Guide for

Hull Inspection And Maintenance Program



July 2016

GUIDE FOR

HULL INSPECTION AND MAINTENANCE PROGRAM
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Foreword

This is the fifth edition of the *Guide for Hull Inspection and Maintenance Program*.

The reason for the changes to this Guide was to further clarify the program requirements.

ABS supports the implementation by Owners of a proactive hull maintenance program complying with self-imposed standards and the requirements in this Guide. In conjunction with the normal classification surveys, such an approach provides a means to regularly evaluate and maintain the vessel's hull structural condition.

This Guide becomes effective on the first day of the month of publication and will be applicable to all existing vessels with **HIMP** notation.

Users are advised to check periodically on the ABS website www.eagle.org to verify that this version of this Guide is the most current.

We welcome your feedback. Comments or suggestions can be sent electronically by email to rsd@eagle.org.

GUIDE FOR

HULL INSPECTION AND MAINTENANCE PROGRAM

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SECTION 1
Introduction

1 General

(1 July 2016) The Hull Inspection and Maintenance Program (HIMP) is offered by ABS to assist Owners and Operators to more effectively inspect and maintain the hull structure on their vessels.

Note:

The general term "vessel" used throughout this Guide is meant to be a ship, a barge, an offshore unit or facility, or any other floating or fixed structure where HIMP would be applicable.

Vessels enrolled in this program may be eligible for the optional class notation **HIMP**. This notation signifies that the vessel classed with ABS is enrolled in the Hull Inspection and Maintenance Program in accordance with this Guide.

This Guide sets forth requirements for the HIMP intended to assist users in the development, improvement, and application of their hull maintenance management systems. This Guide details the procedures associated with the development and implementation of an approved Hull Inspection and Maintenance Program. When properly performed by Owner's Qualified Inspectors who are acceptable to ABS, such a program may be used as an aid to more effectively assess and document the condition of the hull structure.

Hull structure inspection and maintenance on vessels using the HIMP with or without the associated notation does not supersede the judgment of an ABS Surveyor, nor does it waive ABS Surveyor attendance for the periodic surveys necessary for maintenance of Class, including damage and repair, as required by the applicable ABS Rules or Guides used for classing the vessel's hull structure.

Note:

The word "Inspector" and "Inspection" in this Guide refers to the Owner's QI and QI's inspection respectively. The word "Surveyor" and "Survey" in this Guide refers to the ABS Surveyor and his/her survey respectively.

1.1 IACS PR 33 Owner's Hull Inspection and Maintenance Schemes

Owner's hull inspection and maintenance schemes are to be encouraged as a means for maintaining compliance with classification and statutory requirements between surveys. However, these schemes are not to be accepted as an alternative to, or a substitute for, the performance of required classification and/or statutory surveys of the hull by the Surveyors of the Society, or of another duly authorized Society. The Surveyors may be assisted, where appropriate, by service suppliers as defined in UR Z17.

1.3 HIMP Notation *(1 July 2016)*

For assignment of the **HIMP** notation vessel's hull inspection and maintenance scheme is required to be examined at time of its implementation.

For requirements of the implementation survey, refer to Section 2 of this Guide.

For maintenance of the **HIMP** notation, vessel is to be enrolled into ABS Continuous Survey of Hull and vessel's hull inspection and maintenance scheme and is required to be examined within the Annual Survey window period of the vessel. For requirements of the maintenance surveys, refer to Section 3 of this Guide.

Note:

Vessels classed with "ESP" or "ESDC" notations cannot be enrolled into ABS Continuous Survey of Hull and therefore will not be eligible for **HIMP**.

The implementation and annual surveys are to be carried out by an Owner's Qualified Inspector (QI) and ABS Surveyor. For requirements of the QI's training, duties and performance, which affects the vessel's **HIMP** notation, refer to Section 4 of this Guide.

Onboard documents, required to be readily available to the ABS Surveyor during the implementation, and annual surveys are referenced in Section 5 of this Guide.

1.5 HIMP at Transfer of Class *(1 July 2016)*

Existing vessels that are transferring into ABS Class from another IACS society may also be eligible for the optional class notation **HIMP**, provided all requirements of this Guide are satisfactorily complied with.

3 Software Programs *(1 July 2016)*

Definitions of software programs for hull inspection and maintenance and their utilization requirements are explained below.

3.1 HM (Hull Manager) Software

The ABS HM software was formerly known as the Hull Inspection or HIMP software. This is a browser-based software offered by ABS Digital Engineering. When set up properly with the customized vessel specific data, the software will satisfy the ABS *HIMP Guide* requirements for vessel-specific inspection regime and data management tool.

