Ship Inspection Report (SIRE) Programme

Vessel Inspection Questionnaire for Bulk Oil, Chemical Tankers and Gas Carriers

Second Edition

2000

Oil Companies International Marine Forum

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This version of OCIMF's Vessel Inspection Questionnaire is ONLY for use in OCIMF's Revised Ship Report (SIRE) Programme in accordance with the Official Composite Guidelines (2000 Revision) governing this Programme.

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Contents

Introduction and Part One of the Vessel Inspection Questionnaire

I PURPOSE AND SCOPE

Original SIRE Programme

In 1993, OCIMF established a Ship Inspection Report (SIRE) Programme ("Original Programme") which enabled OCIMF Members to submit their ship inspection reports ("Reports" or "Report") to OCIMF for OCIMF's distribution to OCIMF Members and certain qualifying non-OCIMF Members. Such OCIMF Members and qualifying non-OCIMF Members are herein called "Programme Recipients".

Participation in the Original Programme, as either an inspecting OCIMF Member or a Programme Recipient, was strictly voluntary and each Programme Recipient determined independently how to evaluate the information contained in the Reports received from OCIMF.

Under the Original Programme, the operator ("Operator") of the ship which was the subject of a Report was given a copy of the Report and the opportunity to give written comment on the Report to both the inspecting OCIMF Member and to OCIMF.

An automated central computer System ("SIRE System") was set up in OCIMF's London offices to receive, store and distribute the Reports and any Operator comments. This System also created and fed a computerised Index giving pertinent information about the Reports and any ship Operator comments.

OCIMF Members inputted their Reports into the SIRE System by computer. These Reports were then electronically stored in this System. Paper copies of the Reports were also sent by the submitting OCIMF Members to the Operators via facsimile, mail or courier. Any Operator comments on the Reports were sent (via facsimile) by the Operator to the OCIMF Members submitting the Reports and to OCIMF's London offices. Upon receipt at OCIMF's offices, Operator comments were converted to, and stored in, electronic form in the SIRE System.

The above submission of Reports and Operator comments to OCIMF had to be made through the use of separate Cover Sheets. These Cover Sheets, which gave key details of the ship inspection covered by the Reports, were also stored in electronic form in the SIRE System. By electronically scanning these separate Cover Sheets, the SIRE System automatically matched any Operator comment received with the appropriate Report, with the result that requesting Programme Recipients would receive both the Report and the Operator comment.

The SIRE System Index was accessed by computer or dumb terminal and allowed a Programme Recipient to view, download or print the Index. When ordered by Programme Recipients, Reports and any matching Operator comments in the SIRE System were converted from electronic form to paper and were automatically transmitted by facsimile to the Programme Recipients' pre-registered facsimile numbers.

Revised SIRE Programme

The Original Programme was revised in 1997. With the exception of the newly introduced ability of Programme Recipients to receive Reports and any Operator comments in electronic, as well as paper form, all the above described features of the Original Programme remained unchanged in the SIRE Programme.

Two major changes were, however, introduced in the Revised Programme. These two changes were:

1. A Uniform Vessel Inspection Procedure; and,
2. A Vessel Particular Questionnaire (VPQ)[1]

The SIRE Programme was again revised in 2000. This latest revision expands the current features of the above Inspection Procedure while also adding new components thereto and eliminates any option to receive Programme output in paper form.

The Outline which follows incorporates the above 1997 and 2000 revisions to the SIRE Programme.

1. Uniform Vessel Inspection Procedure

This Procedure has two elements i.e., an ***Inspection Element*** and a ***Report Element***.

Inspection Element

The Inspection Element has three sub-elements as follows:

Vessel Inspection Questionnaire. – This is the heart of the Inspection Element and thus, a document which the ship Inspector ***must*** use in the conduct of the ship inspection.[2] The Vessel Inspection Questionnaire ("VIQ") has a series of about 196 Key Questions separately and sequentially numbered relating to safety and pollution prevention, which, in most cases, are accompanied by guidance notes, sub-questions and source materials to aid the Inspector's response. The Key Questions are logically grouped into separate Chapters, with each Chapter focusing on a specific and separate area of ship safety and pollution prevention. While some of these Questions ask for informational response, such as ship size, particulars and dates, most of the Key Questions call for either a direct Yes, No, Not Seen or Not Applicable response.

[1] Under the Original Programme, the inspecting OCIMF Member was free to choose whatever inspection protocol and report format it desired. The Uniform Vessel Inspection Procedure changed this. The Vessel Particular Questionnaire was a newly developed OCIMF document and was not part of the Original Programme.

[2] The Revised Programme covers the inspection of bulk oil/product tankers (including combination carriers), bulk chemical tankers and gas carriers *only*.

Except as noted in Section II hereof, the Inspector ***must*** answer all Key Questions. In certain circumstances, the Inspector is required to supplement his or her answers to Key Questions with explanatory comment. A space for Inspector comments is provided at the end of each Key Question and at the end of each VIQ Chapter.[3] This aspect is outlined in the next paragraph.

Where a Key Question is answered Yes, Inspector comment is, in most cases, not required. On the other hand, where a Key Question is answered No, the Inspector ***must*** specify and explain the nature of the non-compliance. Additionally, where a Key Question is answered with a Not Seen or Not Applicable, the Inspector ***must*** give the reason for the response. Finally, the Inspector is free to give comment at the end of a Key Question no matter how the Question is answered and/or at the end of any VIQ Chapter.

The Vessel Inspection Questionnaire document ***must*** be converted into, and answered in, electronic form. To accomplish the foregoing conversion and response, the Inspector must use a computer in conjunction with specialised OCIMF software.[4] Further, such VIQ response must, in turn, be electronically submitted to the SIRE System in order to create therein, a Report for distribution to Programme Recipients.

Inspector Manual (ROVIQ) - This Document is a new feature added by the 2000 SIRE Revisions. In short, the Manual is a reorganisation of the revised VIQ Key Questions, sub-questions and guidance notes to follow the order of the route that would normally be taken by an Inspector in the course of an inspection.[5] The Introductory portion of this Manual contains the same Mandatory and Permissive Inspection criteria set forth in Section III of this Document and *expands the Inspection Suggestions also found in the just mentioned Section.* The ROVIQ will be supplied by OCIMF only to Inspectors.[6]

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3 Insofar as the VIQ is concerned, the 2000 SIRE Revision consisted of an extensive rewording of existing Key Questions, sub-questions, guidance notes, the addition of some 21 new Key Questions and 62 sub-questions, together with new guidance notes. This amended – 2000-2nd Edition - is the version of the VIQ *which must now be used in the Revised Programme.*

4 For the most efficient functioning of the Vessel Inspection Procedure, the Inspector should bring, or have available, a computer with the above required special OCIMF software. If these are not on board, the Inspector would have to make hand written responses to the Vessel Inspection Questionnaire document for computer entry after the inspection has been completed. If no computer is available, the Inspector must send such responses to either the Inspecting Company or the OCIMF Inspecting Member. The latter would then have to enter the paper response to the Questionnaire in an office computer using the special OCIMF software in order to produce the required electronic format.

5 The ROVIQ is laid out on the assumption that an inspection takes the following course: a review of the vessel's Documentation, followed by inspection of the Wheelhouse and Navigation, followed by inspection of Communications, General External areas, Mooring, Main Deck, Pumproom, Cargo Control Room, the Engine Room, Steering Gear Room and finally, the Internal Accommodation. Supplementary Sections are included for the inspection of Chemical Tankers, Gas Carriers and Combination Carriers as may be applicable to the type of vessel being inspected.

6 Each Inspector will receive from OCIMF (i) one full size copy of the ROVIQ (ii) one pocket size copy of the ROVIQ and (iii) one set of computer software containing the VIQ/ROVIQ Inspection Programme.

Minimum Inspector Qualifications – This is another new feature introduced by the 2000 SIRE Revisions. This Item covers Inspector Qualifications, Mandatory Application of such Qualifications and Qualifications Administration as follows:

1. Inspector Qualifications

Certification

Inspectors must hold, or have held:

1. a Master's licence from a recognised flag State for vessels of 3,000 grt or more or
2. certification as Chief Engineer Officer for vessels powered by main propulsion of 3,000kw or more.

Work Experience

Inspectors:

1. must have at least five (5) years service aboard tankers, of which not less than two (2) years must have been as senior officer on board the type of vessel to be inspected and
2. shall hold or have held either a Dangerous Cargo Endorsement appropriate to the type of vessel to be inspected or proof of satisfactory training under the STCW Convention.

Knowledge

Inspectors must be able to demonstrate familiarity with, and knowledge of, International Regulations, Codes and Conventions and Industry Guidelines, Procedures and Standards appropriate to the type of vessels being inspected. Those should include, but not be limited to;

- Policies and Procedures required by ISM
- IMO Safety of Life at Sea Convention (SOLAS 74)
- IMO International Convention for the Prevention of Pollution from Ships (MARPOL 73/78)
- IMO International Regulations for the Preventing Sea Collisions at Sea (COLREGS)
- IMO Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code)
- IMO Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (BCH Code)
- IMO Code for the Construction and Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code)
- IMO International Convention of Standards of training, Certification and Watchkeeping for Seafarers, 1978 as amended in 1995 (STCW Convention)
- ICS Tanker Safety Guide (Chemicals)
- ICS Tanker Safety Guide (Liquefied Gas)
- ICS Guide to Helicopter/Ship Operations
- OCIMF/ICS/IAPH International Safety Guide for Oil Tankers and Terminals (ISGOTT)
- OCIMF/ICS Clean Seas Guide for Tankers
- OCIMF/ICS Prevention of Oil Spillages Through Cargo Pumproom Sea Valves
- OCIMF/ICS Ship to Ship Transfer Guide (Petroleum)
- OCIMF Recommendation for Oil Tanker Manifolds and Associated Equipment
- OCIMF Mooring Equipment Guidelines
- OCIMF Effective Mooring
- USCG Regulations for Tankers (USCG 33 CFR 155-156)(If applicable)
- OCIMF Guidelines for the Control of Drugs and Alcohol abroad Ship (1995)

Capabilities

Inspectors must:

- be physically capable of conducting a full and complete inspection according to the requirements of the VIQ and
- be capable of communicating proficiently in written and spoken English.

2. Mandatory Application

The above Qualifications **only** apply to Inspectors performing their first SIRE commissioned inspection subsequent to the Effective Date of the 2000 revisions.

3. Qualifications Administration

OCIMF will not administer an Inspecting Member's compliance with the above Qualifications but will leave this up to the Member's self administration[7]

Report Element

This is the Report reflecting the ship inspection results. The Report does not replicate the pages of the VIQ document. Rather, it consists of a further electronic conversion of the Inspector's electronic VIQ responses/comments into an abbreviated and reformatted uniform Report form which is producible in both a paper and electronic version. This transformation is made possible through the use of a computer and the same specialised OCIMF software, mentioned above. The conversion of the VIQ response into a paper Report can be done either by the OCIMF Member or by the SIRE System. The conversion of the VIQ response into an electronic Report to be stored in the SIRE System for Programme distribution can only be accomplished in the System. This conversion takes place when the electronic VIQ response enters the System.

The Inspector must transmit the electronically completed VIQ to the OCIMF Member ordering the Inspection. The OCIMF Member will then be able to computer view or print out a paper version of the Report.

In order to submit the Report to SIRE, the Member must transmit the electronically completed VIQ to the SIRE System. Upon receipt in the SIRE System, the System will, as noted above, automatically convert the completed VIQ into an electronic Report in the required uniform format and then electronically store same in the System. Using a computer and the above specialised OCIMF software, the Member must also produce a paper version of the Report and send same via mail, courier or fax to the Operator.

[7] OCIMF is considering establishing an Inspector Accreditation Requirement for ***all*** Inspectors.

The Operator has the opportunity to pass written comment on the Report via facsimile to the inspecting OCIMF Member and to the SIRE System. Upon receipt in the SIRE System, the Operator comment will be converted into electronic form and then be electronically stored in the System.

By reason of the change effected by the 2000 SIRE Revisions, Programme Recipients will no longer have the option to receive the Report (and any Operator comment) either electronically or in paper form. The latter documents are now only available electronically.[8]

The above discussed specialised OCIMF software is combined into a single software package. OCIMF will supply this package free of charge to OCIMF Members. OCIMF will not supply a computer.

As the Report will be a truncated and reformatted version of the Inspector responses to the Vessel Inspection Questionnaire Document (2nd Edition – 2000), the Operator will have to have in its possession a (blank) paper copy of the full Questionnaire Document to be able to understand the Report. The Inspecting OCIMF Member is required to ensure that the ship Operator has in its possession a (blank) paper copy of this Document no later than the date the Member sends the Report to the Operator. Like the Operator, a Programme Recipient must also be in possession of a (blank) paper copy of this Document to decipher the Report. OCIMF will ensure that all Programme Recipients timely receive the Document.

2. Vessel Particulars Questionnaire (VPQ)

OCIMF has published a Vessel Particulars Questionnaire (VPQ) which asks over 700 separate questions about ship particulars and required or customary on board documents which are of a permanent or semi-permanent nature, primarily related to safety and pollution prevention. The questions are sequentially numbered and are logically grouped into separate Chapters. This document is separate and apart from the Vessel Inspection Questionnaire.

The VPQ has been incorporated as an ***optional*** element under the Revised Programme. When used in conjunction with the Revised Programme, the VPQ is to be answered by the Operator, with a separate VPQ for each operated ship and then sent to the SIRE System.

Like the VIQ, the response to the VPQ must be in electronic form to be accepted into the SIRE System. This will require the Operator to answer the document by utilising a computer in conjunction with specialised OCIMF software. This software will also allow a paper printout of the VPQ response. The software will be provided (free of charge) by OCIMF to Operators. As with the VIQ, no computer will be provided by OCIMF.

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[8] OCIMF is considering adding to the SIRE System, an option which will allow Inspecting Members to electronically transmit Reports to Operators (instead of only paper Reports as now) and/or for Operators to transmit Operator comments to the Inspecting Members and the SIRE System also electronically (instead of only paper comments as now). If the foregoing option is added to the SIRE System, it will be announced in a SIRE Circular distributed to OCIMF Members and, through them, to Operators.

To best complement an inspection under the Revised Programme, a completed and up to date VPQ (in either electronic or paper form) should be on board at the time of a ship inspection and have been sent to the SIRE System for inclusion in the Revised Programme. ***SIRE, however, will accept a VPQ for a ship only if there is a Report for that ship in the SIRE System. The Report can be one submitted under the Original Programme or the Revised Programme.***

The SIRE System Index will indicate the VPQ responses received. These responses will be available (in electronic form only) to any Programme Recipient.

Once a VPQ response is received into the SIRE System, there should be no need for an Operator to make any further VPQ transmissions to SIRE except to correct or keep current, previously submitted VPQ information.

When used, as above described in connection with the Revised Programme, the VPQ has two main functions;

(1) to assist the ship Inspector by having at hand completed and up to date basic ship information which the Inspector may need during the inspection - thus allowing the Inspector to better utilise inspection time on board and

(2) to assist the OCIMF inspecting Member and Programme Recipients in their individual and separate overall evaluations of the ship.

E N D O F S E C T I O N I

II NOTES ON THE USE OF THIS DOCUMENT

Introduction

This Document is divided into two Parts. Part One contains Key Questions for Inspector response. Most of the Questions are followed with guidance notes and/or sub-questions to aid the Inspector in formulating a response. Part Two contains relevant excerpts from many of the regulatory or other source documents cited in the guidance notes of Part One.

Part One

Part One contains a series of some 196 Key Questions related to safety and pollution prevention. The Questions are consecutively indexed by number and are logically grouped into 17 separate Chapters. Chapter 1 deals with limited ship particular and inspection information items. Chapters 2 through 17 deal with separate categories of safety and pollution prevention related criteria. Chapters 15, 16 and 17, however, are of a supplementary nature and respectively apply only if the ship inspected is a Chemical Carrier, a Gas Carrier or a Combination Carrier. The Chapter headings are set out in the Table of Contents starting at Page v. of this Document.

