



2H
offshore

Riser Delivery Management

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2H Offshore's riser delivery management service is tailored to meet the needs of project execution phases requiring detailed design, hardware procurement, fabrication management, inspection services, transportation/shipping management and installation support.

2H takes the system integrator role on the project and this approach is well suited to riser systems that have a multitude of interfaces with the wells system and the host vessel that tend to drive riser design and procurement activities. It also allows for a better optimized design, increased flexibility in hardware selection and improved operability.

2H is able to mobilize a multi-disciplinary project team that is able to define and control project activities for riser equipment that has a high degree of project specification and typically present the following challenges:

- Custom designed components that are often pushing the boundaries of manufacturing capability;
- Multiple interfaces at the vessel and seabed;
- Many cross supplier interfaces to manage within the riser system;
- Difficulty in finalising design of all system components simultaneously;
- Need for early purchase order placement because of long manufacturing lead times;
- Need for follow on engineering to manage change and expedite delivery as a result of the conflicting requirements of component design finalization and early purchase order placement for long lead components.

Riser Engineering

The engineering team ensures that the riser system design meets the project functional and operational requirements. They ensure the riser system is installable, operable, reliable and maintainable. Our materials, welding and corrosion engineering specialists are involved in the development of system specifications at the start of detailed design and technically support the procurement and fabrication phases as part of follow on engineering.

Package engineers generate all documents specifying the requirements for the riser components. Typical documents include a functional specification, datasheet, component drawings and scope of supply including spares requirement. These documents form the technical package of the requisition to be issued to suppliers and the package engineers are subsequently involved in the technical bid reviews. They oversee the equipment manufacturing phase providing follow on engineering support required to review supplier documentation, manage design changes, and address supplier concessions and manufacturing non-conformances.

Procurement Services

2H procurement services include the following activities:

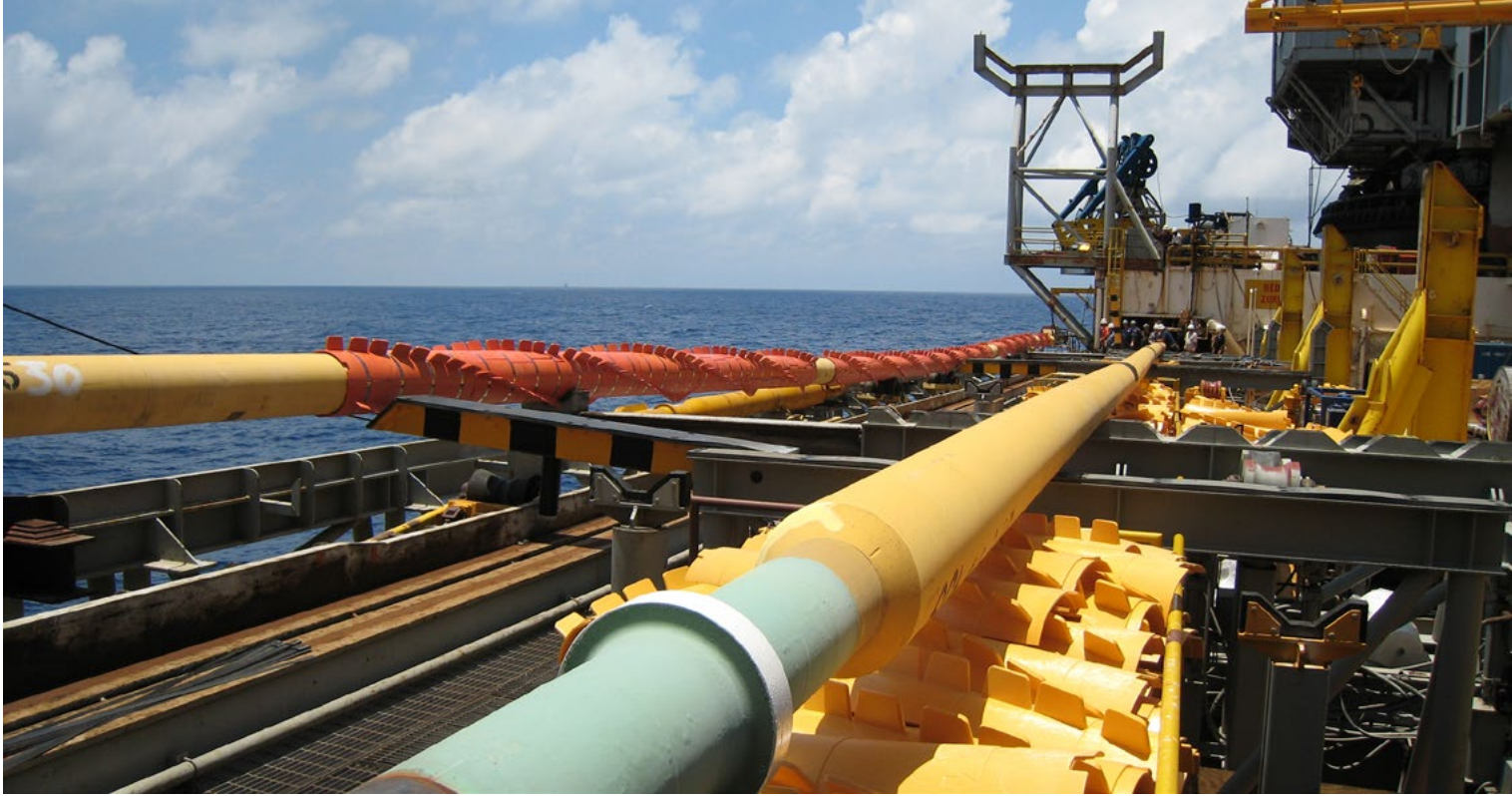
- Pre-qualification of suppliers
- Preparation of request for quotation (RFQ) packages and their issue
- Terms and conditions negotiations
- Evaluation of prospective supplier bids
- Recommendation to award
- Issue of purchase orders
- Progress tracking and expediting of orders
- Management of supplier invoices and claims
- Shipping and logistics
- Purchase order close out

The project procurement manager and buyer are the single point of contact during the bidding phase and handle all commercial aspects of the equipment order before and after purchase order placement.