Vessels enrolled into HIMP are required to use the ABS NS HM software or software that is equivalent to the ABS NS HM.

3.1.1 Alternative Hull Inspection and Maintenance Software

When a vessel is already fitted with a hull inspection and maintenance software program that is different than the ABS product, the use of such software is to be agreed by ABS.

3.3 HM3D (Hull Manager 3D) Software

The HM3D software is based on the HM Software and provides added granularity to what is captured in HM and also adds functionality in terms of condition management, trending, and assessment capability of vessels. This software is also offered by ABS Digital Engineering. The use of HM3D software for enrollment into HIMP is optional.

5 Scope

This Guide is intended to address the requirements for the Hull Inspection and Maintenance Program in conjunction with the applicable requirements of the ABS Rules/Guides.

These requirements are applicable to those features that are permanent in nature and can be verified by plan review, calculation, physical survey or other approved means.

5.1 Included in Scope *(1 July 2016)*

5.1.1 General Items

The following items are included in the scope of this Guide and will require visual examination and appropriate measurement/testing by the Owner to confirm general conditions of the vessel to satisfy HIMP:

i) General condition of the accessible parts of the hull structure

ii) Condition of coatings and corrosion prevention

iii) Overall cleanliness of spaces and tanks within the hull

5.1.2 Items, Spaces, and Structures Requiring Visual Examination or Any Type of Nondestructive Testing by the Owner

The following items, spaces, and structures are also included within the scope of this Guide and will require visual examination or any type of nondestructive testing by the Owner to satisfy HIMP:

i) Hatchways, manholes, and other openings in the freeboard deck (bulkhead deck) and enclosed superstructure decks. Machinery casings and covers, companionways, and deckhouses protecting openings in freeboard or enclosed-superstructure decks.

ii) Portlights together with deadcovers, cargo ports, bow or stern entries, chutes, and similar openings in hull sides or ends, below the freeboard deck or in way of enclosed superstructures.

iii) Ventilators, tank vent pipes together with flame screens, and overboard discharges from enclosed spaces on or below the freeboard deck.

iv) Watertight bulkheads and end bulkheads of enclosed superstructures.

v) Spaces located on first tier above the deck that provide immediate access to hull below, which affects the vessel's watertight integrity in case of damage or progressive flooding. For example, pump room access.

vi) Doors, hatches, and other closing appliances that are required to maintain:

- Watertight integrity under damage stability criteria and are installed anywhere on the vessel
- Watertight integrity of compartments/spaces below the main deck
- Weathertight integrity of compartments and spaces on the first and second tier above the deck

vii) Closing appliances for all of the above, including hatch covers, doors, check valves, together with their respective securing devices, dogs, sills, coaming, and supports.

viii) Freeing ports together with bars, shutters, and hinges.

ix) Protection of the crew, guard rails, lifelines, gangways, and deckhouses accommodating crew.

x) External hull plating and its main structural members required to be examined by the applicable ABS Rules. This plating includes but is not limited to side shell plating, bilge plating, bottom plating, and deck plating on ship-shaped vessels. For vessels that are not ship-shaped, applicable Rules are to be consulted (e.g., leg well plating on self-elevating units, bracings on semi-submersible units, plating surrounding the moon pool opening on drillships, etc.)

xi) Spaces such as ballast water tanks, fresh water tanks, potable water tanks, all types of cargo (dry/liquid/gas) tanks, fuel/lube oil tanks, cofferdams, voids, and habitable areas that are located below the uppermost continuous deck together with their internal structural members. Internal structural members will normally include longitudinal and

transverse bulkheads, web frames, tank top plating, hopper plating, girders, floors, and other stiffening members. On vessels designed to carry liquefied gas (e.g., LNG carriers), examination of special barriers inside cargo tanks are within the scope of HIMP.

xii) Spaces or structures that contain Critical Area (CA) throughout the vessel. These areas could be below or above the uppermost continuous deck exposed to weather and will be specifically indicated on hull drawings. For example, modules/stools for main members of topside structures of production units, etc.

xiii) Spaces other than ballast tanks, cargo tanks, oil tanks, cofferdams, voids, and habitable areas that are located below the uppermost continuous deck. For example, access passageways for personnel, elevator shafts/trunks, internal passageways/trunks for emergency exit, chain pipes and lockers below the deck, watertight compartments for speed log and hydrophone, etc.

xiv) Foundations supporting major structural members, equipment or machinery. For example, substructure supporting the drilling deck/platform on mobile offshore drilling units, foundations for anchoring or mooring winches, foundations for deck cranes (not the crane pedestal itself), foundations for dynamic positioning thrusters, etc..

xv) Helideck and its supporting structure.