Each Chapter contains a series of numbered Key Questions to be answered by the Inspector. Up to four separate items of guidance ***may*** be contained under each Key Question. These are:

1. guidance notes to Inspectors;
2. sub-questions, which relate to Key Questions;
3. reference source(s) citing regulation(s) or industry guidelines pertaining to Key Questions or sub-questions and
4. a requirement for Inspector comment in respect to the Key Question.

The above mentioned guidance, sub-questions and regulatory/industry references amplify the scope of the Key Questions and are meant to assist the Inspector in answering such Key Questions.

For example, Key Question 5.8 in Chapter 5 asks:

"5.8 Are specified procedures utilised for hot work? "

There are eight separate guidance items applicable to this Key Question. These are a reference to ISGOTT, five sub-questions using numbers 5.8.1 through 5.8.5, of which two include associated guidance:

"5.8 Are specified procedures utilised for hot work?
Ref: ISGOTT 2.8, Appendix F
sub-questions

5.8.1	Are the hot work conditions specified in ISGOTT Appendix F being observed?	
5.8.2	Is electric welding equipment in satisfactory condition and are written safety guidelines available?	
5.8.3	Is gas welding and burning equipment in a satisfactory condition?	
5.8.4	Is fixed piping installed from the gas cylinders to the operating position? *Piping should be of steel welded construction. Copper, rubber or braided lines should not be used, except that braided lines may be used for the short length from the cylinder heads to the manifolds within the storage space.*	
5.8.5	Are spare oxygen and acetylene cylinders stored apart in a dedicated storage and is storage in a clearly marked, well ventilated position outside the accommodation and engine room? *In-use cylinders may be stored together. Oxygen and acetylene cylinder valves should be closed when not in use.*	

Sub-questions are specifically included to assist the Inspector and must be addressed to determine how the Key Questions are answered. The boxes opposite the sub-questions are to provide a space for any written notes on the sub-questions which the Inspector may wish to make during the inspection. The sub-questions do not form part of the inspection Report unless the Inspector chooses to make comment upon a specific sub-question.

There are four answer boxes to the right side of each Key Question, i.e., a Yes box (Y), a No box (N), a Not Seen box (NS) and a Not Applicable box (NA). The Inspector must tick one of these answer boxes. Below each separate Key Question a space is provided for an Inspector comment. For example, the above Key Question 5.8 is as follows:

5.8	**Are specified procedures utilised for hot work?** **Ref: ISGOTT 2.8, Appendix F**	**Y**	**N**	**NS**	**NA**
Comments:					

If the guidance and any sub-questions lead the Inspector to believe that the Key Question should be answered positively, the box "Y" should be ticked. On the other hand, if the guidance and any sub-questions indicate to the Inspector that the Key Question should be answered negatively, the "N" box should be ticked.[9] Where appropriate, the "NS" or "NA" box should be ticked.

[9] A few Key Questions have neither guidance nor sub-questions. As to these, the Inspector makes unaided answer.

The Inspector ***must*** respond to all the Key Questions. *Failure to do this will mean that the inspection Report will not gain access to the SIRE System.*[10]

The Inspector ***must*** insert a comment at the end of each Key Question where the box is marked "N". The comment ***must*** *specify and explain* the nature of the non-compliance. Additionally, where a box is marked "NS" or "NA", the reason for the response ***must*** be given in the comments box. For some Questions, comment is required irrespective of how the Key Question is answered. This requirement is flagged in the VIQ by ***bold italic*** text in the guidance notes.

Finally, the Inspector is free, at any time, to pass comment even where a box is marked "Y"

At the end of each Chapter there is an Additional Comments Section. If the Inspector has comments in respect of the subject matter covered by the Chapter additional to those which the Inspector may make in response to the specific Key Questions in the Chapter, the Inspector should include such additional comments in this Section. As just noted, any comments which the Inspectors are required to make are set off by ***bold italic*** text in the VIQ guidance.

Below is a key box summarising the above requirements.

Box		**Tick one box from the following as applicable:-**
Y	YES	Tick if the guidance and any sub-questions (collectively "Guidance") lead the Inspector to give a positive answer to the Key Question. (See footnote **9**)
N	NO	Tick if the Guidance leads the Inspector to give a negative response to the Key Question. (See footnote **9**)
NS	Not Seen	Tick if the matter covered by a Key Question has not been seen or checked by the Inspector
NA	Not Applicable	Tick if matter covered by the Key Question is not applicable to the ship being inspected
	Comments	Inspector comment is required for an N, NS or NA tick or where the Key Question specifically calls for comment irrespective of how box is ticked. Inspectors are free to give comment even where box is ticked Y and/or in the Additional Comments section at the end of each Chapter.

Part Two

In the Part One guidance to Inspectors, references are sometimes made to a Convention, Regulation or Industry Guideline upon which the Key Question is based.

Part Two of this Document contains relevant excerpts from these referenced documents. It is noted, however, that these source documents are not all inclusive and in many cases only the main source reference is set out while, in other cases, the user is referred to the source document.

VIQ Availability

Both Part One and Part Two of this VIQ Document is published as a printed book. Where Operators are not in possession of this Document and require a paper copy, the document can

[10] Chapters 15, 16 and 17 need only be responded to if the ship is a chemical tanker, gas carrier or combination carrier, as the case may be. If the Inspector is assigned to perform a chemical, gas or combination carrier inspection, the Inspector should activate the appropriate module in the VIQ software for that type of vessel.

be obtained on request from any OCIMF Member participating in the Revised Programme, at no cost to the Operator. Additional paper copies of this Document may be also obtained directly from the document publisher but at a cost to the Operator.

END OF SECTION II

III CONDUCT OF INSPECTIONS

Mandatory Inspection Requirements

The following are mandatory requirements which ship Inspectors ***must*** follow in the conduct of their shipboard inspection in order for their Reports to meet the requirements of the Revised Programme:

Inspectors:

1. **must** tick one box for each Key Question;
2. **must**, where there are sub-question(s) and/or Guidance to a Key Question, consider all the sub-question(s) and Guidance to determine how the Key Question should be answered;
3. **must** answer every Key Question and consider every sub-question as written;
4. **must** use objective evidence when answering each Key Question (The assurance of the vessel's staff is insufficient evidence or proof);
5. **must** include a comment in the box under a Key Question when it is answered **'No'**, **'Not Seen'** or **'Not Applicable'** and/or where the VIQ requires comment no matter how a Key Question is answered;
6. **must not** use a 'Yes' response to any Question where an Inspector's observation or comment contains negative elements (If there is such negative observation or comment then the answer to that Question should be 'No');
7. **must not**, in any Comment or Additional Comments, include -
    i. any overall or partial ship rating or indication of ship acceptability non-acceptability;
    ii. any matter unrelated to the topic of a VIQ Chapter and, in particular, any matter unrelated to ship safety and pollution prevention; and,
    iii. any overall, Chapter ending or other partial summary of the Inspector's findings;
8. **must** give the factual basis and specific reasons for any opinions or subjective comments made by the Inspector;
9. **must** note any deficiencies or Inspector observed conditions as to which action was taken whilst the Inspector was on board and
10. **must** not offer any comments or opinions with regard to actions to be taken in respect of any deficiencies or observed conditions noted by the Inspector.

Permissive Inspection Actions

Inspectors **may**:

1. include comments on any Key Question, even where the Key Question is answered with a **'Yes'**;
2. respond to Key Questions or provide comments on the basis of material not included in the Guidance specified for the Key Question but must note this reliance and explain reason for the reliance;
3. include in the **'Additional Comments'** for each Chapter, any comments in respect of the subject matter covered by the Chapter additional to those that the Inspector may make in response to the specific Key Questions in the Chapter and
4. ignore sub-questions which may not be applicable to either the vessel or the vessel's cargo.

Inspection Suggestions

1. The Inspector should introduce himself or herself to the Master or the Master's authorised deputy, explain the scope of the inspection and discuss the order in which it will be carried out. The Master should be invited to accompany the Inspector on the inspection or to appoint one of the vessel's officers.

2. Unless authorised by the OCIMF Inspecting Member, inspections should not take place at night.

3. The Inspector should set a good example with respect to his or her own personal safety procedures whilst on board the vessel and in the terminal and should wear appropriate personal protection equipment at all times.

4. Electrical or electronic equipment of non-approved type, whether mains or battery powered, should not be active, switched on or used within gas-hazardous areas. This includes torches, radios, mobile telephones, radio pagers, calculators, computers, photographic equipment and any other portable equipment that is electrically powered but not approved for operation in a gas-hazardous area. It should be borne in mind that equipment such as mobile telephones and radio pagers, if switched on, can be activated remotely and a hazard can be generated by the alerting or calling mechanism and, in the case of telephones, by the natural response to answer the call.

5. The Inspector should consider requesting that equipment be run and tested to confirm that it is in operational order and that officers and crew are familiar with its operation, but should ensure that such requests do not cause delay or interfere with the safety and normal operation of the vessel.

6. **It should be recognised that the overall objective of the inspection is to provide the user of a SIRE Report with a factual record of the vessel's condition and standard of operation at the time of the inspection and, in turn, allow an assessment of the risk that use of the vessel might pose.**

7. **It is important that any observations that the Inspector intends to record in the VIQ are pointed out and discussed 'on site' at the time.** This ensures that the crew fully understand the nature of the observations and it can also save discussion at the end of the inspection. Sheets are included with the Inspector Manual (ROVIQ) for the recording of observations noted during the inspection.

8. Tank entry should only be undertaken if a suitable safe opportunity exists, it is approved by the Inspecting Member and port regulations allow. At all times the most stringent safety procedures should be followed and an entry permit should be issued by an appropriate ship's officer. The tests and precautions contained in ISGOTT Chapter 11 should be observed and an entry into an enclosed space should not be made without the full knowledge and consent of the master.

E N D O F S E C T I O N III

IV REPORT

As discussed above, the Inspector responses to the Vessel Inspection Questionnaire serve as the basis for the remaining element of the Vessel Inspection Procedure i.e., the Inspection Report distributed under the Revised Programme. The Report does not replicate the pages of the Vessel Inspection Questionnaire but is in abbreviated form and consist of a conversion of the Inspector VIQ responses into an uniform Report format. The Report is divided into 3 sections as follows:

Section 1 General Information	-	Contains the informational response required in Chapter 1 of the VIQ plus answers to Key Questions from other VIQ Chapters where specific details or dates are required.
Section 2 Key Questions marked Yes without comment	-	Lists, by index number **only**, the Key Questions in the VIQ which have been ticked with a Yes mark, without Inspector comment.
Section 3 Key Questions marked No, Not Seen, Not Applicable or otherwise commented upon and any Chapter ending Additional Comments.	-	Contains; in their entirety, (a) all VIQ Key Questions which have been ticked with a No, Not Seen or Not Applicable mark, as well as the comments made by the Inspector to supplement such responses; (b) all other VIQ Key Questions which have otherwise been commented upon, together with the comment; and, (c) any additional comments made at the end of the VIQ Chapters

A sample Report is attached to this Document as " Appendix I"

E N D O F S E C T I O N IV

V EFFECTIVE DATE/TRANSITION PERIOD

OCIMF is in the process of finalising production of the various Programme software components ("Software") described in this introduction to the Vessel Inspection Questionnaire. The 2000 version of the Revised Programme will become effective as of a date ("Effective Date") chosen by OCIMF. This date will be subsequent to OCIMF's distribution to the current Programme participants, of the documentation and Software described herein. OCIMF will advise such participants in writing of the Effective Date.

The 1997 version of the Revised Programme will co-exist with the 2000 version for a transitional period of six (6) months from the Effective Date. The SIRE System will accept Reports during this period under both the 1997 and 2000 version of the Revised Programme. After expiration of the period, the SIRE System will only accept Reports submitted in accordance with the 2000 version of the Revised Programme. OCIMF Members submitting Reports under the 1997 version of the Revised Programme must follow the Composite Guidelines for that Programme.

APPENDIX I – Sample Ship Inspection Report

Report for St. George II [IMO 9345678. Port: Name of port. Date 30 Nov 1999]

Section 1. GENERAL INFORMATION

1.1	**Name of vessel**	St. George II
1.2	**IMO Number**	9345678
1.3	**Flag**	Name of Flag
1.4	**Maximum Deadweight (Metric Tonnes)**	90697
1.5	**Year vessel delivered**	1993
1.6	**Name of OCIMF inspecting company**	Ocimf Member's name
1.7	**Date of inspection**	30 November 1999
1.8	**Port of inspection.**	Name of Port
1.9	**Time Inspector boarded vessel**	0800 hrs
1.10	**Time Inspector departed vessel**	1800 hrs
1.11	**Name of Inspector**	Inspecting Company use only
1.12	**Vessel's operation at time of inspection**	Discharging
1.13	**Product(s) being handled**	Crude oil
1.14	**Is an up to date OCIMF Vessel Particulars Questionnaire (VPQ) available on board and in the possession of OCIMF inspecting Co. or SIRE**	Yes
1.15	**Vessel type**	Tanker (SBT)
1.16	**Hull type**	Double Hull
1.17	**Name of the vessel's Operator**	Quality Tanker Management
1.18	**Address of the vessel's Operator**	9 Quarantine Hill Winchmore Road Grangeland GL3 4WY UK
1.19	**Telephone number**	+44-(0)20-7888-6699
1.20	**Facsimile number**	+44-(0)20-7888-7766
1.21	**Date the current Operator assumed responsibility for the vessel**	3 May 1993
1.22	**Address to which copy of report should be sent if different from 1.18**	Same
1.23	**Name of OPA-90 Qualified Individual (QI)**	John Smith
1.24	**Telephone number of QI**	+1-234-555-3344
1.25	**Facsimile number of QI**	+1-234-555-4455
1.26	**Expiry date of USCG Letter of Compliance or Tank Vessel Examination Letter (TVEL)**	31 January 2000
1.27	**Classification Society**	ABC Classification Society
1.28	**Date departed from last dry dock**	15 September 1999
1.29	**Date next special survey due**	30 March 2003
1.30	**Date of last port State control inspection**	09 April 1999

1.31	**Port of last port State control inspection**	Name of Port
1.32	**Name of the vessel's P and I club**	CDE P and I Club

Additional Comments	The vessel was classed +A1 (e) Oil Carrier + AMS ACCU The tank arrangement comprised 7 cargo tanks and two slop tanks. Tanks numbered 1,3,5 and 7 were fitted with centre line swash bulkheads. Tanks numbered 2,4, and 6 were fitted with full height watertight centreline bulkheads, interconnected with single valve connections. The cargo system comprised three tank group segregations served by 3 x 3000m/3/hr. centrifugal cargo pumps. The normal permanent ballast carried within the double hull comprised 40% of the vessel's total deadweight. No. 4 cargo tank is designated for exceptional heavy weather ballast and is fully epoxy coated. All other cargo tanks were epoxy coated on the bottoms only. The vessel was issued with a "Green Award" in July 1996. The vessel was using the OCIMF Vessel Particulars Questionnaire (VPQ) in computer form. The Operator had provided the VPQ software to the vessel and responsibility for its completion was shared between the Master and the Superintendent responsible for the vessel. A random check of the VPQ indicated that it had been completed with care and was up to date. The Master stated that the Operator had submitted the VPQ to SIRE.

