

# DEEPWATER

## DEEPWATER SUPPLIES A RETROFIT CATHODIC PROTECTION SYSTEM FOR A FIXED PLATFORM IN THE SOUTH CHINA SEA

The Lufeng (LF) 13-2 WHP is a fixed-production platform owned and operated by the Chinese National Offshore Oil Company (CNOOC).

The 4-leg structure is located in the South China Sea in approximately 430 ft. [132 m] of seawater and was installed in 2005. A galvanic cathodic protection (CP) system was installed at the time of construction and was designed to last 10 years. Less than 3 years into the service life of the platform, it was discovered that several contributing factors had resulted in a shortened system lifespan which was predicted to be closer to 5 years. Deepwater Corrosion Services, Inc. (DCSI) has been contracted to design, supply and supervise the installation of an Impressed Current Cathodic Protection (ICCP) retrofit system for the LF 13-2.

For the LF 13-2 retrofit, DCSI designed a fully ROV-installable remote ICCP system. Modifications were made to the proprietary RetroClamp™ to create a ROV-installable, subsea cable-management system that fixes the ICCP power cables to an existing 14" (OD) J-tube EL (-) 20 000 m to EL (-) 132 000 m. Systems design and supply was completed in less than 6 months. The offshore installation was carried out by the Chinese Offshore Oil Engineering Company (COOEC) in conjunction with CNOOC in spring 2010.

The supplied CP system consists of:

- 2 RetroBuoy™ impressed current anode sleds
- Double-armored power cables (1,000 feet long)
- 2 topside marine transformer-rectifiers rated at 500 Amps
- 36 RetroClamp™ HD Cable Grippers for subsea cable management
- 2 permanently installed dual reference electrodes (DR-III)
- Topside CP-monitoring panel

More info at [www.stoprust.com](http://www.stoprust.com)



LUFENG (LF) 13-2 WHP

The CNOOC platform is located in the South China Sea in 430 ft. of water.



BRING IN THE BUOYS

The RetroBuoy™ replaced a failing galvanic CP system.



PREPPED FOR TERMINATION

RetroBuoy™ on the back deck of the installation vessel awaiting installation.



RETROCLAMP™ CABLE GRIPPERS

Used for cable runs up the platform leg.