Note:

Measurements and testing that may be conducted by a QI includes basic inspection items such as measurement of plate/stiffener deflections, operational testing of doors/hatches together with chalk testing of the gaskets, preliminary examination of suspect welds by dye-penetrant, etc.

5.3 Excluded from Scope *(1 July 2016)*

The following spaces and structures are not included within the scope of this Guide and may not require visual examination by the Owner to satisfy HIMP:

i) All enclosed/semi-enclosed spaces and structures other than those mentioned in 1/5.1.

ii) Temporary structures installed onboard the vessel (e.g., portable industrial buildings, etc.).

iii) Tanks that are located below the deck not integral to the vessel's hull structure (e.g., independent fuel oil tanks, etc.).

iv) Crane pedestals.

v) Open ship-side spaces (e.g., sea chests).

Although some of the above listed structures and spaces are not directly within the scope of HIMP, they are required to be examined by the ABS Surveyors in accordance with applicable classification rules or statutory regulations. For example:

- Sea chests, which are a requirement of Drydocking Survey for classification.
- Hazardous areas and their adjacent spaces, which are required by the classification rules, and the condition of decks and bulkheads in such areas may affect class but not directly affect strength or watertight integrity of a vessel.
- Cabins/compartments within living quarters; which are a requirement of SOLAS or IMO MODU Code, as applicable).

5.3.1 Statutory Requirements *(1 July 2016)*

The scope of this Guide does not cover any statutory survey requirements that may apply to the vessel being considered (e.g., Load Line, SOLAS, MARPOL, MODU Code. Although ABS is authorized to perform statutory surveys on behalf of many flag States, ABS is not in a position to

alter or waive the statutory requirements. The administration or regulatory body is the final determining body for statutory or regulatory requirements under their jurisdiction.

7 Suspension or Cancellation of HIMP *(1 July 2016)*

The following conditions reported by the attending Surveyor may either result in ABS's suspension or cancellation of the Owner's Hull Inspection and Maintenance Program, and the removal of the **HIMP** notation assigned to the vessel.

7.1 Suspension of HIMP Notation

Under any of the following circumstances, the program may be suspended and the **HIMP** notation may be removed by ABS until an updated plan is resubmitted for approval and an Implementation Survey is completed:

i) Vessel has changed ownership or management.

ii) Vessel has commenced major hull structure alteration/modification.

7.3 Cancellation of HIMP Notation

The Owner may cancel the HIMP at any time by informing the divisional Assistant Chief Surveyor (Marine or Offshore as applicable) or the local ABS survey office in writing.

Under any of the following circumstances, the program may be cancelled and the **HIMP** notation may be removed by ABS:

i) The program is not being satisfactorily carried out.

ii) Maintenance records are found to be unacceptable.

iii) General condition of the hull structure is determined to be unacceptable.

SECTION 2

Enrollment into HIMP and Implementation of HIMP *(1 July 2016)*

1 Enrollment into HIMP

In order to enroll a vessel into the Hull Inspection and Maintenance Program (HIMP), the following conditions stated in this Subsection of this Guide are to be complied with and agreed by ABS:

1.1 Requirements for the Program

The Owner's HIMP is to at least include the following:

i) Confirmation that the Owner has a safety policy and procedures in place for confined space entry. (For information only)

ii) Confirmation that the program is to report as a minimum on the structural condition/grading of all applicable items required to be inspected in accordance with Section 3 of this Guide.

iii) Confirmation that the Owner has enrolled the vessel into ABS Continuous Survey system (see Part 7 of applicable ABS Rules) so that the program allows continuous inspection and condition monitoring of the vessel's hull.

iv) The use of grading criteria similar to that shown in the ABS *"Inspection Grading Criteria for the ABS Hull Inspection and Maintenance Program (HIMP)"*.

v) Maintenance descriptions for each item detailing the minimum work necessary to demonstrate a satisfactory examination.

vi) Sample reporting and recording procedures are to demonstrate that the HIMP is being properly adhered to onboard the vessel. This is to include a system for reporting the following information to the Owners/Management office as well as recording same onboard the vessel:

- Details of the inspections carried out (details are to include proper structure identification such as tank/hold information, frame number, deck, shell plating, stringers, bulkheads, and longitudinals as identified on the vessel's drawings)
- The conditions as found including documentation by representative digital photographs. The photos are to be digitally date stamped. A minimum of six (6) photos per any zone examined.

