

QUALITY & TECHNICAL CERTIFICATIONS

October 2018



ODIN® Underwater Inspection in Lieu of Drydocking

I am writing in regard to the:

EM&I **ODIN** System

For Underwater Inspection in Lieu of Drydocking.

ABS has witnessed this system as it was used on two ABS Classed, Bahamas Flag, Floating Production Units. The UWILD surveys on both units were carried out to the satisfaction of the attending ABS Surveyors and found acceptable for Class.

This is to certify that

EM&I (Australia) Pty Ltd

Having been audited by ABS and having given a satisfactory practical demonstration of the service listed below, is recognised by ABS to provide the following service which ABS surveyors may rely on to make decisions affecting classification or statutory surveys.

Hull Gauging Firm

Certificate No: 16-FM31 18483-X
Expires on 7th July 2019

“This is to confirm that ABS Surveyors have witnessed the testing and operation of the **M.A.S.S.** system at the manufacturer’s establishment in Aberdeen and onboard a ship in order to determine the equipment suitability as a method of fulfilling the requirements of Part 1, Appendix 1/B & 1/C of ABS Rules for Steel Vessels with regard to Close-Up Surveys (including Ultrasonic Thickness Measurements)”

This is to certify that the Quality Management System of:

EM&I Group

has been assessed by ABS Quality Evaluations Inc. and found to be in conformance with the requirements set forth by:

ISO 9001: 2015

The Quality Management System is applicable to:

Engineering and Integrity Management Services to the Marine, Offshore, Petrochemical and Energy Industries including Inspection, Maintenance and Repair.

Certificate Number: 35924
Expires on 31st July 2021

Report No.: ICCP-RP-000-001 (Rev A1) dated June 2013
Doc Ref: ICCP/BOF-001 Rev a dated 23/07/2013

HullGuard

ABS would have no objection to the use of this system on Floating Production Storage and Offloading (FPSO) vessels or Floating Storage and Offloading (FSO) Vessels provided the installation is submitted for engineering approval for each vessel that the System is used on and the installation is carried out under the supervision of a Surveyor to this Bureau.

This is to certify that

EM&I (UK) Ltd

Having been audited by ABS and having given a satisfactory practical demonstration of the service listed below, is recognised by ABS to provide the following service which ABS surveyors may rely on to make decisions affecting classification or statutory surveys.

Hull Gauging Firm

Certificate Number: 16-AD3165203-X
Expires on 29 June 2019

Copies of original Certification available on request





Certificate of Recognized External Specialist

This is to certify that: **EM&I (Holdings) Ltd**
 Located at 18 Farburn Terrace, Dyce, Aberdeen, AB21 7DT

Having been audited by **ABS** and having given a satisfactory practical demonstration of the service listed below, is recognised by ABS as a Service Provider to provide services which ABS Surveyors may rely on to make decisions affecting classification or statutory surveys.

Remote Inspection Techniques

Certificate Number: 17-AD3367508-B
 Expiry Date: 02 Dec 2020

Certificate of Recognized External Specialist

This is to certify that: **EM&I (Holdings) Ltd**
 Located at 18 Farburn Terrace, Dyce, Aberdeen, AB21 7DT

Having been audited by **ABS** and having given a satisfactory practical demonstration of the service listed below, is recognised by ABS as a Service Provider to provide services which ABS Surveyors may rely on to make decisions affecting classification or statutory surveys.

In-Water Surveys

Certificate number: 17-AD3367508-A
 Expiry Date: 02 Dec 2020



Certification of a Firm engaged in Thickness Measurements of Hull Structures

EM&I (Australia) Pty Ltd

is certified by the Society to carry out and report on **thickness measurement of hull structure** of ships classed with Bureau Veritas, within the scope of rules, part A - chapter 2.

Attestation No: SGP0/JEC/201608031935 PM
 Valid until: 17 July 2019

M.A.S.S. (Marine Access Survey Safety) Method

“This is to confirm that the Society’s Surveyors have witnessed the testing of the above system at the firm’s establishment in Aberdeen and in London in order to determine the equipment suitability as a method for complying with the requirements of Chapter 2 of the Rules for Classification of ships with respect to close up surveys”

ODIN Alternative UWILD

This letter is intended to advise that Bureau Veritas have no objection in principle to the ‘Alternative Underwater Survey Techniques in Lieu of Bottom Survey in Dry-Condition’ of EM&I.

Agreement of Diving Team for In-Water ROV Surveys

This is to certify that

EM&I (UK) Ltd

are agreed by the Society to perform **In-Water Surveys**, in lieu of periodical bottom survey in drydock, in presence of surveyors of the Society.

Attestation No: LDR0/PRO/20160708135445
 Valid until: 04 July 2019

Copies of original Certification available on request





Examination of plating (i.e. bottom shell or inner bottom) in way of cargo oil structure strums

It is considered that the proposed system of inspection using the

COBRA method

appears to be a suitable "other means for visual inspection" as permitted by the Regulation.

Therefore in principle there is no objection to the use of the COBRA method as a means of examination of the bottom shell plating and adjacent bulkheads in way of cargo oil suction strums.

"This is to confirm that, due to continued satisfactory operational experience with the Society's Surveyors using the

M.A.S.S. (Marine Access Survey Safety) system

at the company's establishment in Aberdeen and onboard ships, at various locations and times, the equipment continues to be acceptable as a method of fulfilling the requirements of Part 1, chapter 3, section 7 of the Rules and Regulations for the Classification of Ships with respect to Close-Up Surveys."

