamp..

Rigid and expandable versions

Use the standard Retrosled when extending life on a pipeline with good coating and readings that indicate the pipeline is still protected (above (-) 0.900 V vs. Ag/AgCl sw). Use the expanding sled when an extra current boost is required for a depolarized pipeline or one with degraded coating. Both models of Retrosled ship via normal trucks and containers. The expanding sled is deployed closed and is opened via crane or ROV once on the seabed.

More info at www.stoprust.com

GULF OF MEXICO
RetroSled with two clamps being overboarded



EQUATORIAL GUINEA
Expanding sled ships and deploys 12' x 8' and measures 40' on bottom

NORTH SEA
RetroSled aboard a vessel bound to retrofit the Forties infield flowlines

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