  Note:

  Spaces or tanks to be examined will be divided into zones to cover all boundaries of these compartments such as its side shell plating, longitudinal or transverse bulkheads, bottom plating, and underdeck plating, as applicable. Compartments may be divided into 2, 3 or more zones depending upon its type and size. The hull inspection and maintenance software is to show the exact number and location of the zones in each compartment.
- Any findings, repairs or maintenance undertaken shall be reported upon by a Company-consistent scheme which is capable of denoting the severity of any finding.

vii) Confirmation that the Owner employs full-time Qualified Inspector(s) who are trained to carry out visual examination of hull structure on vessels to be enrolled into HIMP. These QIs cannot be third-party or subcontractor personnel.

1.3 Age and Type of Vessel

There is no restriction on the age or type of a vessel when entered into the program. HIMP is offered to all ABS classed vessels. When an existing vessel applies to enter the program, ABS will conduct a review of the vessel's survey history to assess the details of the hull structure, previous hull damages, open recommendations, and tank coating conditions. Upon completion of this review, the Owner is to be notified of any issues which do not comply with the HIMP requirements. Vessels found to be in satisfactory condition may be considered eligible for HIMP.

To assist in the ABS review, Owners must support the application with information requested in Subsection 2/1 *i)* to *vii)* together with details of their hull maintenance programs.

1.5 Surveys

All applicable ABS periodic hull surveys required to maintain classification of the vessel are to be up-to-date.

In order to satisfactorily maintain the **HIMP** notation, all Hull Surveys are to be up-to-date.

Note:

All conditions of class are to be closed within the specified due dates or agreed to be extended. Conditions of class include any open (unresolved) ABS design review comment or an outstanding comment written by attending ABS Surveyors.

1.7 Damages and Failures

Evidence of damage, failure, deterioration or repair to the hull, which affects or may affect classification, is to be submitted for examination by an ABS Surveyor at the first opportunity. All repairs found necessary are to be carried out to the Surveyor's satisfaction prior to participation in HIMP.

3 Implementation of HIMP

Implementation of HIMP requires an onboard attendance by ABS and satisfactory completion of the requirements stated below in 2/3.1 and 2/3.3. A **HIMP** notation may be assigned upon confirmation of 2/3.1 but does not become fully effective until a verification survey has been carried out by the ABS Surveyor. This verification survey (2/3.3) must be carried out as soon as possible but no later than the next due drydocking survey.

3.1 Onboard Documents and Software

Prior to commencement of the implementation survey, the following documents and software mentioned in 2/3.1.1 through 2/3.1.3 are to be confirmed by the attending Surveyor:

3.1.1 ABS Acceptance Letter

ABS letter of acceptance regarding vessel's enrollment into HIMP.

3.1.2 HIMP Software

ABS HM-software (or alternatively, an ABS agreed software program) is installed on the vessel and operational on the vessel's computer.

3.1.3 Inspector's Training Certificate and Inspection Records

The Inspector has a valid training certification issued by ABS that shows he/she has satisfactorily completed an ABS training program (or alternatively, evidence of another hull inspection and maintenance training program agreed by ABS). See 4/5.1 for specific requirements for initial verification and certification of Inspector.

Inspector's record of hull inspections completed prior to the implementation survey of the vessel's program. As a minimum, an inspection equivalent to Annual Survey – Hull is required to be completed by the Inspector prior to Surveyor's attendance.

3.1.4 Documents required by Section 5 of this Guide

All documents required by Section 5 of this Guide are available on board the vessel.

3.3 Implementation Survey

The implementation survey is to be carried out by an ABS Surveyor accompanied by the Owner's Inspector.

When ABS confirmation in accordance with 2/3.1 has been completed, the following surveys are to be carried out:

i) A minimum of two ballast tanks (or similar salt water tanks) are to be examined by each trained Inspector in the presence of the ABS Surveyor.

ii) The Inspector's decisions, including grading of the zones are to be assessed by the Surveyor.

iii) The Inspector's capability and proper entry of the findings into the ABS NS HM software (or equivalent), as a result of the above examination, is to be assessed by the Surveyor.

Upon satisfactory completion of the above, the attending Surveyor is to report back to ABS advising the HIMP Implementation survey is completed.

SECTION 3

Maintenance of HIMP *(1 July 2016)*

1 HIMP Inspection Intervals and Requirements

The inspections performed in accordance with the ABS HM software (or equivalent software agreed by ABS) are not intended to preclude the Owner from carrying out occasional or additional inspections and maintenance as a result of an unexpected failure or event (such as damage resulting from heavy weather or cargo loading/unloading operations) which may affect the condition of the hull or equipment. When inspections and maintenance are carried out, the details of such inspections, including the conditions found, are to be recorded using the vessel's onboard software.

