

## RETROFIT CATHODIC PROTECTION ANODES FOR A FIXED PLATFORM IN THE EGYPTIAN RED SEA

Deepwater installs a retrofit cathodic protection system for RAS Gharib platform in the Red Sea in under 24 hours.

### THE PROJECT

Deepwater Corrosion Services, in conjunction with Egyptian agent Los Amigos, retrofitted the cathodic-protection system of a fixed platform in the Red Sea. The platform is located in 14 meters of seawater approximately one kilometre off the coast of Egypt. The owner required another 20 years of service from the ageing structure, which was easily accomplished using the RetroPod™/ RetroClamp™ system.

The retrofit cathodic protection (CP) system consisted of:

- 14 x RetroPod (Aluminum anode pods)
- 14 x RetroClamp (Electro-mechanical tie-back clamps).

### INSTALLATION (TIME: 24 HRS)

RetroPod subassemblies were shipped via container to Egypt from Deepwater's Houston manufacturing facilities. Once unloaded from the container, Pods were erected and welded together dockside. Meanwhile, the Pods' ballast mattress shells were filled with concrete and attached to the Pods. After lift testing, the Pods and RetroClamps were loaded onto the installation diver-support vessel, Maridive's Expedition. Once tied up to the platform and after minor debris removal from the seabed, all 14 RetroPods and RetroClamps were installed and commissioned in 20 hours.

Structure potentials were monitored using a diver handheld CP probe as well as a topside-deployed DC-II drop cell (all silver/silver chloride).

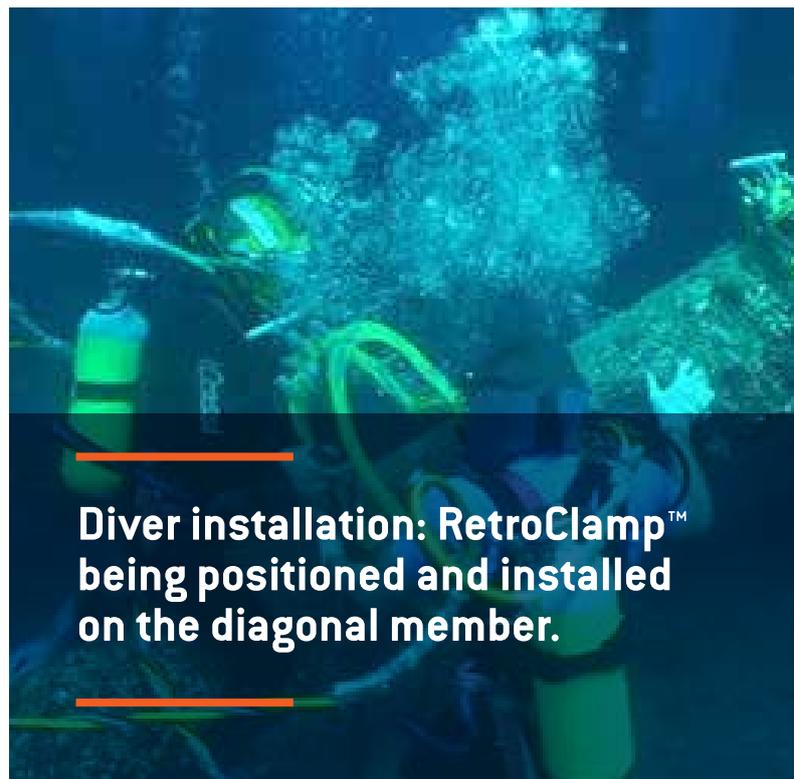
CP potentials prior to the retrofit were at or near the native state of steel (i.e.  $-0.670$  Volts [Ag/AgCl]); after retrofit, potentials ranged from  $-1.050$  to  $-1.080$  Volts. This was the first retrofit of its kind in the Red Sea and Deepwater is thrilled with the outcome.



Photo: Assembly: Pods are set atop concrete mattresses and attached.



Photo: Concrete ballast: Mattresses are filled with concrete on site to save on shipping expenses.



Diver installation: RetroClamp™ being positioned and installed on the diagonal member.