Chapter 3.1.1 Qualification of officers

QUALIFICATION OF OFFICERS	**Master**	**Chief Officer**	**2nd 0fficer**	**3rd 0fficer**	**Extra 0fficer**
Nationality	Filipino	Filipino	Filipino	Filipino	Filipino
Certificate of Competency	Master	Master	Ch. Mate	3rd Mate	2nd Mate
Issuing Country (National or Administration)	Liberia	Liberia	Liberia	Liberia	Liberia
Administration acceptance	Yes	Yes	Yes	Yes	Yes
DCE (or proof of satisfactory STCW training)	Yes	Yes	Yes	Yes	Yes
Years with Operator.	5	2	4	1	6
Years in rank	12	2	5	2	5
Years on this type of tanker	20	10	10	2	10
Years on all types of tanker	20	10	10	2	10

Months on the vessel this tour of duty	3	1	3	3	6
English proficiency (Good/Fair/Poor)	Good	Good	Good	Good	Good

QUALIFICATION OF OFFICERS	**Chief Engineer**	**1st Engineer**	**2nd Engineer**	**3rd Engineer**	**4th Engineer**
Nationality	Filipino	Filipino	Filipino	Indian	None
Certificate of Competency	Ch.Eng.	1st Assist.Eng	2nd Assist Eng.	3rd Assist Eng.	Not applicable
Issuing Country (National or Administration)	Yes	N/A	Yes	Yes	Not applicable
Administration acceptance	Yes	Yes	Yes	Yes	Not applicable
DCE (or proof of satisfactory STCW training)	Yes	Yes	Yes	Yes	Not applicable
Years with Operator.	15	4	5	5	Not applicable
Years in rank	10	7	2	5	Not applicable
Years on this type of tanker	24	20	2	5	Not applicable
Years on all types of tanker	24	20	8	8	Not applicable
Months on the vessel this tour of duty	6	1	3	2	Not applicable
English proficiency (Good/Fair/Poor)	Good	Good	Good	Good	Not applicable

Comments:
The extra deck officer was of 2/0 rank. The Chief Officer and Chief Engineer were day workers.
All officers were directly employed and rotated within the Operator's fleet but not necessarily to this vessel.
A Radio Officer was carried and was permanently assigned to this vessel. The Operator's policy was that the Radio Officer took leave as agreed and the vessel operated without a R/O until his return.

Additional Questions

3.6	**What is defined maximum level of blood alcohol content?**	40 mg/100ml
3.7	**What is the frequency of:** **(1) unannounced drug testing;** **(2) unannounced alcohol testing; and,** **(3) routine medical examinations?**	12 months 12 months 12 months
3.8	**What was the date of the last unannounced alcohol test?**	22 August 1999
3.9	**What was the date of the last unannounced drug test?**	16 January 1999
6.3	**What was date of last pollution prevention drill?**	12 August 1999

Section 2.

Key questions marked Yes, without comment

Chapter 3. CREW MANAGEMENT.

3.1, 3.3

Chapter 4. NAVIGATION.

4.2, 4.6, 4.8, 4.11

Chapter 5. SAFETY MANAGEMENT.

5.1, 5.2, 5.4, 5.5, 5.6, 5.8, 5.9, 5.10, 5.11, 5.12, 5.13, 5.14, 5.15, 5.16, 5.17

Chapter 6. POLLUTION PREVENTION.

6.1, 6.2, 6.3, 6.4, 6.6, 6.10, 6.11, 6.12, 6.13

Chapter 8. CARGO AND BALLAST SYSTEM.

8.1, 8.2, 8.3, 8.5, 8.6, 8.7, 8.8, 8.9, 8.10, 8.11, 8.12, 8.13, 8.14, 8.15, 8.16, 8.18, 8.19, 8.20, 8.21

Chapter 9. INERT GAS AND CRUDE OIL WASHING SYSTEMS.

9.1, 9.2, 9.3, 9.4, 9.5, 9.6, 9.7, 9.9, 9.10, 9.11, 9.12

Chapter 10. MOORING.

10.3

Chapter 11. COMMUNICATIONS AND ELECTRONICS.

11.1, 11.2, 11.3, 11.4

Chapter 12. ENGINE ROOM AND STEERING GEAR.

12.2, 12.3, 12.4, 12.5, 12.6, 12.7, 12.8, 12.9, 12.10

Chapter 13. GENERAL APPEARANCE AND CONDITION.

13.1, 13.2, 13.3, 13.4, 13.8, 13.9

SECTION 3.

Key questions marked No, Not Seen, Not Applicable, otherwise commented upon and Additional Comments.

The items shown in this Section will not be segregated but will follow the Key Question order in the VIQ Chapters. Where no Additional Comments are shown, this means that there are no Additional Comments.

Chapter 2 CERTIFICATION AN DOCUMENTATION

2.1	Is the vessel free of outstanding conditions of class or other conditions pertaining to statutory requirements?	Y	(N)	NS	NA

Comments:
One condition of class was noted. Quote. The 1996 Amendments to SOLAS Reg II-2/59 requires a secondary means of allowing full flow relief of vapour, air or inert gas mixtures to prevent over-pressure or under-pressure in the event of failure of the arrangements in 1.2.2. Alternatively, pressure sensors may be fitted in each tank protected by the arrangements required in 1.2.2, with a monitoring system in the ship's cargo control room or the position from which cargo operations are normally carried out. Such monitoring equipment shall also provide an alarm facility which is activated by detection of over-pressure or under-pressure conditions within the tank. This requirement shall be complied with at the first scheduled dry docking after 1 July 1998, but no later than 1 July 2001. Unquote.

To meet the requirements of the regulation, cargo tank pressure devices and a cargo control room monitoring system was installed during the last dry dock. It was intended that the pressure sensing equipment was to be integrated with the ullaging system, however the system was not fully commissioned and was inoperative at the time of the inspection. (See Question 9.8)

2.2	Are all statutory certificates, where applicable, valid?.	(Y)	N	NS	NA

Comments: The DoC and the SMS were both issued by the vessel's Classification Society.

2.3	Does the vessel maintain a library of policies, procedures and publications?	Y	(N)	NS	NA

Comments:
2.3.3 IMO International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978 as amended in 1995 (STCW Convention).
Not on board.
2.3.18 OCIMF/ICS Ship to Ship Transfer Guide (Petroleum).
Not on board

Additional Comments:
The vessel was in possession of a letter from the Classification Society attesting to having been submitted for Y2K scrutiny. This letter was based upon documents provided by the Operator and comprised: Identity of the equipment that might be Y2K effected; the level of risk that might be expected; the assignment of the priorities based on the risk; and, a contingency plan were on board.

Chapter 3. CREW MANAGEMENT

3.2	**Does the actual manning meet or exceed the Minimum Safe Manning Certificate requirements?**.	**Y**	**N**	**NS**	**NA**
Comments: The Minimum Safe Manning Document required 9 officers and 8 ratings. The actual manning was 11 officers and 17 ratings.					

3.4	**Are the crew able to communicate effectively with the officers in a common language?**	**Y**	**N**	**NS**	**NA**
Comments: The common working language was English. Communications between the officers and ratings in English was observed to be effective. A computer language laboratory was kept on board. Records indicated that a structured training programme was in place.					

3.5	**Does the Operator have a drug and alcohol policy meeting OCIMF requirements?**	**Y**	**N**	**NS**	**NA**
Comments: The Operator's policy strictly controlled the issue and consumption of alcohol and consumption of alcohol in port was prohibited. Formal unannounced combined drug and alcohol testing was arranged by the Operator at 9-12 month intervals. In addition, random on-board alcohol testing was conducted to test two officers and two crewmembers each week.					

3.10	**Does the Operator provide a training policy exceeding statutory requirements?**	**Y**	**N**	**NS**	**NA**
Comments: The Operator provided additional training for all deck officers in bridge team management, ship handling simulation for senior deck officers and subscribed to a video training programme for on board training that was conducted on a regularly scheduled basis.					

Additional Comments:
The Operator's documentation was very thorough. The Master was observed to be very familiar with the Operator's policies and their implementation.

Chapter 4. NAVIGATION

4.1	**Is the navigation equipment as fitted appropriate for the size of vessel and in a satisfactory condition?**	**Y**	**N**	**NS**	**NA**
Comments: **4.1.7 Speed and distance indicators** The electro-magnetic log was not operational and the speed of the vessel was fed manually into the ARPA. **4.1.11 VHF Radio** The bridge VHF was not operational. A technician boarded the vessel on arrival and the fault was corrected prior to the completion of the inspection.					

4.3	**Are the Deck and Engine Log Books and the Bell Books fully maintained, in ink, both at sea and in port?**	**Y**	**N**	**NS**	**NA**
Comments: The vessel had encountered bad weather on the last voyage resulting in damage to the starboard accommodation ladder, and a 10 metre section of hand rails on starboard main deck. At the time of the Inspection, the Log Books were ashore with a Notary Public.					

4.4	Are the Standing Order and Master's Night Order Books in effective use?.	Y	N	NS	NA
Comments: The Standing Orders had been signed as understood by the officers on board but the Master's Night Order book was not frequently utilised.					

4.5	Has a system been established to ensure that nautical publications, charts and information are on board and current?	Y	N	NS	NA
Comments: **4.5.1 Are fully corrected charts provided for the intended voyage?** Charts had been corrected up to week No.44/99 using the UK Notices to Mariners and tracings supplied directly to the vessel under a contract with a commercial chart agency. The British Admiralty Chart Correction publication (NP133A) was used to maintain chart-correcting records. The vessel carried chart folios for the North East American, Canadian East coast, Caribbean, North West European and Mediterranean regions A random check of the chart folios indicated that corrections had been made to all the charts reviewed and these were up to date. The Cumulative Index of Chart Corrections had been marked as required to indicate chart corrections made since its publication (July 99) .					

4.7	Is a comprehensive passage plan available for the current voyage and does it cover the full voyage from berth to berth?	Y	N	NS	NA
Comments: The passage plan information was comprehensive, but this covered the voyage from pilot to pilot only. Information such as tidal conditions, radar parallel indexing, no go areas, locations where the next charts were to be used as recommended in "Bridge Procedures Guide" was not recorded on the charts themselves. The largest scale charts published were not always used. Some charts were worn out. Some contained courses from previous voyages that had not been erased.					

4.9	Is position fixing satisfactory?	Y	N	NS	NA
Comments: The entire previous voyage was coastwise and the vessel's position had been plotted frequently. However, the only positions plotted for the entire voyage were taken from the GPS.					

4.10	Is the gyro and magnetic Compass Error Log maintained and up to date?	Y	N	NS	NA
Comments: **4.10.1 . Is evidence available to show that periodic checks of navigational equipment are made at sea?** Compass errors were not checked frequently. Inspection of the Compass error Log revealed that only one gyro compass error observation had been taken during the previous 30 days at sea and only eight observations in the last six months..					

Chapter 5. SAFETY MANAGEMENT

5.3	Is the vessel provided with safe means of access?	Y	N	NS	NA
Comments: **5.3.1 Are all means of access properly rigged, including the provision of a safety net, lifebuoy and line?** The vessel's gangway was in use, however, a safety net was not provided. Several treads on the gangway were missing. A lifebuoy was located close to the top of the gangway but this was not fitted with a line.					

5.7	Are enclosed space and pumproom entry procedures identified and complied with?	Y	(N)	NS	NA

Comments:
5.7.2 Are pumproom entry procedures being complied with?
Although written procedures were in place, ratings were observed on two occasions to enter the pumproom without either notifying the officer on watch, or checking that the atmosphere was safe.

Additional Comments:
Monthly safety committee meetings for Senior Officers and Junior officers/Ratings were held and formal minutes were recorded. The life saving ands fire-fighting equipment was in good condition and was deployed in accordance with the posted Fire and Safety Plans. Emergency equipment lockers were well equipped, clean and tidy. Emergency equipment was arranged in readiness for immediate use. A review of the maintenance records for Life Saving and Fire Appliances revealed these to be up to date and well compiled.
All personnel were observed to be wearing the correct safety apparel during the inspection.

Chapter 6. POLLUTION PREVENTION

6.5	Is there an approved Oil Discharge Monitoring and Control System (ODME) on board and is it in a satisfactory condition?	Y	(N)	NS	NA

Comments:
6.5.2 Does the system have proof of recent use and/or testing?
The ODME was reported to be non-operational and the Oil Record Book (Part II) documented a history of defective operation since 1996. The Master reported that a technician was scheduled to ride the vessel prior to the end of 1999 to undertake repairs.
No records of any discharge of ballast or tank washings to sea were recorded in the Oil Record Book.

6.7	Are there adequate arrangements to prevent any oil spill entering the water?	Y	(N)	NS	NA

Comments:
Air powered pumps were in position at the aft end of main deck and these were in a state of readiness. It was noted, however that the pump discharge hoses were not fitted to discharge to the slop tanks without first releasing the inert gas pressure.

6.8	Is cargo sea chest valve testing arrangement in good order and regularly checked?	(Y)	N	NS	NA

Comments: Dates of testing were stencilled on bulkheads adjacent to the sea valves. (20 October 1999)

6.9	Is there an Operator's environmental policy on board?	(Y)	N	NS	NA

Comments: Pollution Prevention, a Garbage Management plan and Boiler Emissions policy were incorporated into the Operator's ISM system.

Additional Comments:
The vessel was well equipped to handle small oil spills and clean-up equipment mounted on a mobile trolley was deployed in the vicinity of the cargo manifold. All scuppers were tight, with well fitting scupper plugs. Rain water build-up was released as required.

The cargo pumproom and engine room bilges were clean and completely free of oil. An effective Garbage Management Plan was in place and the vessel was provided with a comminuter, a compactor and an incinerator. Garbage to be landed ashore was stowed in separate bins and the Operator's policy was for all plastics to be landed ashore.

Chapter 7. STRUCTURAL CONDITION

7.1	Is an Enhanced Survey Report File maintained on board?	(Y)	N	NS	NA
Comments: The last tank coating survey reported dated 10 September 1999 stated that all coatings in SBT tanks were "Good"					

7.2	Were any cargo or ballast tanks inspected?	Y	(N)	NS	NA
Comments: The vessel was not gas-free at the time of the inspection and tank entry was not permitted by the inspecting OCMF Member. Access hatches to the segregated ballast tanks (including the forepeak tank), however, were opened and a visual inspection was made from the deck. Coatings appeared to be sound and there was no visible evidence of breakdown.					

Chapter 8. CARGO AND BALLAST SYSTEMS

8.4	Are all cargo and ballast pumps and stripping arrangements fully operational including associated monitoring instrumentation and controls and are they tested regularly with results recorded?	Y	(N)	NS	NA
Comments: **8.4.1 Are all main cargo pumps operational?** No 2 main cargo pump failed due to low lub. oil pressure two hours after commencement of discharge. Attempts to repair the pump were ongoing up to the time when the Inspector disembarked.					

8.17	Does the cargo venting system, including inert gas lines, mast risers, high velocity vents and vent stacks appear to be in a satisfactory condition?	Y	(N)	NS	NA
Comments: The vent lines, mast risers, vents and vent stacks appeared to be in a satisfactory cosmetic condition. Inspection of the covers of several vent pipes, however, revealed these to be heavily corroded. The seal between the vent covers and the flame screens on which they sat was not effective.					

8.22	Are portable gas and oxygen analysers appropriate to the cargoes being carried and are they operational?	(Y)	N	NS	NA
Comments: 2 Explosimeters, 2 Oxygen analysers, 2 Tankscopes and 1 toxic gas detector were provided. All units were well maintained, in operational condition and correctly calibrated. Adequate Supplies of Span/Calibration gas were kept in a dedicated cargo instrument locker. Spare tubes for Total Mercaptans, Hydrogen Sulphide and Benzene were carried for the toxic gas detector.					

Chapter 9. INERT GAS AND CRUDE OIL WASHING SYSTEMS

9.8	**If tanks can be individually isolated from the I.G.Main, are there means to provide protection against over or under pressure?**	**Y**	**N**	**NS**	**NA**
Comments: The vent line lines to each cargo tank were fitted with isolation valves. The isolation valves were fitted with locking devices, the keys of which were kept in the possession of the Chief Officer. A mimic board in the cargo control room indicated whether the isolation valves in the venting system were open or closed. The 1996 Amendments to SOLAS Reg II-2/59 requires a secondary means of allowing full flow relief of vapour, air or inert gas mixtures. To meet the requirement the Operator installed cargo tank pressure devices and a cargo control room monitoring system during the last dry dock. (September 99) The pressure sensing equipment was of the same manufacturer and was to be integrated with the existing ullaging system. However the system was not fully commissioned and was inoperative at the time of the inspection.				