This is to certify that:

EM&I (Australia) Pty Ltd

Has been assessed and approved in accordance with the requirements of Lloyd's Register as a service supplier for the provision of:

Thickness Measurement of Hull Structure

Made in accordance with LR's relevant Rules and Regulations for Classification as amended from time to time. The thickness measurements may be used by the surveyors or ship owners' representatives when making decisions affecting classification, statutory certification or the operation of the ship.

Certificate No: MNDE/2016/7437
Expiry Date: 26 May 2019

This is to certify that:

EM&I (UK) Ltd

Has been assessed and approved in accordance with the requirements of Lloyd's Register as a service supplier for the provision of:

Thickness Measurement of Hull Structure

Made in accordance with LR's relevant Rules and Regulations for Classification as amended from time to time. The thickness measurements may be used by the surveyors or ship owners' representatives when making decisions affecting classification, statutory certification or the operation of the ship.

Certificate No: MNDE/2015/6697
Expiry Date: 02 May 2018

Copies of original Certification available on request





ODIN—ROV Operator General Acceptance Statement

This is to advise that DNVGL would have no objection to let EM&I perform ROV inspections during in-water surveys of Mobile Offshore Units classed by DNVGL..

The **ODIN** system as presented is considered to be in line with applications as for ROV as defined in the guideline on UWILD.

This is to certify that the Management System of

EM&I (Australia) Pty Ltd

of

Level 5, 160 St Georges Terrace, Perth WA 600D

Has been found to conform to:-

OHSAS 18001 2007

For Engineering and Integrity Management Services to the Marine, Offshore, Petrochemical and Energy Industries including Inspection, Maintenance and Repair.

This is to certify that
EM&I UK Aberdeen
is granted acceptance for

Ultrasonic Thickness Measurements of Ship's Structure,

classed by the Society in accordance with Approval Programme No. 402A and IACS UR Z17, as amended.

Category 1: Authorised to do measurements on all types and sizes of ships classified by DNV.

Re: Surveys assisted by the **M.A.S.S.** method

We refer to survey onboard "Mobil Aladdin" 3rd—19th November 1994 and your letter of 22nd January 1995.

DNV look upon the M.A.S.S. method as a tool which may assist the surveyor in carrying out his duties.

This is to certify that the Management System of

EM&I (Australia) Pty Ltd

of

Level 5, 160 St Georges Terrace, Perth WA 600D

Has been found to conform to:-

AS/NZS 4801 2001

For Engineering and Integrity Management Services to the Marine, Offshore, Petrochemical and Energy Industries including Inspection, Maintenance and Repair.

This is to certify that the Management System of

EM&I (Australia) Pty Ltd

of

Level 5, 160 St Georges Terrace, Perth WA 600D

Has been found to conform to:-

AS/NZS 9001:2008

For Engineering and Integrity Management Services to the Marine, Offshore, Petrochemical and Energy Industries including Inspection, Maintenance and Repair.

Copies of original Certification available on request





This is to certify that the Management System of
EM&I (Australia) Pty Ltd
 of
 Level 5, 160 St Georges Terrace, Perth WA 600D
 Is granted acceptance for
Ultrasonic Thickness Measurements of Ship's Structure,
 classed by the Society in accordance with approval programme no. 402A and IACS UR Z17 as amended.
 Category 1: authorised to do measurements on all types and sizes of ships classified by DNV.

This is to certify that the Management System of
EM&I (Australia) Pty Ltd
and
EM&I (Singapore) Pty Ltd
 Level 5, 160 St Georges Terrace, Perth WA 600D
 Has been found to conform to the Quality Management System Standard:
ISO 9001:2015
 For Engineering and Integrity Management Services to the Marine, Offshore, Petrochemical and Energy Industries including Inspection, Maintenance and Repair.



National Association of Testing Authorities Australia has accredited
EM&I (Australia) Pty Ltd
 Following demonstration of its technical competence to operate in accordance with
AS/NZS ISO/IEC 17020
 As a type A inspection body
 For Pressure Equipment and Lifting Equipment

National Association of Testing Authorities Australia has accredited
EM&I (Australia) Pty Ltd
Perth NDT
 Following demonstration of its technical competence to operate in accordance with
ISO/IEC 17025
 This facility is accredited for the tests shown on the *Scope of Accreditation* issued by NATA

Copies of original Certification available on request





EM&I (UK) Ltd
is certified by Germanischer Lloyd as approved firm engaged in
Thickness Measurements of Hull Structure
of vessels classed with Germanischer Lloyd.
This company is assessed regarding their capability of taking and reporting thickness measurements in accordance with the requirements of the Society.

ClassNK

This is to certify that
EM&I (UK) Ltd
Is approved as a firm engaged in
Thickness Measurements
on ships under the Rules for Approval of
Manufacturers and Service suppliers of the Society.
Certificate No: 16TZ024
Valid until: 20 01 2019

M.A.S.S. (Marine Access Survey Safety) Method
This is to confirm the Society's Surveyors have witnessed the testing and operation of the above system at the firm's establishment in Aberdeen and onboard a ship in order to determine the equipment suitability as a method of fulfilling the requirements of 3.1.4 Part B of the Rules for the Survey and Construction of Steel Ships with respect to close up survey.



EM&I (UK) Ltd
Is accredited as a Type C Inspection body in accordance with the recognised International Standard
ISO/IEC 17020
General Criteria for the operation of various types of bodies performing inspection.
This accreditation demonstrates technical competence for a defined scope as detailed in and at the locations specified in the schedule to this certificate.

This is to certify that **EM&I**
has been approved in compliance with the
RINA "RULES FOR THE CERTIFICATION OF SERVICE SUPPLIERS"
For the supply of the following services to ships and other units classed by RINA:
A—Thickness Measurements on Ships

Copies of original Certification available on request

