



## FSRU Integrity Services 'No Drydock...Safely'

### The Challenge

FSRUs are complex, high value assets and are increasingly being used for projects where they have to ensure a reliable gas supply to onshore infrastructures, often for extended periods on station, and mostly in shallow water. Turbid waters, high currents and terminal operator restrictions make in-water inspections difficult.

Inspecting LNG tanks without disrupting operations is a further challenge to meeting Class and regulatory requirements.

### The Solution

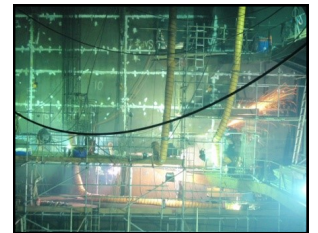
EM&I's unparalleled marine, offshore experience has resulted in a unique range of services designed to keep FSRUs in compliance and reliably delivering gas for extended periods.

We work in conjunction with the major Classification Societies to integrate RBI and remote/robotic inspection systems to reduce risk and cost.

In particular EM&I have developed compliant methods of inspecting LNG containment, hull structures and Ex equipment while achieving class and regulatory compliance and minimising POB, safety risk and cost.

The ODIN<sup>®</sup> diverless UWILD system is accepted by the major class societies and avoids diving and ROV operations for hull and ship side valve inspection, avoiding the risk of poor visibility, strong currents and diving restrictions by terminal operators.

The NoMan<sup>®</sup> system enables LNG tank and other confined spaces inspection without man entry, using remote cameras, laser scanning



EM&I's multi-skilled teams can carry out ODIN UWILDs and NoMan tank inspections in a single campaign, saving the cost of multiple mobilisations and operational downtime.

Our ability to work with class to develop RBI based long term plans results in an efficient and flexible Inspection Plan that is compliant and uses your fleet and our own experience on over 50 floating assets to reduce inspection costs.

### The Benefits

EM&I's innovative methodologies, RBI strategies, global spread and over 30 years of experience delivers a unique integrity package that eliminates off-hire time and reduces overall cost wherever you operate in the world.

EM&I's outstanding HSE record and Quality accreditations ensures that all work is carried out to the highest safety standards.

EM&I's leadership with the HITS JIP and other industry groups helps ensure that innovative methods that benefit FSRU operations are readily accepted by Classification Societies and regulators.

### Track Record

We measure our performance through systems like FPAL and unsolicited testimonials. Our proven track record of satisfied Clients is available on our Website.

Further information is available from your nearest EM&I office who will be pleased to discuss your particular needs.

Case Histories and References, demonstrating our capabilities and Client satisfaction, are available on our Website.

### Credentials

**Health & Safety** – We assure Occupational Health & Safety through our ISO 45001 accredited Health & Safety Management System. EM&I has an outstanding HSE record and has been awarded twelve, consecutive, RoSPA Occupational Health & Safety Gold Awards including five Gold Medals and four President's Awards plus other international awards.

Other safety awards include a platinum IFAP Safe Way Safety Achievement Award in Australia and the Leith Offshore Safety Award.

**Environmental** – We assure Environmental performance through our ISO 14001 accredited Environmental Management System.

**Quality** – We assure quality through our ISO 9001, ISO 17020 and ISO 17025 accredited Quality Management Systems and seek continuous improvement by measuring Client satisfaction through FPAL and regular Stewardship Reviews.

**Compliance** – EM&I's methods are approved by Classification Societies and accepted by regulators worldwide.

**Rope Access** – EM&I have been a Full Member of IRATA since its inception in the 1980s.

**HITS JIP** – EM&I have a leadership role in the Hull Inspection Techniques and Strategy (HITS) JIP whose members include Oil Majors, Classification Societies, Regulators, Lease Operators and service companies.

## FSRU Integrity Services

### No Drydock...Safely



Corrosion Protection



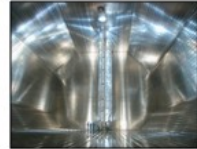
HAE Management



Pressure System IRM



Structural Inspection



Flare IRM



Piping / Vessel R&M



Structural R&M



Integrity / Compliance System



In-Water Corrosion Protection



In-Water Inspection



In-Water Structural R&M



Moorings



Lifting Gear

## Integrated Asset Integrity

### Integrated Services

EM&I's proven technical and project management capability means we can deliver complete projects and manage fleet-wide integrity for major lease operators and oil majors, thus letting you focus on your core business.

Our in-house service capability includes Asset Integrity Systems, Inspection, NDE, Maintenance & Repair, Corrosion Management, Cathodic Protection, Safety, Environmental and Engineering services.



Visit our Website:- [www.emialliance.com](http://www.emialliance.com)