Chapter 10. MOORING

10.1	**Do mooring practices comply with industry recommendations for the size of the vessel?**	**Y**	**N**	**NS**	**NA**
Comments: The vessel was moored utilising 4 wire head and stern lines, 4 wire breast lines fore and aft and two spring lines fore and aft. Mixed synthetic fibre and wire lines were utilised for both the forward and aft springs. When questioned, the Master was apparently unaware of the differing elasticity between wire and synthetic mooring lines. No testing equipment was carried on board. The Operator's policy requires brakes to be tested during each scheduled repair period.					

10.2	**Is all mooring equipment in a satisfactory condition?**	**Y**	**N**	**NS**	**NA**
Comments: All brake bands were renewed during last repair period and brakes tested to rendering load. Dates of the tests and the brake rendering loads were stencilled to each winch.					

Chapter 12. ENGINE ROOM AND STEERING GEAR

12.1	**Are all items of main and auxiliary machinery reported to be fully operational?**	**Y**	**N**	**NS**	**NA**
Comments: Maintenance was being undertaken on General Service pump in preparation for Continuous Machinery Survey. This would not have prevented immediate mobilisation of the main engine in the event of emergency.					

Chapter 13 GENERAL APPEARANCE AND CONDITION

13.5	**Is the general condition of the superstructure satisfactory?**	**Y**	**N**	**NS**	**NA**

Comments: The white paint coating to the superstructure was showing evidence of coating breakdown and was extensively streaked with rust. External decks were fully coated with non-skid paint and in a satisfactory condition. The external accommodation was generally well lit, but two light fittings, one on the starboard navigating bridge deck, and one on the port side of "E" deck were not watertight and contained water.

13.6	**Is the accommodation clean and tidy?**	**Y**	**N**	**NS**	**NA**
Comments: The accommodation was constructed and furnished to a high standard and was clean, tidy and well maintained. Sanitary conditions were good; galleys and refrigerators were very well maintained.					

13.7	**Are pumproom spaces clean and tidy?**	**Y**	**N**	**NS**	**NA**
Comments: The stripping pump was overhauled two weeks prior to the inspection, however, many spare parts had not been removed from the lower pumproom. The pumproom was generally in an untidy condition and dimly lit. Several lamps were noted to be not working. Some incorrect bolts had been utilised to secure the glass covers to three pumproom lights.					

Chapter 14. SHIP TO SHIP TRANSFER SUPPLEMENT

14.1	**Is the vessel suitably equipped to be utilised for STS operations?**	**Y**	**N**	**NS**	**NA**
Comments: The vessel had been employed in the U.S Gulf lightering trade for eight months during the past year. The currently serving senior officers all had experience in offshore STS operations.					

Chapter 15 CHEMICAL CARRIER SUPPLEMENT

This Chapter not applicable as the ship is not a chemical carrier.

Chapter 16 GAS CARRIER SUPPLEMENT

This Chapter not applicable as the ship is not a gas carrier.

Chapter 17 COMBINATION CARRIER SUPPLEMENT

This Chapter not applicable as the ship is not a combination carrier.

Chapter 1. General Information

Index Number		Requested Information
1.1	**Name of vessel** *Avoid using prefixes when entering the vessel's name unless that prefix is actually a part of the registered name of the ship. (e.g. avoid MT/MV/LNG etc.)*	
1.2	**IMO Number** **Ref: SOLAS XI/3; IMO-Res. A.600 (15)-IMO Ship Identification Number Scheme.**	
1.3	**Flag**. ***If the vessel has changed flag within the past 6 months, record the date of change and the previous flag in the Additional Comments***	
1.4	**Maximum Deadweight (Metric Tonnes)**	
1.5	**Year vessel delivered**	
1.6	**Name of OCIMF inspecting company**	
1.7	**Date of inspection**	
1.8	**Port of inspection**	
1.9	**Time Inspector boarded vessel** ***Where the inspection has been split into more than one session or it was carried out by more than one Inspector, the fact should be noted in the Additional Comments.***	
1.10	**Time Inspector departed vessel**	
1.11	**Name of Inspector** *Although the name of the Inspector is included, this information is for use by the inspecting company only and will not be transmitted to SIRE.*	
1.12	**Vessel's operation at time of inspection** *Loading, Discharging, Bunkering, Ballasting, Deballasting, At anchor, Idle, River transit, At sea, Repairs afloat, In dry dock, STS loading, STS discharging.*	
1.13	**Product(s) being handled** *Crude oil, Dirty petroleum products (low flash point), Dirty petroleum products (high flash point), Clean petroleum products, Vegetable oils, Animal oils, Chemicals, Liquefied gas, Other (specify).*	
1.14	**Is an up to date OCIMF Vessel Particulars Questionnaire (VPQ) available on board and in the possession of OCIMF Inspecting Company or SIRE**. ***A fully and correctly completed copy of the VPQ should be on board and available to the Inspector. If not, comment on the Operator's intentions to rectify this.*** *The Operator may contact OCIMF(SIRE) in order to obtain a copy of the VPQ software. Tel: +44 (0)20 7654 1219*	

1.15	**Vessel type** *Tanker (Pre-MARPOL), Tanker (Post-MARPOL, Crude >20,000 dwt), Tanker (Post-MARPOL Products >30,000 dwt), Tanker (CBT), Tanker (SBT), Chemical carrier Type I, Chemical carrier Type II, Chemical carrier Type III, LPG carrier (Fully pressurised), LPG carrier (Semi-pressurised), LPG carrier (Fully-refrigerated), Ethylene carrier, LNG carrier, OBO, Ore-Oil.*	
1.16	**Hull type** *Single Hull, Double Hull, Double Sides, Full Breadth Double Bottom, Centre Tank Double Bottom, Protective Location.*	
1.17	**Name of the vessel's Operator** *The term 'Operator' should be taken to be the technical manager. The question requires the organisation with the day to day responsibility for the running of the vessel.*	
1.18	**Address of the vessel's Operator**	
1.19	**Telephone number**	+
1.20	**Facsimile number**	+
1.21	**Date the current Operator assumed responsibility for the vessel**	
1.22	**Address to which a copy of report should be sent if different from 1.18**	
1.23	**Name of OPA-90 Qualified Individual (QI)** *The name of the OPA-90 Qualified Individual must be recorded in the VRP.*	
1.24	**Telephone number of QI**	+
1.25	**Facsimile number of QI**	+
1.26	**Expiry Date of USCG Letter of Compliance or Tank Vessel Examination Letter (TVEL)** *This question should be answered 'NA' if the vessel does not trade to the USA.*	
1.27	**Classification Society**. *A Classification Society Class Certificate must be available and the periodic surveys must have been carried out.* ***If the vessel has changed Class within the past 6 months, record the date of change and the previous Classification Society in Additional Comments***	
1.28	**Date departed from last dry dock**	
1.29	**Date next special survey due**	month/year
1.30	**Date of the last port State control inspection**	
1.31	**Port of the last port State control inspection** **Ref: SOLAS XI/4, IMO Res. A787(19)**	
1.32	**Name of the vessel's P and I club**	

1.33	**Additional Comments** *If the Inspector has comments in respect of the subject matter covered by the Chapter additional to those which the Inspector may make in response to the specific key questions in the Chapter, the Inspector should include such additional comments in this section.*	

Reminder: When making comment in respect to Chapter key questions or making Additional Comment at the end of a Chapter, Inspectors are reminded to pay particular attention to items 6, 7, 8, 9 and 10 of the mandatory inspection requirements on the Conduct of Inspections set out in Section III of the introductory portion of this Document.

Chapter 2. Certification and Documentation

2.1	**Is the vessel free of outstanding conditions of class or other conditions pertaining to statutory requirements?** *This should be taken to mean "Are there any conditions of class?" and "Are there any memorandum or recommendations recorded against the vessel relating to structural or hull integrity or serious mechanical problems"? If conditions of class have not been completed by the required date, then it should be taken that the Class Certificate has expired.* ***Record outstanding conditions of class, memoranda or recommendations meeting the above criteria and include a description and due dates as appropriate. The latest classification listing/status of surveys available onboard should be examined and the date of issue recorded.*** ***Particular attention should be paid to class records regarding bottom pitting, in which case comment as to the extent and measures taken to arrest further development if required.*** ***Comment if records indicate that measures have been taken to address or restore loss of longitudinal or transverse strength through corrosion by repairs, and report the existence of doublers anywhere within the vessel's structure.***	**Y**	**N**	**NS**	**NA**
Comments:					

2.2	**Are all statutory certificates, where applicable, valid?** **Ref: MSC Circular 704. 21 Sept. 1995**. *Statutory certificates, where applicable, should be valid and in date. They should be either written in English or have English translations to accompany each certificate.* ***Include in the Comments the authority that issued the DoC and the SMC.*** *These may be different organisations, but the name of the Operator must be the same on both.*	**Y**	**N**	**NS**	**NA**
Comments:					

sub-questions

	STATUTORY CERTIFICATES	**CONVENTION OR REGULATION**	**VALIDITY PERIOD**	**ANNUAL SURVEY**
2.2.1	**Certificate of Registry**			
2.2.2	**Document of Compliance (DoC)**	SOLAS IX, ISM Code	**5 yrs**	**Intermediate**
2.2.3	**Safety Management Certificate (SMC)**	SOLAS IX, ISM Code	**5 yrs**	**Intermediate**
2.2.4	**Safety Equipment Certificate**	SOLAS 1/8 1/12 (a)(iii)	**2/5 Yrs**	**Yes**
2.2.5	**Safety Radio Certificate**	SOLAS 1/9 1/12 (a)(iv)	**12 Mo or 5 Yrs**	**Yes if 5 Yrs**
2.2.6	**Safety Construction Certificate**	SOLAS I/10 1/12 (a)(ii)	**5 Yrs**	**Yes**
2.2.7	**Loadline Certificate**	LOADLINE Art.16-19.	**5 Yrs**	**Yes**
2.2.8	**International Tonnage Certificate**	Tonnage Conv. (1969)		
2.2.9	**IOPP Certificate** **Is Form A or B permanently attached to the IOPPC?**	MARPOL Annex I 5.1	**5 Yrs**	**Yes**
2.2.10	**Minimum Safe Manning Document**	SOLAS V/13		

2.2.11	**Civil Liability Convention (1969) Certificate** *The name of the Owner should be the same as that on the Certificate of Registry*			
2.2.12	**Civil Liability Convention (1992) Certificate** *The name of the Owner should be the same as that on the Certificate of Registry*			
2.2.13	**U.S. Certificate of Financial Responsibility (CoFR)**			
2.2.14	**Certificate of Fitness (Chemicals)**	BCH Code 1.5,1.6		
2.2.15	**Noxious Liquids Certificate**	MARPOL Annex II. 12		
2.2.16	**Certificate of Fitness (Gas)**	GC Code 1.5, 1.6		

Note that under the Harmonised System Safety Equipment and Radio Certificates may be issued for 5 years, and that the three SOLAS certificates (2.2.4, 2.2.5, and 2.2.6) may be on the same form.

2.3	**Does the vessel maintain a library of policies, procedures and publications?** *The latest editions of the listed publications, as applicable to the vessel, should be on board.* *Key elements of the ISM Code which should be incorporated into the Operators Manuals are that they should be relevant to the ship, user friendly, written in the working language of the crew, and that they should contain a safety and environmental policy, emergency procedures, the master's and crew's responsibilities, shipboard operation plans, records of non-conformities and corrective action, maintenance programmes, auditing and reviews, and programmes of drills.*	**Y**	**N**	**NS**	**NA**
Comments:					

sub-questions

2.3.1	**Operator's ISM Manuals**	
2.3.2	**IMO Safety of Life at Sea Convention (SOLAS '74)**	
2.3.3	**IMO International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, 1978 as amended in 1995 (STCW Convention)**	
2.3.4	**ICS Guide to Helicopter/Ship operations**	
2.3.5	**OCIMF Guidelines for the Control of Drugs & Alcohol on Board Ships**	
2.3.6	**ICS Bridge Procedures Guide**	
2.3.7	**IMO International Regulations For Preventing Collisions at Sea (COLREGS)**	
2.3.8	**Nautical Institute Bridge Team Management**	
2.3.9	**IMO Ship's Routeing**	
2.3.10	**IMO International Code of Signals**	
2.3.11	**OCIMF Mooring Equipment Guidelines**	
2.3.12	**OCIMF Effective Mooring**	
2.3.13	**IMO International Convention for the Prevention of Pollution from Ships (MARPOL 73/78)**	
2.2.14	**OCIMF/ICS/IAPH International Safety Guide for Oil Tankers and Terminals (ISGOTT)**	
2.3.15	**OCIMF/ICS Clean Seas Guide for Oil Tankers**	
2.3.16	**OCIMF Recommendations for Oil Tanker Manifolds and Associated Equipment**	

2.3.17	**OCIMF/ICS Prevention of Oil Spillages Through Cargo Pumproom Sea Valves**	
2.3.18	**OCIMF/ICS Ship to Ship Transfer Guide (Petroleum)**	
2.3.19	**USCG Regulations for Tankers (USCG 33 CFR/46 CFR)**	
2.3.20	**IMO International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code)**	
2.3.21	**IMO Code for Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (BCH Code)**	
2.3.22	**ICS Tanker Safety Guide (Chemicals)**	
2.3.23	**Medical First Aid Guide for Use in Accidents involving Dangerous Goods (MFAG)**	
2.3.24	**IMO International Code for Construction & Equipment of Ships Carrying Liquefied Gases in Bulk (IGC Code)**	
2.3.25	**IMO Code for the Construction and Equipment of Ships carrying Liquefied Gases in Bulk (GC Code)**	
2.3.26	**IMO Code for Existing Ships Carrying Liquefied Gases in Bulk (EGC Code)**	
2.3.27	**ICS Tanker Safety Guide (Liquefied Gas)**	
2.3.28	**OCIMF/ICS/SIGTTO Ship to Ship Transfer Guide (Liquefied Gas)**	
2.3.29	**SIGTTO Liquefied Gas Handling Principles on Ships and Terminals**	
2.3.30	**SIGTTO Guide to Pressure Relief Valve Maintenance and Testing**	

2.4	**Additional Comments** *If the Inspector has comments in respect of the subject matter covered by the Chapter additional to those which the Inspector may make in response to the specific key questions in the Chapter, the Inspector should include such additional comments in this section.*

Reminder: When making comment in respect to Chapter key questions or making Additional Comment at the end of a Chapter, Inspectors are reminded to pay particular attention to items 6, 7, 8, 9 and 10 of the mandatory inspection requirements on the Conduct of Inspections set out in Section III of the introductory portion of this Document.

Chapter 3. Crew Management

The way officers and crew work together as a team should be noted, and co-operation and communication between officers and crew evaluated. Do all parties share a common goal to operate the vessel safely and efficiently?
All officers should possess valid certificates or licences appropriate to their rank, which should be revalidated every 5 years (STCW Convention I/11 and A.1/11)
Certificates should be in the official language of the issuing country, which should include a translation into English. (STCW Convention Article VI(2))
If the officer's certificates are not issued by the same Administration as the Flag State of the vessel, then an endorsement (or a separate document) is required which attests to the recognition of that certificate by the vessels Administration. An Administration may allow a seafarer to serve for a period not exceeding 3 months, provided that documentary proof of an application is readily available. (STCW Convention Reg I/2 and I/10)
However, a Party may continue to issue, recognise and endorse certificates in accordance with the previous provisions until 1st February 2002.
Officers should also have either Dangerous Cargo Endorsements or the satisfactory training specified in STCW. (STCW Convention V/1-1.1 and 1.2)
The four senior officers should have completed an approved specialised training programme (STCW Convention V/1-2.2), unless the two year rule applies. (STCW Convention V/1-3)
If the master has been promoted within the last 12 months, describe in the Comments how he obtained his ship handling experience for this class of vessel. For example, did he serve as chief officer on this or a sister vessel, or attend a ship handling course that could simulate the manoeuvring characteristics of the class of vessel? If neither of these, how was ship handling experience obtained?