For compartments/spaces/tanks required to be inspected during Intermediate and 5 Year Inspection, it is recommended that inspections are carried out concurrently by the QI and the attending Surveyor.

If any deficiency which affects or may affect classification is discovered during the HIMP inspection, it is to be submitted by the Owner or Operator for examination by a Surveyor at the first opportunity in accordance with 7-1-1/7 of the ABS *Rules for Survey After Construction (Part 7)*, 7-2-1/7 of the ABS *MOU Rules* and Part 1 of the ABS Rules.

1.1 Inspection Intervals

In order to maintain a vessel's **HIMP** notation, inspections are to be carried out at following minimum intervals.

1.1.1 Annual Inspections

Annual inspections are to be completed within three months before or after of each annual anniversary date of the ABS crediting of the previous Special Survey – Hull, or original construction date. Continuous survey requirements for those parts (items) due are also to be completed each year. Annual Survey of Hull cannot be credited by ABS until all due annual HIMP inspections are completed and reported by the QI.

1.1.2 Intermediate Inspections

An intermediate inspection, which will include either an out-of-water Drydocking or an Under Water Inspection in Lieu of Drydocking (UWILD), is to be completed in the second or third year of each five-year special survey cycle.

In general, the frequency of Intermediate inspections is to be between 24 to 36 months. In no case is this frequency to be extended beyond 36 months from the date the last such inspection was completed.

Note:

For mobile offshore drilling units, the requirements of an "Intermediate Inspection" are the same as a rule-required "Intermediate Drydocking/UWILD".

1.1.3 5 Year Inspections

The 5 year inspection carried out in accordance with continuous hull inspection program, is to be completed within five years after the date of build or 5 years after the crediting date of the previous Special Survey – Hull. Completion of the 5 year inspection will include a Drydocking survey (or UWILD for offshore vessels). The frequency between 5 year inspections is not to exceed 60 months from the anniversary date or completion of the last such inspection.

3 Annual Surveys

A vessel's maintenance of its HIMP notation requires periodic surveys by ABS as well as the Owner's Qualified Inspector (QI).

A vessel with the HIMP notation is to be subjected to Annual Surveys conducted in conjunction with each Annual Survey – Hull, and the Surveyor is to review and verify the following information:

i) Vessel's Status and History

ii) ABS HM software as outlined in 3/1 of this Guide (or an alternative equivalent software reflecting compliance with the aforementioned minimum inspection criteria) is onboard the vessel.

iii) HIMP information is being updated on the NS HM software (or alternative equivalent software) and the planned inspections are being carried out and reported upon by the Owner's QI

iv) All of the certifications for the QIs are current, and documentary evidence exists for completed HIMP inspections completed within the previous year. Where either condition is not met, the Inspectors may be disqualified by the attending Surveyor.

v) Documentation required by Section 5 of this Guide is available on board

At the time of the survey, the Surveyor is also to conduct a general review of the HIMP inspections undertaken by the QI(s) within the previous year. Areas with damages or other defects indicated in the inspection report(s), that affect or may affect classification are to be examined by an ABS Surveyor.

Note:

During other classification surveys, such as the Intermediate and Special Continuous Survey – Hull, the records of the Hull Inspection and Maintenance Program are to be made available for the attending Surveyor(s) to review prior to conducting the survey.

Poor performance of a QI may result in removal of a vessel's **HIMP** notation (see 4/5.3 of this Guide).

3.1 Inspection Requirements for Ships other than Offshore Units

Inspection requirements for vessels other than offshore units are to comply with 3/3.1.1 through 3/3.1.3.

3.1.1 Annual Inspection

The following items are to be examined and reported upon:

i) Suspect areas and any other spaces required to be examined by the Rules

ii) Deck area structure

iii) Hatch covers and access hatches with closing appliances

iv) Deck equipment, deck fittings, helicopter landing pads

v) Piping and supports

vi) Superstructures and deckhouses, including doors and closing appliances

vii) Shell plating above the waterline

viii) Cargo holds, cargo tanks, and spaces

ix) Voids and/or cofferdams

x) Pipe ducts and tunnels

xi) Longitudinal box girders and cross deck box beams

xii) Other accessible spaces

3.1.2 Intermediate Inspection

The following items are to be examined and reported upon:

i) All inspections required by 3/3.1.1 of this Guide

ii) External condition of the shell plating below the waterline

iii) Internal condition of the boundary plating, internal bulkheads, framing, girders, and other types of stiffening members of all tanks containing bilge or oily water

iv) Internal condition of the boundary plating, internal bulkheads, framing, girders, and other types of stiffening members of all dry spaces, in accordance with the ABS *Rules for Building and Classing Marine Vessels*.

v) Sea connections and overboard discharges

3.1.3 5 Year Inspection Requirements

The following items are to be examined and reported upon:

i) All inspections required by 3/3.1.1 and 3/3.1.2 of this Guide

ii) Internal condition of the boundary plating, internal bulkheads, framing, girders, and other types of stiffening members of all tanks that are designed to mainly carry liquids other than salt water, such as:

a) Fresh water tanks

b) Fuel, diesel, or lube oil tanks

c) All other liquid tanks not required to be inspected per 3/3.1.1 and 3/3.1.2 of this Guide

iii) Designated Critical Areas (CAs) as defined in the Rules.

