



Rig Inspections

CAPABILITY STATEMENT

AqualisBraemar

AqualisBraemar is a global consultancy to the Energy, Marine and Insurance sectors, delivering a wide variety of rig inspection services with a team of inspectors that has extensive industry experience.

Services include but are not limited to:

- Rig inspection and assurance services
- Rig selection services
- Rig reactivation assurance services
- New build delivery assurance service
- Rig preservation inspection service
- Focused rig equipment inspections such as:
 - Cyber-based drilling equipment inspections
 - Integrated control management system (ICMS) inspections and testing
 - ROV inspection and assurance
- Drilling rig equipment factory acceptance testing (FAT) witnessing

HOSE International

Hose international provides independent third party (ITP) well control equipment, subject matter expertise and assurance to the oil & gas industry sectors of exploration, production & decommissioning.

We understand the extreme operating environments that well control equipment is expected to perform in and your expectations of the equipment.

Our teams

AqualisBraemar RI is an offshore environment-focused rig inspection service whose engineering teams have in-depth knowledge of drillships, DP semi-submersibles, moored semi-submersibles and jack-up rigs, ranging from traditional manual operated drilling rigs to the latest 7th generation cyber-based drilling rigs with complex Integrated control management systems and dynamic positioning systems.

Our inspection teams are original equipment manufacturer (OEM) trained in the use of drilling equipment systems, well control equipment and DP systems.

The inspection teams identify the appropriate regulations and standards based on port of registry, local flag state regulations, equipment age, and applicable industry standards.

Statutory Flag State Legislation, such as:

- International Maritime Organization (IMO) Modu Code
- IMO MARPOL regulations
- IMO COLREGS etc.

Statutory Port State Regulations such as:

- UK legislation PUWER, LOLAR, PFEER, Safety Case Regulations & Oil & Gas UK
- Norwegian NORSOK, NMD & NPD regulations
- USA Coastguard Regulations & BSEE regulations

Classification Society Regulations

- Det Norske Veritas Germanischer Lloyd (DNV-GL) Classification Society
- American Bureau Shipping (ABS) Classification Society
- Lloyds Register Classification Society

Industry Standards

- American Petroleum Industry (API) Standards, Specifications and Recommended Practices
- International Marine Contractors Association (IMCA)
- Marine Technology Society (MTS)
- Drops Forum
- Energy Institute EI17 HPHT

Rig Selection Services

AqualisBraemar RI can provide rig selection services where they can assist with the development of a rig selection shortlist and subsequent rig selection inspections. Rig selection inspections focus on:

- Evaluation of Rig HSE performance
- Evaluation of rig non-productive time (NPT) Performance
- Rig equipment suitability
- Rig local area regulatory compliance
- Certification and Documentation compliance

Our teams then produce comparative reports, or standalone reports depending on the client's specific requirements.

New Build Delivery Assurance

Our teams can provide on-site assurance during the final commissioning stages of new build delivery, with our team of experienced engineers having previously conducted numerous projects within shipyards throughout the Middle East and Far East.

We can assist in the development of final rig integrated acceptance test (IAT) programs, or as client representatives verifying compliance to the shipyard designed IAT.

Rig Inspection and Assurance Services

AqualisBraemar RI can provide pre-drilling contract rig inspection assurance, where the rig's regulatory compliance and equipment operability are verified. Detailed inspections of rig equipment and systems are conducted using the five-step assurance process:



- Step 1 Identify** the equipment and systems to be audited, and the geographical location of operations
- Step 2 Review** the documentation for the equipment and systems to check regulatory compliance
- Step 3 Inspect** the equipment and systems to check regulatory compliance
- Step 4 Function** test equipment to verify operability
- Step 5 Report** on the findings from the previous steps

Where non-conformance recommendations (NCR) are identified, the rig inspector as your service partner will assist in identifying solutions to ensure correct and satisfactory closure of any NCR.