3.1	**Are the officers and crew suitably qualified, and is their training and experience adequate?** ***If the master has been promoted within the last 12 months, describe in the Comments how he obtained his ship handling experience for this class of vessel.***	**Y**	**N**	**NS**	**NA**
Comments:					

Sub-questions

3.1.1 Qualification of Officers	**Complete Following Matrix**									
QUALIFICATION OF OFFICERS	**MASTER**	**C/O**	**2/O**	**3/O**	**X/O**	**C/E**	**1/E**	**2/E**	**3/E**	**4/E**
Nationality	3.1.1	3.1.2	3.1.3	3.1.4	3.1.5	3.1.6	3.1.7	3.1.8	3.1.9	3.1.10
Certificate of Competency	3.1.11	3.1.12	3.1.13	3.1.14	3.1.15	3.1.16	3.1.17	3.1.18	3.1.19	3.1.20
Issuing Country (National or Administration)	3.1.21	3.1.22	3.1.23	3.1.24	3.1.25	3.1.26	3.1.27	3.1.28	3.1.29	3.1.30
Administration acceptance	3.1.31	3.1.32	3.1.33	3.1.34	3..1.35	3.1.36	3.1.37	3.1.38	3.1.39	3.1.40
DCE (or proof of satisfactory STCW training)	3.1.41 Advanced (Adv.)	3.1 42 Adv.	3.1.43	3.1.44	3.1.45	3.1.46 Adv.	3.1.47 Adv.	3.1.48 Adv.	3.1.49	3.1.50
Years with Operator	3.1.51	3.1.52	3.1.53	3.1.54	3.1.55	3.1.56	3.1.57	3.1.58	3.1.59	3.1.60
Years in rank	3.1.61	3.1.62	3.1.63	3.1.64	3.1.65	3.1.66	3.1.67	3.1.68	3.1.69	3.1.70

Years on this type of tanker	3.1.71	3.1.72	3.1.73	3.1.74	3.1.75	3.1.76	3.1.77	3.1.78	3.1.79	3.1.80
Years on all types of tanker										
Months on the vessel this tour of duty	3.1.81	3.1.82	3.1.83	3.1.84	3.1.85	3.1.86	3.1.87	3.1.88	3.1.89	3.1.90
English proficiency (Good/Fair/Poor)	3.1.8..91	3.1 92	3.1 93	3.1.94	3.1 95	3.1.96	3.1.97 N/A	3.1.98 N/A	3.1.99 N/A	3.1.100 N/A
Comments:										

The figure in 'Years on all types of tanker' should indicate the seafarer's total service on petroleum, chemical and gas tankers, and, if significant, should include service on combination carriers whilst in the 'wet' mode.

3.2	**Does the actual manning meet or exceed the Minimum Safe Manning Certificate requirements?** **Ref: SOLAS V Reg.13. IMO Res. A.481(XII). IMO Res. A.680(17)** ***Record in the Comments the Minimum Safe Manning Certificate requirement for both officers and ratings, and the actual manning levels on board.*** ***If the vessel's complement is at the minimum allowed by the Minimum Safe Manning Certificate, the Operator's policies for controlling the maximum hours worked and fatigue reduction, should be reviewed and reported on.***	**Y**	**N**	**NS**	**NA**
Comments:					

sub-question

3.2.1	Does the Operator have a policy to control hours worked and to minimise fatigue? *Administrations should consider the introduction of a requirement that records of work or rest of seafarers should be maintained. (STCW B-VIII/1.4)*	

3.3	**Are the Minimum Safe Manning or Radio Certificate requirements with respect to radio qualifications met?** **Ref: IMO Res. A.703(17)**. *If a radio officer is not carried, one or more officers, subject to the requirements of the flag State Administration, are required to be on board holding appropriate certification.*	**Y**	**N**	**NS**	**NA**
Comments:					

3.4	**Are the crew able to communicate effectively with the officers in a common language?** ***Record the common working language in the Comments.***	**Y**	**N**	**NS**	**NA**
Comments:					

3.5	**Does the Operator have a Drug and Alcohol policy meeting OCIMF Guidelines?** **Ref: OCIMF Guidelines for the Control of Drugs and Alcohol on Board Ship (1995)**	**Y**	**N**	**NS**	**NA**
Comments:					

3.6	**What is the defined maximum level of blood alcohol content?**	mg/100ml

3.7	**What is the frequency of:** **(1) unannounced drug testing;** **(2) unannounced alcohol testing; and,** **(3) routine medical examinations?** *The frequency of unannounced testing should be sufficient so as to serve as an effective deterrent to abuse.* *(OCIMF Guidelines for the Control of Drugs and Alcohol Onboard Ship)*	Drug testing Mo. Alcohol testing Mo. Medical Exam Mo.

3.8	**What was the date of the last unannounced alcohol test?**	Date:

3.9	**What was the date of the last unannounced drug test?**	Date:

3.10	**Does the Operator provide a training policy exceeding statutory requirements?** **Ref: IMO Res. A680(17)** ***Record in the Comments the training, (e.g. ship handling, navigation, bridge team training, electronics, instrumentation).*** *This can include formal courses, in-house or on-board training, and the regulated use of videos.*	**Y**	**N**	**NS**	**NA**
Comments:					

3.11	**Additional Comments** *If the Inspector has comments in respect of the subject matter covered by the Chapter additional to those which the Inspector may make in response to the specific key questions in the Chapter, the Inspector should include such additional comments in this section.*

Reminder: When making comment in respect to Chapter key questions or making Additional Comment at the end of a Chapter, Inspectors are reminded to pay particular attention to items 6, 7, 8, 9 and 10 of the mandatory inspection requirements on the Conduct of Inspections set out in Section III of the introductory portion of this Document.

Chapter 4. Navigation

The Operator's navigation, training and bridge procedures policies should be reviewed. The existence of established bridge organisation and passage planning procedures and the professional application of ship handling and navigational practices in compliance with international regulations should be checked. Bridge manuals and navigation procedures should include general information and requirements on navigation, bridge organisation, watchkeeping, equipment, pilotage and port arrival and departure procedures.

Compliance with these policies, procedures and bridge organisation can be evaluated if there is an opportunity to sail on the vessel for a short time, otherwise they should be discussed with the master and officers, and the Inspector should try to ascertain that stated navigational policies are understood and complied with.

Ascertain the crew's awareness of the dangers associated with:

- *an inadequate understanding of the way vessels are affected by various forces, particularly squat and interaction;*
- *poor bridge organisation and an inadequate use of equipment and personnel;*
- *a lack of passage planning and*
- *a lack of concentration.*

Constant vigilance is one of the most important requirements for successful ship handling and the mariner in charge must discipline himself to concentrate on the job in hand when using his bridge team to feed him supportive information;

Navigation equipment should be in an operational condition. Defective navigational equipment can result in collision or grounding with the consequent risk of pollution. Evidence should be available to show that periodic checks of navigational equipment are made at sea.

4.1	**Is the navigation equipment as fitted appropriate for the size of the vessel and in a satisfactory condition?**	**Y**	**N**	**NS**	**NA**
Comments:					

sub-questions

4.1.1	Magnetic compass	A standard magnetic compass shall be fitted on ships of 150 gt and upwards. A spare magnetic compass, interchangeable with the standard magnetic compass, shall be carried unless a steering compass or gyro compass is fitted.	SOLAS V/12(b)
4.1.2	Gyro compass and repeaters	A gyro compass shall be fitted on ships of 500 gt and upwards constructed on or after 1 September 1984, and in addition, ships of 1600 gt shall be provided with a gyro repeater or gyro repeaters suitably placed for taking bearings as nearly as practicable over the arc of the horizon of 360 degrees.	SOLAS V/12(d),(e)
4.1.3	Radars	A radar capable of being operated in the 9ghz (3cm) band shall be installed on ships of 500 gt and upwards constructed on or after 1 September 1984, and on ships of 1,600 gt and upwards constructed before 1 September 1984. However, ships of 10,000 gt and upwards shall be fitted with 2 radars, each being capable of being operated independently of the other, and one of which must be capable of operating in the 9ghz (3cm) band.	SOLAS V/12(g),(h),(o), (r)
4.1.4	Radar plotting equipment	Radar plotting equipment shall be provided on the navigation bridge of ships fitted with radars.	SOLAS V/12(i)
4.1.5	ARPA	Tankers of 10,000 gt and upwards shall be fitted with an automatic radar plotting aid.(ARPA) Vessels required to be fitted with an ARPA shall be equipped with a device to indicate speed and distance through the water. (i.e. electromagnetic or pitot log.)	SOLAS V/12(j)
4.1.6	Echo sounders	When engaged on international voyages, ships of 500 gt and upwards constructed on or after 25 May, 1980 and ships of 1,600 gt and upwards constructed before 25 May 1980 shall be fitted with an echo sounder. Performance of the echo sounder should be tested on all ranges and scales to verify recordings against depths shown on the chart.	SOLAS V/12(k)
4.1.7	Speed and distance indicators	When engaged on international voyages ships of 500 gt and upwards constructed on or after 1 September 1984 shall be fitted with a device to indicate speed and distance.	SOLAS V/12(l)

4.1.8	Rudder angle, RPM, variable pitch and bow thruster indicators	Rudder angle indicator and propeller RPM indicators shall be fitted on ships of 500 gt and upwards constructed on or after 1 September 1984 and engaged on international voyages. Pitch and operational mode indicators shall be fitted on vessels fitted with variable pitch propellers or lateral thrust propellers. All shall be readable from the conning position. The USCG requires these indicators to be visible from the bridge wings.	SOLAS V/12(m)
4.1.9	Rate of turn indicators	Required for vessels of 100,000 gt and upwards constructed after 1 September 1984. The USGC requires that they are visible from the bridge wings.	SOLAS V/12(n)
4.1.10	Signal lamps (Aldis)	All ships over 150 gt engaged on international voyages shall have on board an efficient daylight signalling lamp, which shall not be solely dependent on the ship's main source of electrical power.	SOLAS V/11
4.1.11	VHF radio	All ships of 300 gt and upwards shall be provided with a VHF installation capable of transmitting and receiving on Channels 6, 13, 16 and 70 (DSC). It shall be possible to initiate the transmission of distress alerts on channel 70 from the position from which the ship is normally navigated. A notice on proper procedures shall be displayed	SOLAS 1V/7
4.1.12	NAVTEX Receiver	If the vessel is engaged on voyages in any area in which a NAVTEX service is provided.	SOLAS IV/7
4.1.13	Course recorder	There is no requirement for a course recorder to be fitted.	
4.1.14	GPS	There is no requirement at present for a GPS receiver to be fitted.	

4.2	**Is the vessel provided with Operator's policy statements, instructions and procedures with regard to safe navigation?** *Operator's bridge procedures should include at least the following:* • *a clear statement that safety of life and the safety of the ship take precedence over all other considerations;* • *allocation of bridge watchkeeping duties and responsibilities for navigating procedures;* • *procedures for voyage planning and execution;* • *chart and nautical publication correction procedures;* • *procedures to ensure that all essential navigation equipment is available and fully operational;* • *ship position reporting procedures;* • *recording of voyage events.* *(Bridge Procedures Guide 1.3)*	**Y**	**N**	**NS**	**NA**
Comments:					

sub-questions

4.2.1	Is there a copy of the policies and procedures on the bridge?	
4.2.2	Are these policies being complied with?	
4.2.3	Are the duties of the watch-standing officers clearly defined?	
4.2.4	Are the vessel's manoeuvring characteristics displayed on the bridge?	SOLAS II-1/28.3 IMO Res. A.601(15)
4.2.5	Are auto to manual steering changeover procedures displayed?	SOLAS V/19
4.2.6	Are past pilot to master interchange check-lists retained?	
4.2.7	Is the echo sounder recorder marked with a reference date and time on each occasion it is switched on? *The echo sounder recorder should be switched on prior to each port entry and departure, and the date and time marked on the chart.*	

4.3	**Are the Deck and Engine Log Books and the Bell Books fully maintained, in ink, both at sea and in port?** *Log Books and Bell Books should be checked to ensure that they are up to date with entries properly made in ink, and that rough logs in pencil are not being maintained. It is important that a proper, formal record of navigational activities and incidents, which are of importance to safety of navigation, is kept in appropriate Log Books. In order to allow the ship's actual track to be reviewed at a later stage, sufficient information concerning position, course and speed should be recorded in the Bridge Log Book or using approved electronic means. (BPG 3.2.4)*	**Y**	**N**	**NS**	**NA**
Comments:					

4.4	**Are the Standing Order and Master's Night Order Books in effective use?** **Ref: ICS Bridge Procedures Guide** *Standing Order and Master's Night Order Books should be checked to ascertain that all officers are certain as to their responsibilities. Master's Standing Orders should be written to reflect the master's own particular requirements and circumstances particular to the vessel, her trade and the experience of the bridge team employed at that point in time.* *(BPG 1.3.1)*	**Y**	**N**	**NS**	**NA**
Comments:					

sub-questions

4.4.1	Are Standing Orders issued by the Operator, and are they endorsed by the master and signed as read and understood by all deck officers?	
4.4.2	Has the master issued Standing Orders and are they supplemented by Night Orders when required?	

4.5	**Has a system been established to ensure that nautical publications, charts and information are on board and current?** **Ref: SOLAS V Reg. 20** *All ships shall carry adequate and up-to-date charts, Sailing Directions, Lists of Lights, Notices to Mariners, Tide Tables and all other nautical publications necessary for the intended voyage. (SOLAS V 20)* *An on-board chart and publication management system is recommended to ensure that records are kept of which charts and publications are carried, and when they were last corrected. (BPG 4.9.1)* *Record keeping of corrections should be reviewed, and random checks made to ensure that recorded corrections to charts and other nautical publications have been made, and that charts and publications in use are fully corrected and up to date. The last Notice to Mariners on board should be dated within the previous two months.*	**Y**	**N**	**NS**	**NA**
Comments:					

sub-questions

4.5.1	Are fully corrected charts provided for the intended voyage? ***Record in the Comments the type of chart correcting system which is used, and whether the charts are corrected for the normal trading area or just for the voyage.***	
4.5.2	Are Light Lists, Tide Tables, Sailing Directions, Pilot Books, The Nautical Almanac and Chart Catalogue, the current editions?	SOLAS V/20

4.6	**Has the vessel been safely navigated, and in compliance with international regulations?** **Ref: SOLAS V Reg. 20** *Charts of previous voyages should be checked to determine that the vessel has been safely navigated. (For example, the correct use of traffic separation zones, a safe distance off the coast maintained, prohibited areas avoided etc.)*	**Y**	**N**	**NS**	**NA**
Comments:					

sub-questions

4.6.1	Are charts in use appropriate for the port?	SOLAS V/20
4.6.2	Were the largest scale charts published used during the last passage?	

4.7	**Is a comprehensive passage plan available for the current voyage and does it cover the full voyage from berth to berth?** **Ref:-STCW Code Sect A-VIII/2 Part 2, Para. 5** *Use of the HMSO publication 'A Guide to the Planning and Conduct of Sea Passages' (1980), the UK Maritime and Coastguard Agency Marine Guidance Note 72 and Annex, (Guide to the Planning and Conduct of Passages), and the Nautical Institute publication 'Bridge Team Management' reinforce the requirements contained in the ICS 'Bridge Procedures Guide'. Useful information such as parallel indexing, chart changes, position fixing frequency, prominent navigation and radar marks, no-go areas, clearing lines and bearings, transits, etc., should be marked on the chart where the use of this information enhances navigation. Charted passage planning information should not obscure printed details, nor should the information on charts be obliterated by the use of highlight or felt-tip pen, etc. All previous courses to the one in use should have been erased.*	**Y**	**N**	**NS**	**NA**
Comments:					

sub-questions

4.7.1	Is the passage plan prepared by an appropriate officer and verified by the master?	
4.7.2	Is the passage plan information readily available for the watchkeeper's use?	
4.7.3	Are pre-arrival and pre-departure checklists completed?	