Quality Control & Inspection Services

Quality control and inspection services are fully integrated into the 2H project organization allowing a seamless interface with the package engineering and procurement teams.

2H coordinates the mobilisation of inspectors with the necessary skills, experience and qualifications to monitor the manufacture and inspection of riser components. Specialist welding inspectors hold current certification to AWS or CSWIP. Personnel performing NDE hold current certification from ASNT Levels II and III in accordance with ISO 9712.



Key Projects

Chevron - Big Foot TLP Top Tensioner Risers and SCRs

2H was contracted by Chevron to conduct the detailed design and delivery management of the Big Foot TLP riser systems which comprise 2 high pressure drilling risers, 15 production/water injection top tensioned risers (TTR) and oil and gas export steel catenary risers.



Total – Moho Nord TLP Top Tensioned Risers

2H is responsible for the riser delivery management of the TLP top tensioned riser (TTR) systems for Total's Moho Nord field development, offshore Congo. The scope of work includes 17 production and water injection top tensioned risers and one high pressure drilling riser.

LLOG – Delta House SCRs

2H is responsible for the delivery management of titanium tapered stress joints for production and export SCR hang-offs on the Delta House deep draft semi-submersible. The scope includes the titanium taper joint body and steel forging adapters.

Total – Donggala HP Drilling Riser



2H completed the detail design and supplied the taper joints, transition joints and riser monitoring system for the Donggala high pressure drilling riser system for use on a drilling vessel in 2,000m water depth, offshore Indonesia.

Total - Akpo Completion Riser

2H completed the detailed design and supplied the taper joints for the completion riser system for use on the Akpo subsea development in 1300m water depth, offshore Nigeria.



About 2H Offshore

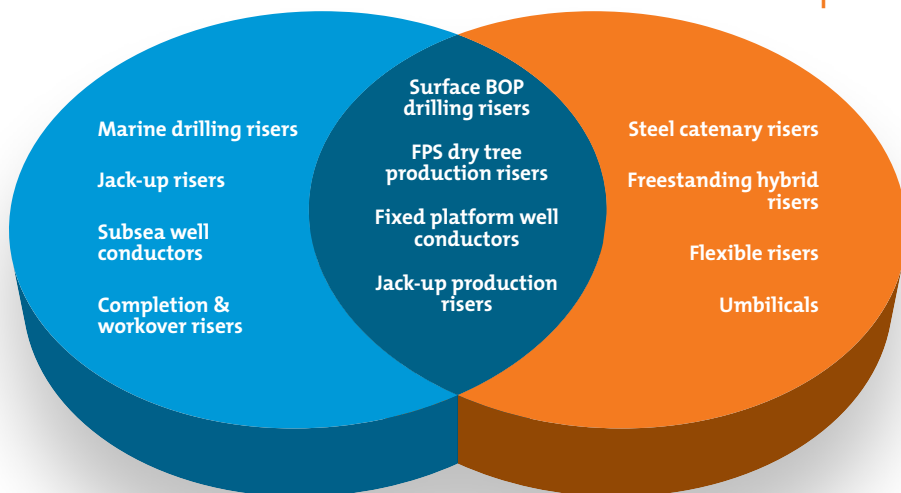
2H Offshore is a global engineering contractor specialising in the design, structural analysis and integrity management of riser and conductor systems used in the drilling and production of offshore oil and gas. Our capability and experience covers all types of risers, from shallow water fixed platform conductors, to drilling and production risers used in ultra-deep water.

Areas of Expertise

Our business falls into two primary categories, **Drilling, Completion & Workover** and **Production & Export**. Engineering of the risers used in each area of activity has many similarities in terms of the skill sets and experience required to conduct the work, but each area has many unique characteristics requiring specific experience and knowledge of the equipment and operations involved. The scope of each area of activity and overlaps that occur are illustrated below.

Drilling, Completion & Workover

Production & Export



To find out more visit www.2hoffshore.com

Houston

2H Offshore Inc.
15990 North Barkers Landing
Suite 200
Houston, TX 77079, USA
T: +1 281 258 2000

London

2H Offshore Engineering Ltd.
Hollywood House
Church Street East
Woking, Surrey, GU21 6HJ, UK
T: +44 1483 774900

Aberdeen

2H Offshore Engineering Ltd.
Tern Place House, Tern Place
Bridge of Don
Aberdeen, AB23 8JX, UK
T: +44 1224 452380

Rio de Janeiro

2H Offshore Projetos Ltda.
Praça Floriano, 19-22° andar,
Centro, RJ, 20031-924, Brasil
T: +55 21 2510 7300

Kuala Lumpur

2H Offshore Engineering SDN BHD
Suite 31-1, 31st Floor
Wisma UOA II 21 Jalan Pinang
50450 Kuala Lumpur, Malaysia
T: +60 3 2726 0500

Perth

2H Offshore Engineering Pty. Ltd.
Level 8, 1008 Hay Street
Perth, 6000, Australia
T: +61 (0) 8 9222 5000

Mailing Address:
PO Box 7322, Cloisters Square PO
WA 6850, Australia

Beijing

2H Offshore Beijing
Representative Office
9D Xinzhong Building
No.2 Xinzhong West Street
Dongcheng District, Beijing, China,
100027
T: +86-10-64165160

info@2hoffshore.com

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