3.3 Inspection Requirements for Mobile Offshore Drilling Units

Inspection requirements for mobile offshore drilling units are to comply with 3/3.3.1 through 3/3.3.3.

Note:

Inspection requirements for offshore vessels other than MODUs (such as non-drilling type MOUs, FOIs, fixed platforms, etc.) will be added at a later date.

3.3.1 Annual Inspection for MODUs

The following items are to be examined and reported upon:

i) Suspect areas and any other spaces required to be examined by the Rules (such as when required due to presence of substantial corrosion, uncoated tanks, etc.)

ii) External condition of the shell and main deck plating above the waterline

Note:

On column stabilized units, this includes external plating of the columns and the upper hull. On self-elevating units, this includes the shell plating and leg well plating.

iii) External condition of the uppermost continuous deck that is exposed to weather and all weathertight and watertight closing devices for spaces below the deck

iv) External condition of accessible hull structure above the waterline designated as "Special Application Structure" or "Primary Application Structure" and as defined in the ABS *Rules for Building and Classing Mobile Offshore Units (MOU Rules)* or as indicated on the Owner's SPD, whichever is the more onerous. For detailed listing of such structures, refer to Sections 3-2-3, 3-2-4, and 3-2-5 of the *MOU Rules*. These structures may include, but are not limited to, the longitudinal/cross deck 'I' or 'box' type girders, lattice-type legs, columns, horizontal/transverse/diagonal bracings, lower hulls (pontoons), crane foundations, etc.

v) Hull structure members such as all:

- ***a)*** Hatch covers or other closing appliances
- ***b)*** Deck fittings or equipment
- ***c)*** Main deck piping supports
- ***d)*** Anchoring/mooring winch foundations
- ***e)*** Topside module stool foundations
- ***f)*** Flare boom foundation
- ***g)*** Fairlead foundations of drilling units
- ***h)*** Anchor racks as accessible
- ***i)*** Substructure of drilling units
- ***j)*** Cantilever structure of drilling units
- ***k)*** Helideck and support structures

vi) Machinery or service spaces (e.g., engine room, steering gear room, bow thrusters spaces, cargo pump rooms) and all control stations for safe operation of the vessel

vii) Watertight bulkheads and end bulkheads of enclosed superstructures and deck houses located above the uppermost continuous deck

viii) Watertight closing appliances (doors, hatches, etc.) fitted on enclosed superstructures and deck houses located above the uppermost continuous deck

3.3.2 Intermediate Inspection for MODUs

The following items are to be examined and reported upon:

i) All inspections required by 3/3.3.1 of this Guide

ii) External condition of the shell and the bottom plating below the waterline, including ship-side shell connections of all inlet/discharge valves

Note:

Inspections below the waterline are expected to be carried out by a qualified Diver or a suitable Remotely Operated Vehicle (ROV).

iii) Internal structural and coating condition of the boundary plating, internal bulkheads, framing, girders, and other types of stiffening members of two representative salt water tanks

Note:

Coating condition of these representative ballast tanks are to be surveyed and verified by an ABS Surveyor. Coating conditions reported with less than "Good" require examination of additional ballast tanks, and may also result in inspection of all such tanks.

3.3.3 5 Year Inspection for MODUs

The following items are to be examined and reported upon:

i) All inspections required by 3/3.3.1 and 3/3.3.2 of this Guide

ii) Internal structural and coating condition of the boundary plating, internal bulkheads, framing, girders, and other types of stiffening members of all tanks that are designed to mainly carry salt water or brine, such as:

- ***a)*** Ballast tanks
- ***b)*** Preload tanks
- ***c)*** Cargo/ballast tanks
- ***d)*** Peak tanks
- ***e)*** Brine tanks

iii) Internal condition of the boundary plating, internal bulkheads, framing, girders, and other types of stiffening members of all pipe ducts/tunnels and chain lockers

iv) Internal condition of the boundary plating, internal bulkheads, framing, girders, and other types of stiffening members of all dry spaces, such as:

- ***a)*** Void spaces
- ***b)*** Storage rooms
- ***c)*** Cofferdams

v) Internal condition of the boundary plating, internal bulkheads, framing, girders, and other types of stiffening members of all tanks/spaces containing a hull structure designated as "Special Application Structure" or "Primary Application Structure" and as defined in the *MODU Rules* or as indicated on the Owner's construction portfolio, whichever is the more onerous.

vi) Designated Critical Areas (CAs).

vii) Internal condition of the boundary plating, internal bulkheads, framing, girders, and other types of stiffening members of all tanks containing bilge or oily water.

viii) Internal condition of the boundary plating, internal bulkheads, framing, girders, and other types of stiffening members of all tanks that are designed to mainly carry liquids other than salt water or brine, such as:

- ***a)*** Fresh water tanks
- ***b)*** Drill water tanks
- ***c)*** Fuel, diesel, or lube oil tanks
- ***d)*** Mud pit tanks
- ***e)*** All other liquid tanks not required to be inspected per 3/3.5.1 and 3/3.5.2 of this guide

SECTION 4

HIMP Qualified Inspectors *(1 July 2016)*

1 General Requirements for Qualified Inspector

A Qualified Inspector (QI) is to be a full-time employee of the Owner and trained to carry out visual examination of hull structure on vessels enrolled into HIMP.

Training of the designated hull inspectors is to be provided by ABS or alternatively, another suitable training program, approved by ABS.

Training provided by the ABS can either be an Instructor Lead Training (ILT), Virtual Instructor Lead Training (VILT), Web Based Training (WBT), or a combination thereof.

When the training has been provided by a facility other than ABS, details of the training program are to be submitted to ABS for review and agreement. A record of this ABS agreement of the training program shall be readily available to the attending Surveyors.

Note:

Training of Inspectors for visual examination of any type of offshore vessel is to be conducted by ABS.

Records of the QI's qualification/certification are to be readily available for Surveyor's verification. As a minimum, the record is to include the individual's full name, the name of the facility which provided the training, and the dates of completed training.

1.1 Nontransferable

If the qualified inspector is subsequently employed by another owner, initial training is to be repeated in order for this inspector to conduct inspections on ABS classed vessels under the HIMP scheme.

1.3 Vessel Specific Qualifications

Inspector qualifications are vessel type specific and are not transferrable between significantly different hull structures, (example: Ship form structure vs. Offshore Platforms and Rigs). Inspectors performing HIMP evaluations shall obtain qualifications representative of the type of vessel they are inspecting. Inspector qualification documentation indicating dissimilar hull types to that of the documented inspection will not be acceptable at the time of documentation review. Surveyor is to confirm that QI's qualifications are suitable for the type of vessel the QI is inspecting.

1.5 Company Record – Qualified Inspectors

The Owner is required to maintain a record of its QIs. This record is to show the following data for all Inspectors employed by the Owner:

i) Full name of the Inspector

ii) Date of Inspector's HIMP training course

iii) Date of Inspector's initial verification (onboard the vessel) to become a certified QI

iv) Dates of QI's annual verifications to maintain QI certification

3 Training to become a Qualified Inspector

As a minimum, the HIMP training program is to include following topics:

i) The role of Classification Societies

ii) Terminology of hull structural members for vessel types

iii) Hull structure surveys carried out for maintenance of class on existing vessels

iv) Typical high stress members and critical areas associated with the vessel type(s)

v) Evaluation and grading criteria of the hull structure

vi) Typical hull structure defects that may be encountered during visual examination associated with the vessel type(s)

vii) Acceptance and evaluation criteria(s) for visual examination of hull structures examination. It is recommended to include various case-studies as part of this exercise

viii) Recording and reporting of results of the examination and findings, including entry of those into vessel's hull maintenance database, such as the ABS NS HM software

Upon successful completion of the training the attendee is to be issued a certificate of completion.

5 ABS Verification and Certification of HIMP Qualified Inspectors

5.1 Initial Verification and Certification of a HIMP Qualified Inspector

Actual work carried out by the Inspectors, who have satisfactorily completed their HIMP training, is to be verified by the attending Surveyor onboard the vessel. This verification may either be carried out during the HIMP implementation survey of the vessel or during subsequent attendances by ABS during periodic surveys after construction.

For initial verification of an Inspector's work to become an ABS certified QI, an Inspector is to have valid training certification issued by ABS verifying that each of the Owner's designated Inspectors have satisfactorily completed an ABS training program (or alternatively, evidence of another hull inspection and maintenance training program agreed by ABS).