4.8	**Does the Operator provide formal training in bridge team management techniques?** **Ref: STCW Convention Res. 8** *'Formal training' should be taken to be shore-based courses.*	**Y**	**N**	**NS**	**NA**
Comments:					

4.9	**Is position fixing satisfactory?** **Ref: STCW Code Section A-VIII/2 Part 3-1(24)** *At least two methods of position fixing should be charted, where possible. Visual and radar position fixing and monitoring techniques should be used whenever possible. (BPG 3.3.2)*	**Y**	**N**	**NS**	**NA**
Comments:					

sub-questions

4.9.1	Is the actual position fixing in accordance with the passage plan?	
4.9.2	Is radar parallel indexing used to monitor the position of the vessel?	
4.9.3	During pilotage, was the position of the vessel adequately monitored?	

4.10	**Is the gyro and magnetic Compass Error Log maintained and is it up to date?** **Ref: STCW Code Section A-VIII/2 Part 3-1(34)** *Magnetic and Gyro compass errors should be checked and recorded each watch, where possible, using either azimuth or transit bearings. (BPG)*	**Y**	**N**	**NS**	**NA**
Comments:					

4.11	**Are current navigation warnings and weather forecasts available?** **Ref: SOLAS Ch.V Regs. 2 and 4** *Ascertain that there is a system in place for monitoring navigational warnings appropriate to the ship's trading area and for ensuring relevant navigational warnings are brought to the attention of the watchkeeping officers.*	**Y**	**N**	**NS**	**NA**
Comments:					

sub-question

4.11.1	Is there a system for retaining and charting Navtex and Navarea warnings, and Temporary and Preliminary Notices, as applicable?	

4.12	**Additional Comments** *If the Inspector has comments in respect of the subject matter covered by the Chapter additional to those which the Inspector may make in response to the specific key questions in the Chapter, the Inspector should include such additional comments in this section.*

Reminder: When making comment in respect to Chapter key questions or making Additional Comment at the end of a Chapter, Inspectors are reminded to pay particular attention to items 6, 7, 8, 9 and 10 of the mandatory inspection requirements on the Conduct of Inspections set out in Section III of the introductory portion of this Document.

Chapter 5. Safety Management

5.1	Is a satisfactory level of safety management being demonstrated?	Y	N	NS	NA
Comments:					

sub-questions

5.1.1	Is a safety officer appointed?	
5.1.2	Has the Operator's representative visited the vessel within the last six months?	
5.1.3	Is there a recent Operator's audit report available, were non-conformities identified, and is there a close-out system in place?	
5.1.4	Are smoking regulations posted and being adhered to?	
5.1.5	Are smokerooms identified?	ISGOTT 4.8
5.1.6	Are all required external doors, ports and windows kept closed in port?	ISGOTT 6.1.2
5.1.7	Are there sufficient crew on board at the time of the inspection to handle emergency situations?	STCW. Annex Ch.VIII/2.4
5.1.8	Is a fire control plan exhibited within the accommodation and also available externally? *IMO Res A.654(16) recommends the symbols to be used on fire control plans.*	SOLAS II-2/20 ISGOTT 4.7
5.1.9	Are necessary safety signs and other important information prominently displayed? *Safety signs include muster lists, lifejacket donning instructions, escape direction signs, personal protection notices etc.* *The muster list shall show the duties assigned to the different members of the crew including:* • *closing of watertight doors, valves, scuppers, skylights, portholes and other similar openings;* • *equipping of the survival craft and other life-saving appliances;* • *preparation and launching of survival craft;* • *general preparations of other life-saving appliances;* • *muster of passengers;* • *use of communications equipment;* • *manning of fire parties assigned to deal with fires;* • *special duties assigned in respect to the use of fire-fighting equipment and installations.* *The muster list shall specify which officers are assigned to ensure that life-saving and fire appliances are maintained in good condition and ready for immediate use.* *The muster list shall specify substitutes for key persons who may become disabled.* *The muster list shall be prepared before the ship proceeds to sea. (SOLAS III-B 37)* *A qualified person shall be designated to have primary responsibility for radiocommunications during distress incidents.* *(SOLAS IV 16)*	ISGOTT 4.7 SOLAS III-8, 37
5.1.10	Is personal protective equipment such as boiler suits, safety footwear, eye and ear protection and safety harnesses, etc., provided and, as required, being worn?	ISGOTT 2.6 SOLAS II-1/36

5.1.11	Is the accommodation air conditioning system on re-circulation during cargo operations? *A tanker's accommodation normally contains equipment which is not suitable for use in flammable atmospheres. It is therefore imperative that petroleum gas is kept out of the accommodation. (ISGOTT 6.1.1)* *Intakes of central air conditioning or mechanical ventilating systems should be adjusted to prevent the entry of petroleum gas, if possible by recirculation of air within the enclosed space. If at any time it is suspected that gas is being drawn into the accommodation, central air conditioning and mechanical ventilating systems should be stopped and the intakes closed and/or covered. (ISGOTT 6.1.4)* *This should be taken to include air and/or gas being drawn into the accommodation through external doors because the rate of exhaust from exhaust fans (e.g. galley and sanitary) is resulting in the accommodation pressure being less than atmospheric.*	ISGOTT 6.1.1; 6.1.4; Appendix A. (Ship/Shore Safety Checklist)
5.1.12	Is the 'Emergency Stop', for the accommodation ventilation system clearly marked?	
5.1.13	Are regular safety meetings held and are minutes recorded?	
5.1.14	Is all loose gear on deck, in stores, internal spaces, in the engine room and the steering compartment properly secured?	

5.2	**Is a completed ISGOTT Ship/Shore Safety Checklist available?** **Ref: ISGOTT Appendix A.** *Any non-compliance should be recorded and frequent checks should be made during cargo operations to confirm continued compliance with the requirements of the checklist..*	**Y**	**N**	**NS**	**NA**
Comments:					

5.3	**Is the vessel provided with a safe means of access?** **Ref: ISGOTT 4.6, SOLAS V Reg. 17**	**Y**	**N**	**NS**	**NA**
Comments:					

sub-questions

5.3.1	Are all means of access properly rigged, including the provision of a safety net, lifebuoy and line?	
5.3.2	Is a gangway provided? *All vessels should be provided with a gangway.*	
5.3.3	Are accommodation ladders, gangways, pilot ladders and pilot hoists, if fitted, in a satisfactory condition?	

5.3.4	Does the accommodation ladder lead aft, where the freeboard exceeds 9 metres at the access point? *Safe and convenient access to, and egress from, the ship shall be provided by an accommodation ladder in conjunction with the pilot ladder, or other equally safe and convenient means, whenever the distance from the surface of the water to the point of access to the ship exceeds 9 metres. The accommodation ladder shall be sited leading aft.* *The question therefore only applies to vessels which exceed the above freeboard.*	SOLAS V 17 (c)(iii)(2)
5.3.5	If a helicopter landing or winching area is provided, does it meet ICS guidelines? *Landing areas should be as large as practicable with a clear zone diameter, D, which is greater than the overall length (with rotors turning) of the helicopter which uses it. (The smallest helicopter in marine use has an overall length of about 12 metres, the largest (single rotor) about 22 metres). The landing area should be a series of 3 concentric circles (although landing areas with extended zones at the ship's side are preferred), painted yellow:* • *the inner, 0.5D, the 'aiming circle', where there are no obstructions above 0.1 metre in height;* • *the middle, D, the 'clear zone', where there are no obstructions above 0.25 metres; and* • *the outer, 1.3D, the 'manoeuvring zone', where there are no obstructions above 1.25 metres.* • *A white 'H', 3.6 by 1.8 metres, should be painted in the centre, and the diameters of the aiming and clear zones should also be marked in white at four equidistant points on their circles.* *Winching areas consist of two concentric zones:* • *The inner, a yellow circle at least 5 metres in diameter, the 'clear zone', which is clear of all obstructions; and* • *The outer, the 'manoeuvring zone', which is 2D, marked with a broken yellow line, and which ideally should be clear of obstructions above 3 metres, but obstructions not higher than 6 metres may be permitted between 1.5D and 2D. Obstructions in the manoeuvring zone should be painted in contrasting colours to other paintwork. Consideration should be given to marking the words 'winch only' in large white letters in the manoeuvring zone.* *(Guide to Helicopter/Ship Operations 4.2 and 4.3)* *During helicopter operations the following fire fighting equipment should be provided: two dry powder extinguishers, a suitable foam application system, CO_2 extinguishers, a deck water system, two fire hose nozzles, a fire resistant blanket and gloves, and sufficient fire proximity suits. (Helicopter/Ship Operations 4.8)* *During helicopter operations the following additional equipment should be provided: a large axe, crowbar, wire cutters, red emergency signal/torch, marshalling batons (at night) and first aid equipment.* *(Helicopter/Ship Operations 6.1.1)*	ICS Guide to Helicopter/Ship Operations

5.4	**In the event of collision, grounding, fire, explosion, gas, or toxic vapour release, are adequate written emergency procedures, as applicable, in place?**	**Y**	**N**	**NS**	**NA**
Comments:					

5.5	**Are officers familiar with the operation of fire fighting, life saving and other emergency equipment?** **Ref: STCW Convention Ch. V Reg. V/1; STCW Code Ch.VI Tables A-VI/1-1, 1-2** *Directions for the use of the emergency equipment should, as applicable, be posted at the relevant locations.*	**Y**	**N**	**NS**	**NA**
Comments:					

sub-question

5.5.1	Are officers familiar with the donning of breathing apparatus and the operation of oxygen resuscitation equipment, fixed fire fighting systems, the main and emergency fire pumps, the emergency steering gear and other emergency equipment?	

5.6	**Is the verbal communication between the ship and shore acceptable?** **Ref: ISGOTT 4.5**	**Y**	**N**	**NS**	**NA**
Comments:					

5.7	**Are enclosed space and pumproom entry procedures identified and complied with?** **Ref: ISGOTT 2.16/17, Ch.11, Appendix I** *An enclosed space is one with restricted access that is not subject to continuous ventilation and in which the atmosphere may be hazardous due to the presence of hydrocarbon gas, toxic gases, inert gas, or oxygen deficiency. (ISGOTT 11.1)*	**Y**	**N**	**NS**	**NA**
Comments:					

sub-questions

5.7.1	Are enclosed space entry permits, as described in ISGOTT Appendix I or the equivalent, being used and complied with?	
5.7.2	Are pumproom entry procedures being complied with? *The use of personal hydrocarbon gas detectors is recommended when entering pumprooms, regardless of whether or not fixed gas detection is fitted.*	ISGOTT 2.17.4
5.7.3	Are pumproom spaces adequately ventilated? *SOLAS requires that the pumproom ventilation shall be of the suction type, and that it should be capable of 20 changes per hour.*	SOLAS II-2 59.3.1

5.7.4	Are pumproom fans being operated in the extraction mode? *On some older vessels the pumproom ventilation system has been designed to operate with one fan venting and the other extracting. Nevertheless, there should be extraction from both sides of the pumproom bilge area.*	
5.7.5	Are pumproom fire and flooding dampers in a satisfactory condition? *Often the venting system is fitted with high level suctions at or above the bottom gratings, the flaps of which are operable from the pumproom top. The purpose of these suctions is to allow the fans to be operated when the bilges are flooded, and the flaps should, under normal operations, be closed.*	
5.7.6	Is there a permanent arrangement for lifting an unconscious person from pumproom, including provision of a suitable stretcher or harness? *This applies to both cargo and ballast pumprooms.*	

5.8	**Are specified procedures utilised for hot work?** **Ref: ISGOTT 2.8; Appendix F. Hot Work Permit**	**Y**	**N**	**NS**	**NA**
Comments:					

Sub-questions

5.8.1	Are the hot work conditions specified in ISGOTT Appendix F being observed?	
5.8.2	Is electric welding equipment in satisfactory condition and are written safety guidelines available?	
5.8.3	Is gas welding and burning equipment in a satisfactory condition?	
5.8.4	Is fixed piping installed from the gas cylinders to the operating position? *Piping should be of steel welded construction. Copper, rubber or braided lines should not be used, except that braided lines may be used for the short length from the cylinder heads to the manifolds within the storage space.*	
5.8.5	Are spare oxygen and acetylene cylinders stored apart in a dedicated storage and is storage in a clearly marked, well ventilated position outside the accommodation and engine room? *In-use cylinders may be stored together. Oxygen and acetylene cylinder valves should be closed when not in use.*	

5.9	**Does the fire fighting equipment meet SOLAS requirements?** *Tankers shall carry four firemen's outfits, which shall consist of:* • *protective clothing of material to protect the skin from the heat radiating from a fire;* • *boots and gloves of rubber or other non-conducting material;* • *a rigid helmet providing effective protection against impact;* • *an electric safety lamp with a burning period of 3 hours;* • *an axe;* • *a fireproof lifeline of sufficient length and strength;* • *a breathing apparatus, which may be either:* • *a smoke helmet or mask with a suitable air pump; or* • *a self-contained breathing apparatus, the volume of air contained in the cylinders of which shall be at least 1200 litres.* • *A number of spare charges shall be provided to the satisfaction of the Administration.* *The outfits shall be so stored as to be easily accessible and ready for use, and in widely separated positions.* *(SOLAS II-2 17.1)* *It should be recognised that although SOLAS recommends 'widely separated positions', fire-fighting training advocates that breathing apparatus should be used by personnel in pairs.* *Breathing apparatus should be checked for condition and satisfactory operation. With the apparatus charged and the cylinder valve closed, the drop in pressure should not be more than 10 bars in one minute.*	**Y**	**N**	**NS**	**NA**
Comments:					

sub-questions

5.9.1	Are inspection records and inventory lists maintained and kept up to date?	
5.9.2	Are fire mains, pumps, hoses and nozzles in a satisfactory condition and available for immediate use? *Consistent with safety and without interfering with operations, randomly select isolating valves for demonstration of operation.*	SOLAS II-2 Reg. 21
5.9.3	Is the emergency fire pump fully operational and are starting instructions clearly displayed? *Consistent with safety and without interfering with the vessels operations, request to witness the starting and operation of the emergency fire pump. For ships constructed on or after 1st February 1992, the emergency fire pump shall operate under all conditions of list, trim, pitch, and roll likely to be encountered in service.*	SOLAS II-2 Reg. 4
5.9.4	Are isolating valves in fire and foam system lines clearly marked and in a satisfactory condition?	SOLAS II-2 Reg. 4.3.6
5.9.5	Do portable fire extinguishers appear to be in satisfactory condition with operating instructions clearly marked?	SOLAS II-2 Regs. 6,21
5.9.6	Are firemen's outfits, including breathing apparatus, in a satisfactory condition and ready for immediate use? *Breathing apparatus should be checked for condition and satisfactory operation. With the apparatus charged and the cylinder valve closed, the drop in pressure should be not more than 10 bars in one minute.*	SOLAS II-2 Reg. 17.1
5.9.7	Are breathing apparatus sets fitted with fully pressurised air cylinders? *Air cylinders should be charged to not less than 10% below full.*	SOLAS II-2 Regs.17.1.2.2
5.9.8	Are sufficient fully charged spare air cylinders available?	SOLAS II-2 Reg. 17.1.2.2
5.9.9	Is the International Ship/Shore connection readily available and is the location clearly marked?	SOLAS II-2 Reg. 19

5.9.10	Are the fixed deck, pumproom and engine room fire extinguishing systems, where fitted, in a satisfactory condition, and are clear operating instructions posted? *SOLAS requires flammable liquid lockers to be fitted with fire extinguishing systems. IACS has determined that this applies to lockers with a floor area of at least 4m^2.*	SOLAS II-2 Reg., 7, 8, 9, 10, 61, 63

5.10	**Are measures in place to effectively isolate ventilation to accommodation, machinery and service spaces?** **Ref: SOLAS II-2 Reg. 11**	**Y**	**N**	**NS**	**NA**
Comments:					

sub-questions

5.10.1	Are accommodation and vent fan stops operational and clearly marked?	
5.10.2	Are fire flaps in a satisfactory condition?	

