

STRATEGIC PARTNERSHIPS ...CREATIVE SOLUTIONS



OIL AND GAS

Please find below a brief résumé of projects carried out by REDS for various works overseas and for the Oil & Gas Sector, further information on any of the specific aspects of the work can be provided along with named company representatives and references.

REDS can provide a wide range of services dedicated to the Oil & Gas Sector. Our dedicated service team have recently completed a number of high profile projects within the sector.

The main services carried out include but are not limited to the following:

- Inspection of offshore structures
- SPM Installation and maintenance
- Pipeline installation
- Berthing Limitation Surveys
- Marine structure construction and maintenance
- Non-destructive testing
- Search and recovery, and debris clearance
- Underwater cutting and welding
- Cathodic protection
- Installation of Corrosion Prevention Systems



ACCREDITATIONS

As a further commitment to our staff, share holders, clients and partners, in 2011 REDS quality, safety and environmental management systems have been assessed and approved by QMS International PLC. to BS EN ISO 9001: 2008 / BS OHSAS 18001 :2007 / ISO 14001 : 2004



**INSTALLATION OF DENSO SEASHIELD 2000HD
WAFA GAS EXPORT FACILITY, MELLITAH, LIBYA FOR BESIX**

Description of works undertaken:

- REDS mobilised a full surface supplied dive spread including decompression chamber with associated plant room in order to carryout Denso installation works to approximately 540 piles
- REDS carried out a range of tasks to facilitate the installation of the system including preparation of the piles prior to installation of the system and various repair and remedial works following the fitting
- REDS used a range of access techniques in order to install the jackets over the full height of the piles from 8m above sea level to 2m below. Diving, Rope access and traditional floating plant access was successfully integrated using personnel with interchangeable skills
- A remote site requiring fully contained, self-sufficient working by both personnel and equipment



**DENSO INSTALLATION
PUNTA EUROPA LNG EXPORT FACILITY, MALABO, EQG FOR BESIX / BECHTEL**

Description of works undertaken:

- Installation of Seahield Corrosion Prevention system to LNG Jetty Piles. Works were carried out using both Rope access and Diving techniques by multi-skilled operatives
- The use of this innovative access system allowed for minimal floating plant and continued access for other works parties, minimising down time and disruption to the Jetty routine
- Diving works in and around the splash zone were performed by Divers using basic equipment spreads, whilst deeper diving and intervention works were carried out using Full Surface Supplied Diving Equipment, backed up by a fully operational Deck Decompression Chamber
- Full project management and marine co-ordination was supplied to compliment the dive team at exposed locations or where close liaison and planning is required between numerous work parties
- All equipment supplied is REDS own, in-house supply and as such can be mobilised at short notice and for either short duration or long term contracts. Equipment supply is tailored to the individual client's requirements and requests.



JETTY INSPECTION – BERTHING LIMITATION SURVEY PEMBROKE REFINERY FOR CHEVRON TEXACO

Description of works undertaken:

- Berthing Limitations Survey commissioned by Chevron/Texaco as part of the Jetty upgrade to LNG bunkering. Full scope of supply from Chartered Engineers, Project Managers and inspection teams to complete an inspection programme prior to the submission of a fully quantified report and engineering calculations
- Inspection included full topside and sub-sea elements of the jetty utilising one cross trained team of access technicians to carryout both the diving and roped access elements of the work
- Initial remedial works were carried out to some areas of the jetty including structural re-alignments and strengthening works



JETTY PILE REMEDIATION PEMBROKE REFINERY FOR CHEVRON TEXACO

Description of works undertaken:

- Installation of Seashield 2000HD corrosion prevention system to 500 Nos. 4-9 metre piles
- Works were carried out using a range of access techniques from diving below water line, to rope access for works to the top of the pile, with traditional floating plant access to the mid ranges. Planning between the operators and REDS ensured that tanker and bunkering disruption was kept to a minimum during times of high demand and world oil price fluctuation
- All works were carried out under a permit to work system and were under strict location constraints due to the 'live' nature of the structure. Many locations required additional fabrication and modifications to allow the system to be fitted as per requirements. All additional works were carried out and recorded by REDS

OUTAGE WORKS RIVER HUMBER, HUMBER BANK GAS POWER STATION FOR CENTRICA

Description of works undertaken:

- Inspection of Subsea outfall and intakes
- Remedial works to subsea pipelines and ancillary equipment from Beach to offshore exposed location
- All works carried out from large floating plant, with full Surface Supplied Dive Equipment, with back-up Deck Decompression Chamber
- Experienced Project Managers and Marine Co-ordinators ensure that safe, efficient and productive works are carried out during small tidal dive windows
- Co-ordination being essential for diving and marine works when transiting busy shipping lanes and anchorage approaches



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3 JETTY INSPECTIONS

MILFORD HAVEN FOR PETROPLUS UK TANK STORAGE

Description of works undertaken:

- Complete berth inspection to 3 Large LNG mooring berths, supplying access to the Milford Haven LNG Loading and Unloading facility. With the inclusion of all berthing, mooring dolphins and fender piling included, this large scale project was completed ahead of schedule and on-budget
- A challenging task with Oil and Gas prices at a premium to ensure minimal disruption to the client's asset and ensure a comprehensive Jetty inspection was completed, providing Insurance data to allow continued use of the Jetty for future years
- REDS supply of Senior Management and Marine Operatives along with its team of Underwater Inspectors and Access Technicians ensured a smooth interface for the inspection teams and permanent site staff alike minimising down time disruption and maximising demand for the facility

TWIN PIPELINE INSTALLATION

ZUETINA DE SALIVATION PLANT, LIBYA FOR BESIX / GECOL

Description of works undertaken:

- Installation of twin pipe line from beach landing to offshore diffuser head. Pull length of approximately 2km. Supporting chlorine line and associated head gear to both on-shore facility and offshore diffusers
- REDS supply of personnel for co-ordination, project management and technical access labour ensured a safe and efficient transition between the groundwork's contractors and the Offshore/Deepwater contractors
- Due to its exposed and remote location, REDS supply of equipment and labour was self-contained and able to work in the most demanding of conditions, providing the team with safety and reliability throughout the contract

DENSO INSTALLATION

BREGA, LIBYA FOR BREGA OIL COMPANY

Description of works undertaken:

- Provision of Surface Supplied Dive equipment, Deck Decompression chamber along with Project Management and Diving Supervision to work with clients own Dive team, to carryout the installation of the Denso Seashield range to the newly renovated berthing and storage Jetties
- Quality Assurance data during the installation process and responsibility for the site works and general marine planning was co-ordinated by REDS personnel, whilst ensuring the local dive team gained experience and training in the installation of the system and planning requirements for working within the busy port
- Training was also given in the use of the 'Surface Supplied Dive equipment' and its routine maintenance and inspection to ensure the equipment remained fully functional after the completion of our programme of works



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PILE REPAIR & STRENGTHENING
BILBOA PORT, PANAMA FOR BILLFINGER & BERGER / HALCROW

Description of works undertaken:

- REDS mobilised a full surface supplied dive spread including decompression chamber, to work on a 24-hour basis over an 11 month period
- REDS work scope included the installation of structural stainless steel sleeves to piles over a height of approximately 20m, sleeves were lowered into the correct position before the annulus's were grouted
- Work was carried out to approximately 600 piles, all under the continuous supervision of Messrs Halcrow Ltd
- Pile preparation works included the removal of old cathodic protection systems, brackets and redundant fendering. Various fabrication and steelwork alterations were carried out both above and below water to assist with the installation of the jacketing system

PERSONNEL SUPPLY
NIGERIA FOR TRI-CONTINENTAL / MOBIL

Description of works undertaken:

- Supply of Offshore Diving personnel and Technicians for an offshore inspection project based out of Lagos, Nigeria. UK source and supply, allowed our client to benefit from the REDS labour pool, whilst giving the Divers and Technicians the backup from a UK based company with sound financial backing
- Limited equipment supply was procured from the UK and shipped as appropriate to provide back-up and support for the teams in the field
- Technical back-up and procedures were available from the REDS UK Base, providing the client with 'western' back-up and support, whilst still allowing them to demonstrate their commitment to the local community

SPM & PIPELINE INSTALLATION
WAFA GAS EXPORT FACILITY, MELLITAH, LIBYA FOR AGIP (LIBYA)

Description of works undertaken:

- Offshore pipeline pull, and installation of all riser and 'J' tube assemblies to new jetty facility. Works from jetty head to Offshore SPM location (approx 2.5km offshore)
- Installation of sub sea head and seabed SPM location anchors in association with metrology measurements and 'final fit' flanges
- Installation of flexi-hose to SPM along with final securing of anchors and tidal chain locators
- A remote location requiring fully self-sufficient working for both personnel and specific dive equipment spreads