As part of the initial verification and certification of a QI, the attending Surveyor is to assess the Inspector(s) knowledge of the ABS HIMP program and the Inspector's technical judgements whilst conducting visual examination of the vessel's hull structure, in the presence of the Surveyor.

For the ABS Surveyor's acceptance of an Inspector's performance during the initial verification survey and before becoming a QI, an Annual Survey – Hull (AHS) of the vessel is to be carried out by the Inspector in presence of the Surveyor. The Inspector's decisions, including knowledge of the vessel's hull survey requirements as stated in applicable ABS Rules, are to be assessed by the Surveyor.

In addition to the AHS conducted onboard, following verification of the Inspector's work is also to be carried out by the Surveyor:

i) A minimum of two salt water tanks are to be examined by each trained Inspector in the presence of the ABS Surveyor.

ii) The Inspector's decisions, including grading of the zones within the space on each of the six criteria are to be assessed by the Surveyor.

iii) The Inspector's capability and proper entry of the findings into the ABS NS HM software (or equivalent), as a result of the above verification, is to be assessed by the Surveyor.

5.3 Periodic Verification and Maintenance of HIMP QI Certification

An Inspector certification as a QI, in support of the vessel's **HIMP** notation, requires periodic verification by ABS Surveyors. To maintain the HIMP QI certification, the Inspector is required to complete at least one HIMP inspection per year and records of same are to be reviewed by the ABS Surveyor during the Annual Hull Survey (AHS).

Poor performance of the QI is to be documented by the attending Surveyor in the ABS Report.

An ABS class condition of class issued by the attending Surveyor against the vessel's AHS, at time of periodic verification, may result in suspension of the QI's ABS certification and may become a condition of class against the vessel's **HIMP** notation.

Major failure of a QI's performance noted during the periodic verification, may result in immediate cancellation of the QI's certification to conduct future HIMP inspections onboard ABS classed vessels and may either become a condition of class against the vessel's **HIMP** notation or result in cancellation of the **HIMP** notation.

SECTION **5**

Onboard Documentation

1 General *(1 July 2016)*

Vessels with **HIMP** notation are required to maintain the following documents onboard, which are to be readily available to the attending Surveyor:

i) Copies of Qualified Inspector certificates for those individuals who have performed inspections on the vessel during the prior five years

ii) ABS apprived NS HM software or equivalent

iii) Structural drawings for the vessel as required by the applicable Rules

iv) Inspection reports and associated digital photographs associated with all inspections carried out by the qualified Inspector(s) during the prior five years

v) Records of all ABS endorsed hull thickness measurement (gauging) and Nondestructive Testing (NDT) carried out on the vessel during the past five years

vi) Construction monitoring plans for vessels classed with construction monitoring notations such as **SHCM**, **AB-CM**, and **OHCM**

vii) Survey Planning Document (SPD) for mobile offshore drilling units

viii) In-Service Inspection Program (ISIP) for floating production installations

APPENDIX 1

References and Definitions

1 References *(1 December 2013)*

During the development of the Hull Planned Maintenance Program (HIMP) manuals, and when carrying out surveys onboard, reference should be made to the following documents, as applicable:

- ABS *Rules for Building and Classing Marine Vessels*
- ABS *Rules for Building and Classing Mobile Offshore Units*
- ABS *Rules for Building and Classing Offshore Installations*
- ABS *Rules for Building and Classing Steel Barges*
- ABS *Rules for Building and Classing Floating Production Installations*
- ABS *Guide for Nondestructive Inspection*
- ABS *Guide for the Class Notation "Coating Performance Standard" (CPS)*
- Inspection Grading Criteria for the ABS Hull Inspection and Maintenance Program (HIMP)
- IACS Recommendation 87 – Guidelines for Coatings Maintenance and Repairs
- ABS/IACS Common Structural Rules
- IACS Container Ships: Guidelines for Surveys, Assessment and Repair of Hull Structures.
- IACS Bulk Carriers: Guidelines for Surveys, Assessment and Repair of Hull Structures.
- IACS – Guidance for the Inspection and Maintenance of Double Hull Tanker Structures
- IACS – Guidance Manual for Tanker Structures
- IACS – Shipbuilding and Repair Quality Standard – SARQS
- TSCF – Tanker Structure Co-operative Forum – Guidelines for the Inspection and Maintenance of Double Hull Tanker Structures.
- TSCF – Tanker Structure Co-operative Forum – Guidance Manual for the Inspection and Condition Assessment of Tanker Structures.

3 Definitions

The definitions that are applicable to this Guide can be found in 7-1-1/3 of the ABS *Rules for Survey After Construction (Part 7)* and 7-2-1/3 of the *MOU Rules*.