5.11	**Are fixed fire detection and alarm systems fully operational and tested regularly?** **Ref: SOLAS II-2 Reg. 13**	**Y**	**N**	**NS**	**NA**
Comments:					

sub-question

5.11.1	Are the fire detection and alarm systems in the accommodation, engine room, pumproom and other spaces, where fitted, in satisfactory condition?	

5.12	**If a system to monitor flammable atmospheres in non-cargo spaces is fitted, are recorders, alarms and the manufacturers test procedures in order?** **Ref:- ISGOTT 7.8, 8.2, 18.5 SOLAS II-2 Reg. 13-1** ***Comment if portable monitoring equipment is used, detailing the system of periodical sampling and record keeping.***	**Y**	**N**	**NS**	**NA**
Comments:					

sub-question

5.12.1	Is there a procedure to regularly monitor non-cargo spaces adjacent to the cargo area? *Void and ballast tank spaces within the cargo tank block should be routinely monitored to check that no leakage has occurred from adjacent cargo tanks. Monitoring should include regular checks for hydrocarbon content and regular sounding/ullaging of the empty spaces. (ISGOTT 7.8 and 8.2)* ***Comment if portable monitoring equipment is used, detailing the system of periodical sampling and record keeping.***	

5.13	**Are the emergency towing-off wires (fire wires) in satisfactory condition?** **Ref: OCIMF Mooring Equipment Guidelines. Section.3.11**	**Y**	**N**	**NS**	**NA**
Comments:					

sub-question

5.13.1	Are they of appropriate size and do they conform to OCIMF recommendations? *The following guidance is given in Mooring Equipment Guidelines 3.11:* *Fire wires should be steel wire lines of 6 x 26 construction.* *20,000 - 100,000 tdw 28 mm dia 45 metres in length* *100,00 - 300,000 tdw 38 mm 60 metres* *over 300,000 tdw 42 mm 70 metres* *The use of synthetic or natural fibre ropes is not permitted.*	

5.14	**Are the emergency towing-off wires (fire wires) properly rigged to meet terminal requirements?** **Ref: OCIMF Mooring Equipment Guidelines Sect .3.11. ISGOTT 3.7.2** *Fire wires can be rigged either with or without slack on deck, and the vessel should be guided by the terminal requirements. The eye of the fire wire should be maintained between the water line and two metres above it.*	**Y**	**N**	**NS**	**NA**
Comments:					

5.15	**Are ship-specific SOLAS Training and Maintenance manuals for lifesaving appliances on board?** **Ref: SOLAS III-V Reg.35** *Instructions for on-board maintenance shall be easily understood, illustrated wherever possible, and as appropriate, shall include for each appliance:* *.1 a checklist for use when carrying out the monthly inspections required by SOLAS III-20.7;* *.2 maintenance and repair instructions;* *.3 a schedule of periodic maintenance;* *.4 a diagram of lubrication points with the recommended lubricants;* *.5 a list of replaceable parts;* *.6 a list of sources of spare parts; and* *.7 a log for records of inspections and maintenance.*	**Y**	**N**	**NS**	**NA**
Comments:					

5.16	**Are all lifesaving appliances in a satisfactory condition?**	**Y**	**N**	**NS**	**NA**
Comments:					

sub-questions

5.16.1	Are lifeboats, including equipment and lowering mechanisms, and liferafts, in a satisfactory condition? *Sufficient liferafts of aggregate capacity as will accommodate the total number of persons on board and capable of being launched on either side of the ship, shall be carried. Capable of being launched either side should be interpreted as "stowed in a position providing for easy side-to-side transfer at a single open deck level", and if not so stowed, the total capacity available on each side shall be sufficient to accommodate the total number of persons on board.* *(SOLAS III 31/1.1.2)* *SOLAS does not place emphasis on the recovery of lifeboats after drills. These arrangements should be checked to ensure that enclosed lifeboats can be recovered safely.*	SOLAS III Reg.31
5.16.2	Are hydrostatic releases, if fitted to liferafts, correctly attached, in satisfactory condition, and is servicing in date? *Every liferaft shall be stowed with its painter permanently attached to the ship. (SOLAS III 13.4.1)* *Liferafts shall be so stowed as to permit manual release of one raft or container at a time from their securing arrangements. (SOLAS III 13.4.3)* *Each liferaft or group of liferafts shall be stowed with a float-free arrangement so that each floats free and, if inflatable, inflates automatically when the ship sinks. (SOLAS III 13.4.2)* *If a weak link or a hydrostatic release unit, or both, are used in the float-free arrangement, they shall comply with the requirements of the International LSA Code. (LSA Code 4.1.6)*	SOLAS III Reg. 13 LSA Code 4.1.6

5.16.3	Are survival craft portable VHF radios and Search and Rescue Radar Transponders (SARTS) in satisfactory condition and charged? *Radar transponders should be fitted on each side of the vessel, and stowed to permit rapid use in survival craft.*	SOLAS III Reg. 6.2.2
5.16.4	Are lifeboat and liferaft operating instructions displayed?	SOLAS III Reg. 9
5.16.5	Are lifebuoys, lifebuoy lights, quick release mechanisms and self-activating smoke floats in a satisfactory condition? *Half the life-buoys should be fitted with lights, and at least one on each side with a line. Life-buoys should only be fitted with either lights or lines. The quick release lifebuoys should have a mass sufficient to operate the quick release arrangement..*	SOLAS III Regs. 7; 32
5.16.6	Are pyrotechnics, including line throwing apparatus, in date and in a satisfactory condition? *The following should be available in or near the wheelhouse:* • *12 parachute flares; .(SOLAS B-III 6.3)* • *4 complete sets of line throwing apparatus (SOLAS B-III 18)* *An illustrated table describing the life-saving signals shall be readily available to the officer of the watch. (SOLAS V 16)*	SOLAS III Regs.B 6.3; 18 SOLAS V Reg. 16
5.16.7	Is oxygen resuscitation equipment available? *Recommendation from the World Health Organisation (WHO)*	ISGOTT 11.8
5.16.8	Is a suitable stretcher available?	
5.16.9	Are the locations of life saving appliances marked with IMO symbols? *IMO Res A.760(18) recommends the symbols to be used to mark life saving equipment and muster points. They should be white on a green background.*	
5.16.10	Is there a maintenance schedule in place for the servicing of lifeboat on-load release gear and is it subjected to thorough examination and test carried out at least once every five years? *Lifeboat on-load release gear shall be serviced at recommended intervals, subjected to a thorough examination and test during the annual and renewal Safety Equipment Certificate surveys, and subject to an operational test of 1.1 times the total mass of the loaded lifeboat either whenever the release gear is overhauled or at least once every five years.*	SOLAS III Reg. 20 IMO MSC Circ.614 29/6/93

5.17	**Are lifeboat drills held in accordance with SOLAS requirements?** **Ref: SOLAS Ch.III Reg.19 3**	**Y**	**N**	**NS**	**NA**
Comments:					

sub-question

5.17.1	Have the lifeboats been waterborne within the last three months or, in the case of free fall lifeboats, six months? *Each lifeboat shall be launched with its assigned operating crew aboard and manoeuvred in the water at least once every three months during an abandon ship drill. (SOLAS III 19.3.3.3)* *Lowering into the water, rather than launching of a lifeboat arranged for free-fall launching, is acceptable where free-fall launching is impracticable provided the lifeboat is free-fall launched with its assigned operating crew aboard and manoeuvred in the water at least once every six months. However, in cases where it is impracticable, the Administration may extend this period to 12 months. (SOLAS III 19.3.3.4)* *The Administration may allow ships operating on short international voyages not to launch the lifeboats on one side if their berthing arrangements in port and their trading patterns do not permit launching on that side. (SOLAS III 19.3.3.5)*	

5.18	**Additional Comments** *If the Inspector has comments in respect of the subject matter covered by the Chapter additional to those which the Inspector may make in response to the specific key questions in the Chapter, the Inspector should include such additional comments in this section.*

Reminder: When making comment in respect to Chapter key questions or making Additional Comment at the end of a Chapter, Inspectors are reminded to pay particular attention to items 6, 7, 8, 9 and 10 of the mandatory inspection requirements on the Conduct of Inspections set out in Section III of the introductory portion of this Document.

Chapter 6. Pollution Prevention

6.1	**Is an approved MARPOL Shipboard Oil Pollution Emergency Response Plan (SOPEP) on board, and are drills regularly held and recorded?** **Ref: MARPOL Annex I Ch.IV Reg. 26** *Confirm that emergency response drills are scheduled on a regular basis to determine that the Pollution Prevention Plan is up-to-date and efficient.*	**Y**	**N**	**NS**	**NA**
Comments:					

sub-questions

6.1.1	Does SOPEP include description of equipment, its location, a plan for deployment and specific crew member duties for handling small oil spills?	
6.1.2	Is the IMO Coastal Contact list up to date? *The IMO Coastal Contact List is issued annually, but is frequently updated on the IMO web site www.imo.org*	
6.1.3	Is the master aware of port contact procedures, and has a contact list been made for this port?	

6.2	**Is a USCG approved Vessel Response Plan (VRP) on board?** *Requirements for SOPEP's and VRP's can be contained either in a single plan or in separate documents.*	**Y**	**N**	**NS**	**NA**
Comments:					

sub-question

6.2.1	Are ship-specific Oil Transfer Procedures available?	USCG 33, CFR 155-156

6.3	**What was date of the last pollution prevention drill?**	

6.4	**Are the pollution prevention measures adequate, and is the crew awareness satisfactory?**	**Y**	**N**	**NS**	**NA**
Comments:					

sub-questions

6.4.1	Are anti-pollution warning notices posted?	USCG 33, CFR 151, 155
6.4.2	Are cargo sea and overboard valves, and bilge overboard valves suitably lashed or locked?	ISGOTT 6.9.2
6.4.3	Are specific warning notices posted to safeguard against the accidental opening of bilge overboard discharge valves?	

6.5	**If there is an approved Oil Discharge Monitoring and Control System (ODME) on board, is it in a satisfactory condition?** **Ref: MARPOL Annex I Regs. 15(3), (5); 16**	**Y**	**N**	**NS**	**NA**
Comments:					

sub-questions

6.5.1	Is an approved ODME manual available?	
6.5.2	Does the system have proof of recent use and/or testing? ***If the ODME is not operational, record how long it has been out of order, and what remedial action has been taken.***	

6.6	**Is the vessel free from any hull, bulkhead, valve or pipeline leakage, including hydraulic lines, liable to cause pollution or affect safe cargo handling?** **Ref: ISGOTT 3.1.3**	**Y**	**N**	**NS**	**NA**
Comments:					

6.7	**Are there adequate arrangements to prevent any oil spill entering the water?** **Ref: USCG 33 CFR 155.310. ISGOTT 6.9; 8.2**	**Y**	**N**	**NS**	**NA**
Comments:					

sub-questions

6.7.1	Are cargo hoses or arms properly secured to the manifolds?	

6.7.2	Are spill containers and gratings in place under the cargo manifolds and are they in satisfactory condition? *A permanent spill tank should be fitted under all manifold connections. Should no permanent means be provided, drip trays should be placed under each connection to retain any leakage. (ISGOTT 6.9.4. See also the OCIMF Recommendations for Oil Tanker Manifolds and Associated Equipment)*	ISGOTT 6.9.4
6.7.3	Are manifold spill containers empty and are the drainage arrangements satisfactory? *Suitable means of draining the spill tank should be provided. (OCIMF Manifolds 3.2)*	ISGOTT 6.9.4
6.7.4	Are suitable spill containers fitted around all fuel, diesel and lubricating oil tank vents? *The height of any savealls around bunker tank vents should not be greater than the vents themselves, because this could lead to the ingress of water in bad weather if the savealls become water full.*	
6.7.5	Are unused cargo and bunker pipeline manifolds, drains and vents, and unused gauge stems, suitably blanked or capped? *Manifold blanks should be the same thickness as the manifold flange to which they are fitted.*	
6.7.6	Is there suitable containment fitted around hydraulic and other deck machinery?	
6.7.7	Are scuppers effectively plugged?	ISGOTT 6.9.3
6.7.8	Is the condition of scupper plugs satisfactory?	ISGOTT 6.9.3
6.7.9	Are means readily available for dealing with small oil spills? *Means should be provided for the prompt removal of any spillage on deck. (ISGOTT 6.9.1) This should be taken to mean is spill equipment readily available at the manifold, is there adequate retention at the after end of the maindeck giving the crew sufficient time to deal with a spill (the effectiveness of the height of the boundary coaming can only be decided when it is related to the volume that can be retained with respect to the trim and the camber of the deck) and an adequate method of quickly disposing of oil at the after end of the main deck on both sides of the vessel (spill pumps or drain to slop tank or other equally effective means)?*	ISGOTT 6.9.1
6.7.10	Can the vessel check or sample segregated ballast prior to deballasting? *Segregated ballast tanks should be selectively checked for oil contamination.*	ISGOTT 7.8, 8.2

6.8	**Is a cargo sea chest valve testing arrangement fitted, in satisfactory condition and regularly monitored for leakage?** **Ref: ICS/OCIMF Prevention of Oil Spillages Through Cargo Pumproom Sea Valves** *It is recommended that a device be installed to monitor pressure build-up and determine liquid make-up in the section of line between the inboard and outboard sea valves. Devices should be positioned so that both readings and samples can be taken from a point far enough above the pumproom floor that there is no possibility of human exposure to gas concentrations which may accumulate below the floor plates.* *During cargo operations pressure build-up in this line would be apparent from the gauge reading and would indicate that one of the valves was leaking.* *The use of a pressure/vacuum gauge is preferable in that it will provide a reliable indication of a vacuum in the line prior to opening the sea valve for ballasting.* *It is also recommended that the sea valve testing arrangement detailed in the publication below, which includes in addition to the above a test/drain valve between the inboard sea valve and the next block valve, is fitted, and that the integrity of the sea valves is periodically checked. Care should be taken that test pressures do not exceed 3.5.kg/cm^2.* *(ICS/OCIMF Prevention of Oil Spillages through Cargo Pumproom Sea Valves)*	**Y**	**N**	**NS**	**NA**
Comments:					

6.9	**Is there an Operator's environmental policy on board?**	**Y**	**N**	**NS**	**NA**
Comments:					

6.10	**Are the engine room bilge oily water separator/ filtering and control systems in a satisfactory condition?** **Ref: MARPOL Annex 1 Reg. 16**	**Y**	**N**	**NS**	**NA**
Comments:					

sub-questions

6.10.1	If the engine room oily water separator has not been fitted with an automatic stopping device, confirm that the separator has not been used in a Special Area. *Section 2.2.2 of Form B of the IOPP Certificate will indicate whether the engine room oily water separator has been fitted with an approved automatic stopping device. Unless this section has been so marked, regardless of whether or not a device is actually fitted, it should be taken to be no.*	
6.10.2	Confirm that there is no direct overboard discharge, which bypasses the oily water separator, from a dedicated sludge or bilge pump. *Under no circumstances should there be a connection into an overboard discharge from a dedicated engine room bilge or sludge pump (see MARPOL Reg 17.3), other than the standard discharge connection to the deck required by MARPOL Reg 19.*	
6.10.3	Are emergency bilge pumping arrangements ready for immediate use and is the emergency bilge suction clearly identified? *SOLAS requires tankers to have two pumps connected to the bilge pumping system, one of which may be driven by the propulsion machinery. There is no SOLAS requirement for an emergency bilge discharge, although Class societies will generally require one, and it will always utilise a general service pump such as a sea water circulating or fire pump which is not normally used for oily water. The suction valve should be clearly marked as to it's purpose. This legitimate emergency method of discharging the bilges should not be confused with an illegal direct connection overboard from a bilge pump.*	

6.11	**Are Oil Record Books Parts I and II correctly completed and up to date?** **Ref: MARPOL Annex 1 Reg. 20**	**Y**	**N**	**NS**	**NA**
Comments:					

sub-questions

6.11.1	Have all cargo operations been fully recorded in Part II?	
6.11.2	Are the bilge and sludge tanks being recorded in Part I detailed in Form B of the IOPP Certificate? *Holding tank:_____m^3 Sludge tank:_____m^3* *Other:_____m^3* *Details of the size of bilge and sludge tanks can be obtained from Form B of the IOPP Certificate, and the recording of the information here is only for the Inspector to compare those details with the Oil Record Books if so desired.* *It is not necessary to record the accumulation of sludge in a sludge tank from the normal operation of the purifiers, other than as is required by Section C of the Oil Record Book at the end of each voyage.*	
6.11.3	Are the Oil Record Books free of any pollution incidents or violations?	
6.11.4	Have the disposals of slops and dirty ballast been adequately recorded and were they in accordance with MARPOL?	
6.11.5	Are tank washing procedures being correctly recorded in Part II?	
6.11.6	If the disposal of engine room oily water or sludge to a cargo or slop tank has taken place, has the event been recorded in both Oil Record Books? Was the receiving tank free of cargo? Have the transfer arrangements been approved by Class?	