As each offshore drilling rig is unique, we offer bespoke rig acceptance programs developed with the intimate experience of rig intake process. These rig acceptance programs are engineered to deliver both practical and achievable test programs.

AqualisBraemar RI use the latest in video technology to document and record aspects of rig acceptance testing such as tubular handling, which can be used to support crew competency and identification of potential drilling time efficiencies.

Integrated Control Management Systems (ICMS) Inspections

AqualisBraemar RI inspection teams use their experience of complex ICMS to conduct focused inspections on this area of drilling rig equipment, with ICMS often covering critical mission system functionality such as:

- Fire and gas detection
- Power management systems
- Blackout recovery systems
- Emergency shut down systems
- Bilge and ballast system control

Often ICMS are also linked into dynamic positioning systems, riser management systems and BOP emergency disconnect systems and drilling equipment phase back systems.

Our RI engineers can review associated cause and effect schedules and develop and execute test programs to ensure that these mission-critical systems are demonstrated to be fully operational.

ROV Assurance Inspection

ROVs are critical parts of subsea secondary well control shut down systems with API Standard 53 defining the required functionality. AqualisBraemar RI can assist in assuring that ROVs are fully operable a) to reach the subsea equipment, b) can correctly operate secondary well control shut-in and unlatch functions, and c) to deliver control fluid whether from inbuilt delivery systems or via hotlines. Review of ROV maintenance systems will also be conducted to ensure correct vehicle maintenance is being carried out.



Drilling Rig Equipment Factory Acceptance Testing (FAT)

AqualisBraemar RI engineers can provide client FAT witnessing ensuring that FAT test schedules are completed and all appropriate defects are recorded and reported to equipment owners. This covers all areas of drilling rig equipment of marine systems, drilling equipment and well control equipment.

Reactivation Assurance Service

AqualisBraemar RI can oversee and report on the reactivation of warm or cold stacked rigs before recommencing drilling operations. These activities include:

- Initial equipment inspection and appraisal
- Review of reactivation plans
- Witness appropriate OEM reactivation procedures
- Creation of bespoke drilling equipment test programs
- Execution of drilling equipment test programs
- Assurance of rigs compliance to drilling location local regulation

Focused Equipment Inspections

AqualisBraemar RI can conduct area focused drilling system inspections, typically using smaller teams to execute the inspections. Examples of focused inspections being, but not limited to:

- Cyber-based drilling equipment inspections
- Integrated control management systems (ICMS) inspections
- ROV system assurance inspections

As with full rig inspection, both equipment compliance and operability is verified based on equipment age, statutory requirements, local requirements and industry standards.

Rig Preservation Inspections

AqualisBraemar RI can provide expert appraisal of stacked rig equipment condition, based on experience of conducting inspections onboard rigs during cold stacked preservation periods as well as during subsequent reactivation periods. AqualisBraemar RI can assist clients with advice as to where industry lessons learned may be applied to their asset to ensure the continued preservation of equipment and smooth transitions when reactivation exercises are performed.

Cyber-Based Drilling Equipment Inspections

Our inspection teams can conduct focused inspections of cyber-based drilling equipment systems using their rig acceptance testing experience to allow full appraisal of the equipment's condition and operability. The focus is on the operability of the computer control systems, the remotely operated drill floor equipment and the interactions between those pieces of equipment.

Our engineers would assess the equipment's operational efficiency, ensuring that all the appropriate safeguards are in place and operational.

AqualisBraemar RI uses the latest in video technology to document and record tubular handling aspects, which can be reviewed and used to identify potential drilling time efficiencies.

Well control

HOSE International has in-depth operational experience on how well control equipment is manufactured, maintained and operated. This can save both operator and contractor time and money.

We provide the expertise, giving customers the assurance that their well control equipment is fit for purpose.

Services to Drilling Contractors

Harsh environments and conditions dictate that your inspection regime is even harsher and more thorough.

HOSE International's *hands-on subsea engineers* have earned a reputation as robust delivery partners in the field, cost effectively enhancing core crew efficiency – seamlessly adding professional experience and expertise where and when needed.

Understanding the challenges of drilling operators in predicting staffing requirements for operational contracts in these turbulent times of the onshore and offshore sectors, HOSE International provide highly competent and qualified subsea engineers for short or long-term hands-on cover.

Our experience of well control equipment has been gained across front-line reactivations, overhauls, re-certification, end-of-well, between well maintenance periods, drilling failure, modifications and upgrades.

HOSE International deploy promptly and efficiently in order to minimise any downtime and fit effortlessly into your onshore or offshore drilling teams.

Operational Support

We provide highly competent and qualified subsea engineers for short or long-term hands-on cover to supplement your rigs core team during reactivations, between well, end of well maintenance periods, SPS, recertifications, downtime, modifications and upgrades.

Gap Analysis

Our internally developed GAP analysis documentation covers API WCE specifications, geographical legislation and client requirements.

Vendor Surveillance/Third Party Witness

We provide a cost effective solution for witnessing and accepting equipment at OEM's and approved vendors facilities on behalf of clients.

Technical/Support

Supporting our clients' needs is a priority. Whether you are experiencing downtime, planning a modification/upgrade or simply can't find the information you're looking for, we are on

hand to offer technical/support to assist you with whatever problems you may be experiencing (Hydraulic, Mechanical, Electrical or Software).

Project Management/Support

HOSE International provides project management from the routine to the highly complex. Our Engineers supervise / liaising with management/OEM's and Class and ensuring prompt delivery, quality and traceability of equipment, documentation & certification.

Enhanced Operational Performance

Assisting your operational teams develop work instructions and procedures, manage change, reduce risks. Improving safety, operational performance, efficiency and reducing non-productive time.

Services to Oil & Gas Operators

In today's economic climate, few operators and drilling contractors can staff with sufficient, vital, well control equipment experience to satisfy the depth of regulatory compliance as stipulated by the certifying authorities.

There is a different way to protect your rig and your reputation - HOSE International.

Our technical skills and experience can add demonstrable value and add significantly to your resources - and with our passion we aim to be recognised as a partner of choice by all customers. Our work is based on three key fundamentals:

- Customer satisfaction
- Continuous performance improvement
- Enhanced competitiveness

Continuous performance improvement has a direct impact on customer satisfaction. It necessitates the relentless improvement of our processes, especially by identifying and applying innovative concepts, delivering sound results to our customers and working as a team to help improve overall achievements.

This ethos and the solutions that hose international deliver will soon be supported by our unique suite of proprietary technical reporting and tracking software. We understand that our engineers benefit our clients most when they are active infield, not form filling, and our technical software has been developed for speed and simplicity, minimising engineers time whilst keeping clients updated on equipment status.

The result to our clients; better informed, better prepared, better operational performance.



WCE Inspection, Verification & Acceptance

Our independent surveys are developed and detailed around the equipment used on your operation and the latest API S53 Edition. Ensuring equipment is operated, maintained & certified within regulatory compliance and meets with your contract specifications.

Equipment Suitability

Our teams bring unrivalled experience and competency from operational and WCE manufacturing backgrounds. This allows our company to robustly assure equipment suitability which includes; HAZOP/HAZID, FMECA, CONOPS, FAT & IAT/SIT.

Incident Investigation

We can work within your teams, providing independent technical expertise in order to identify the root cause of an incident.

Gap Analysis

Our internally developed GAP analysis documentation covers API WCE specifications, geographical legislation & Client requirements.

HPHT

Our WCE High Pressure High Temperature (HPHT) equipment suitability assessments are performed against Energy Institute Model Code of safe practice part 17 and Client specific requirements. Give assurance on equipment compliance.

MPD-managed Pressure Drilling

Packages are becoming more common placed as rig supplied equipment. Our independent surveys offer detailed equipment inspection ensuring it's being operated and maintained as per OEM specification.