6.12	**Is a ballast water management plan on board?** **Ref: IMO Res.A868(20), ICS/Intertanko Model Ballast Water Management Plan.** *Several governments, including U.S.A., Australia, Canada and the Ukraine have incorporated the IMO Guidelines for the Control and Management of Ships Ballast Water to Minimise the Transfer of Harmful Aquatic Organisms and Pathogens (Res A.686(20)) with effect from 1 Aug 98.* *Ballast water management options used to date are:* *1. pump each tank out until suction on the pump is lost and then refill; and,* *2. use a flow-through procedure whereby the tank is overflowed until three times the volume of the tank has been pumped into the tank.*	**Y**	**N**	**NS**	**NA**
Comments:					

6.13	**Is the vessel suitably equipped to meet the requirements of MARPOL Annex V?**	**Y**	**N**	**NS**	**NA**
Comments:					

sub-questions

6.13.1	If an incinerator is fitted, is the disposal of ash adequately recorded?	
6.13.2	Does the vessel have a Garbage Management Plan in accordance with ICS Guidelines?	
6.13.3	Is a Garbage Record Book being maintained in accordance with MARPOL Annex V? *The form of the Garbage Record Book is detailed in MARPOL Annex V.*	

6.14	**Additional Comments** *If the Inspector has comments in respect of the subject matter covered by the Chapter additional to those which the Inspector may make in response to the specific key questions in the Chapter, the Inspector should include such additional comments in this section.*

Reminder: When making comment in respect to Chapter key questions or making Additional Comment at the end of a Chapter, Inspectors are reminded to pay particular attention to items 6, 7, 8, 9 and 10 of the mandatory inspection requirements on the Conduct of Inspections set out in Section III of the introductory portion of this Document.

Chapter 7. Structural Condition

Note: Tank entry should only be undertaken if a suitable safe opportunity exists. Refer to the VIQ Introduction (Section III), Paragraph 8, on page xxi.

7.1	**Is an Enhanced Survey Report File maintained on board?** **Ref: MARPOL 73/78 Annex I Reg. 13(G), IMO Res. A.744(18)**. *In conjunction with the Enhanced Survey Programme of inspections required by MARPOL, review, when appropriate, the Enhanced Survey Report File.* ***Record in the Comments details of any areas of concern identified in the Survey Report File including, but not limited to, comments contained in the Condition Evaluation Report with regard to identified areas of substantial corrosion, cracks, buckling or serious indents.*** *Note that this Enhanced Survey Programme requirement became mandatory on 6 July 1995 for crude tankers of 20,000 dwt and above, and product tankers of 30,000 dwt and above, over five years old, other than MARPOL 73/78 Reg. 13F double hull or equivalent tankers. It is not mandatory for the Enhanced Survey Report File to contain information based on surveys preceding 6 July 1995. Any vessels so required, but not able, to produce an Enhanced Survey Report File containing information based on surveys conducted after 6th July 1995 are in clear violation of MARPOL Reg 13G.* ***A summary of the results of the tank coating survey should be described, including the date conducted and the tanks inspected.*** *Some Class Societies require oil and chemical tankers to undertake periodical Enhanced Surveys according to MARPOL, regardless of their size. The requirements for the content of an Enhanced Survey File are contained in Res A.744(18).*	**Y**	**N**	**NS**	**NA**
Comments:					

sub-questions

7.1.1	Does the File contain a survey planning document and was it issued at least 12-15 months prior to the completion date of the last periodical survey?	IACS Guidance Manual for Tanker Structures Z10.1 Annex 1/2.3
7.1.2	Does the File contain reports of structural surveys based on annual, intermediate and periodical surveys?	
7.1.3	Does the File contain a Condition Evaluation Report issued on completion of the last periodical survey?	
7.1.4	Does the File contain thickness measurement reports as required, for intermediate surveys, (if deemed necessary), and periodical surveys?	
7.1.5	Is the following documentation available on board? *(not necessarily in the same file)* Main structural plans for cargo and ballast tanks; Previous repair history; Cargo and ballast history; Extent of use of the inert gas plant and tank cleaning procedures; Record of inspections by the vessel's personnel of structural deterioration and leakages detected in bulkheads and pipes; Records of the condition of coatings and/or corrosion prevention systems.	

7.2	**Were any cargo or ballast tanks inspected?** ***Note: Tank entry should only be undertaken if a suitable safe opportunity exists. (See Introduction III-Inspection Suggestions – 8)*** For the purposes of this report, coating condition is defined as follows: Good condition with only minor spot rusting; Fair condition with local breakdown at edges of stiffeners and weld connections and/or light rusting over 20% or more of areas under consideration, but less than as defined for poor condition; Poor condition with general breakdown of coating over 20% or more of areas or hard scale at 10% or more of areas under consideration. ***If any cargo or ballast tanks were inspected, record the information required by the sub-questions****. If not, then the question should be answered 'NS'.*	**Y**	**N**	**NS**	**NA**
Comments:					

sub-questions

7.2.1	Tank or tanks inspected	
7.2.2	Are tanks coated? If so, record which tanks and the extent of the coating (deckhead only, bottom only, or all tank).	
7.2.3	Condition of the coating (Good, Fair or Poor)	
7.2.4	Are there anodes in the cargo tanks?	
7.2.5	Are there anodes in the ballast tanks?	
7.2.6	What type of anodes are used, when were they last inspected and what was condition?	
7.2.7	Are there any large fractures in any part of the structure? If Yes, where?	
7.2.8	Is there any obvious wastage through corrosion? If Yes, where?	
7.2.9	If any heavy localised pitting exists on horizontal girders and bottom plating, specify location and degree in accordance with fig. V5.2 & V5.3 of *Pitting Assessment for Corrosion Rate Surveys* as provided by Tanker Structures Co-operative Forum.	
7.2.10	Is there any obvious sign of buckling?	
7.2.11	If there are any signs of accumulated rust on horizontal surfaces, specify the location and degree in accordance with fig. V1 of *Pitting Assessment for Corrosion Rate Surveys* as provided by Tanker Structures Co-operative Forum.	
7.2.12	What is the condition of areas such as pipelines, bulkhead penetration pieces, etc. within the tanks?	
7.2.13	Confirm that there are no signs of leakage? *For example, no signs of an oil sheen on ballast water in segregated ballast tanks.*	

7.3	**Additional Comments** *If the Inspector has comments in respect of the subject matter covered by the Chapter additional to those which the Inspector may make in response to the specific key questions in the Chapter, the Inspector should include such additional comments in this section.*

Reminder: When making comment in respect to Chapter key questions or making Additional Comment at the end of a Chapter, Inspectors are reminded to pay particular attention to items 6, 7, 8, 9 and 10 of the mandatory inspection requirements on the Conduct of Inspections set out in Section III of the introductory portion of this Document.

Chapter 8. Cargo and Ballast Systems

ISGOTT contains advice pertaining to the safe carriage and handling of petroleum products. If possible, Inspectors should observe cargo operations, interview responsible personnel, review the Operators operating procedures and note the degree of compliance by officers and crew to appropriate regulations and guidelines. Common causes of incidents are poor planning, improper supervision of transfer operations, inadequate knowledge or disregard of the dangers of static electricity, insufficient personnel on duty and insufficient or incorrect information concerning cargo properties.

8.1	**Is the necessary technical information available for safe and efficient handling of cargo, ballast and slops?** **Ref: ISGOTT 5.3, 5.5, MARPOL Annex II, Standards for Procedures and Arrangements Ch.2**	**Y**	**N**	**NS**	**NA**
Comments:					

sub-questions

8.1.1	Are pipeline and/or mimic diagrams of cargo, inert gas and venting systems etc., available in the cargo control room?	
8.1.2	Is information readily available on maximum loading rates and venting capacities?	

8.2	**Are Material Safety Data Sheets (MSDS) on board and posted for all products being handled?** **Ref: USCG 33 CFR 155.750**	**Y**	**N**	**NS**	**NA**
Comments:					

sub-question

8.2.1	Are officers familiar with use of MSDS?	

8.3	**Is the vessel provided with Operator's policy statements, instructions and procedures with regard to safe cargo operations?** **Ref: ISGOTT 5.3, 5.5. MARPOL Annex II, Standards for Procedures & Arrangements Ch.2** *Ascertain whether detailed written procedures and pre-planning for all cargo, ballast and bunker transfer operations are available, and if appropriate comment on observed compliance and familiarity.*	**Y**	**N**	**NS**	**NA**
Comments:					

sub-questions

8.3.1	If the vessel is operating under Hydrostatically Balanced Loading (HBL), have the officers received appropriate training? *See guidance after 8.7*	

8.4	**Are all cargo and ballast pumps and stripping arrangements fully operational, including associated instrumentation and controls, and are they tested regularly and the results recorded?** **Ref: ISGOTT 6.4**	**Y**	**N**	**NS**	**NA**
Comments:					

sub-questions

8.4.1	Are all main cargo pumps, ballast pumps, stripping pumps and/or eductors operational?	
8.4.2	Are local and remote gauges operational?	
8.4.3	Are emergency cargo pump stops operational, tested regularly and are the test results recorded? *Pump alarms and trips, where fitted, should be tested regularly to ensure that they are functioning correctly, and the results of the tests should be recorded*	ISGOTT 6.4
8.4.4	Are ullage, temperature, pressure, interface tapes, and/or sensors, as fitted, in a satisfactory condition and is there evidence of regular testing?	ISGOTT 7.2

8.5	**Are pipelines in a satisfactory condition?** *Examine deck piping for external indications of corrosion, patching or accelerated wear caused by rope abrasion.*	**Y**	**N**	**NS**	**NA**
Comments:					

sub-questions

8.5.1	Are the cargo lines free of corrosion and are they in a satisfactory condition?	
8.5.2	Are cargo pipelines free of soft patches or other temporary repairs?	
8.5.3	If the ballast lines pass through cargo tanks, are they tested regularly and the results recorded?	
8.5.4	Are cargo pipe clamp supports and expansion arrangements satisfactory?	
8.5.5	Is the general condition of crude oil washing lines satisfactory?	
8.5.6	Is the general condition of inert gas and cargo vent lines satisfactory?	
8.5.7	Is the general condition of hydraulic and pneumatic pipework satisfactory?	
8.5.8	Is the general condition of fire mains and associated fittings satisfactory?	
8.5.9	Is the general condition of deck steam lines satisfactory?	
8.5.10	Is the general condition of cargo tank heating coils satisfactory, are they regularly tested, and is the observation tank return free of oil? *A very small amount of oil, a few drops, on the surface of hot wells or observation tanks can be considered normal, but a layer of oil over the surface indicates that there is a problem of some significance.*	

8.6	**If fitted to pump casings and bearings, are high temperature alarms for ballast and cargo pumps in an operational condition?**	**Y**	**N**	**NS**	**NA**
Comments:					

sub-question

8.6.1	Are bulkhead seals gas tight and, if required, well lubricated?	

8.7	**Has a detailed cargo handling plan been prepared and are operations being carried out and logged in accordance with the agreed plan?** **Ref: ISGOTT 5.3, 5.5**. *Ascertain whether detailed written procedures and pre-planning for all cargo, ballast and bunker transfer operations are available. Cargo plans should include a detailed sequence of cargo and ballast transfer and as required, a plan of the distribution, quantities, lines and pumps to be used, transfer rates, maximum allowable pressures, heating requirements, temperature limits, venting requirements, ballast operations, crude oil washing operations, static restrictions, stability information, drafts and trims, and any other information such as HBL requirement initial start-up rates, line clearing and bunkering. Instructions should be readily available as to the ship to shore contact arrangements and any precautions required for the particular operation.*	**Y**	**N**	**NS**	**NA**
Comments:					

sub-questions

8.7.1	During discussions, did the chief officer demonstrate familiarity with the cargo system?	
8.7.2	Are cargo and ballast transfer instructions understandable to the deck officers conducting the operations?	
8.7.3	Does the cargo handling plan provide a detailed sequence of cargo and ballast transfer?	

8.8	**Is the vessel free of any inherent intact stability problems?** **Ref: SOLAS II-1 Reg 22. MARPOL Reg. 25 (5) ISGOTT 7.6.1, 8.1, 12.4.2** *Vessels which have large width tanks will be subject to reductions of intact stability due to free surface. Although vessels may meet IMO intact stability criteria when in full loaded or ballasted conditions, they may be unstable when multiple tanks are slack during cargo operations. Frequently, trim and stability manuals deal only with arrival and departure conditions, and operators are not made aware that stability problems may exist during cargo transfers.* *If a vessel has either large width cargo tanks, or U section ballast tanks, or double bottom tanks without watertight centreline bulkheads:* • *Inspectors should verify that operating instructions meet the parameters contained in the sub-questions. If such instructions exist, the key question should be answered 'No'.* • *If such instructions are not available, Inspectors should attempt to ascertain if the vessel meets IMO intact stability criteria by using the class approved loading instrument. This may be used to establish intact stability during the worst case (all tanks slack). If a suitable loading instrument is not available, and no instructions are available, the key question should be answered 'No', unless proof is available that the vessel is free of inherent stability problems.*	**Y**	**N**	**NS**	**NA**
Comments:					

sub-questions

8.8.1	Do the instructions indicate the number of tanks which may be slack and still satisfy IMO stability criteria under all possible conditions of liquid (cargo or ballast) transfer?	
8.8.2	Do the instructions provide pre-calculated liquid transfer sequences which satisfy IMO stability criteria for all cargo and ballast transfer operations (such sequences should indicate which tanks may be slack during liquid transfer and still satisfy IMO stability criteria)?	
8.8.3	Are the instructions understandable to the officer in charge of transfer operations?	
8.8.4	Do the instructions allow comparisons of attained and required stability using stability performance criteria in graphical or tabular form?	
8.8.5	Can stability conditions be determined without extensive calculations by the officer in charge?	
8.8.6	Do the instructions provide for corrective action to be taken by the officer in charge in case of departure from the recommended values and in case of emergency situations?	
8.8.7	Are the instructions prominently displayed in the approved trim and stability booklet and at the cargo/ballast transfer control station and/or in any computer software by which the stability calculations are performed?	
8.8.8	Are there any cargo or ballast tank sloshing or weight restrictions?	

8.9	**If a stress finder/loading computer or programme is in use, is it Class approved?** ***If no Class approved loading computer is available, comment as to how stress and stability calculations are performed, and with what frequency.***	**Y**	**N**	**NS**	**NA**
Comments:					

8.10	**Have stress, stability, draft and trim calculations been performed for the current cargo operation?**	**Y**	**N**	**NS**	**NA**
Comments:					

8.11	**Is the pumproom free of evidence of persistent pipeline leaks or leakage of cargo into the bilges?** **Ref: ISGOTT 2.17.2, 2.17.8, 18.5**	**Y**	**N**	**NS**	**NA**
Comments:					

8.12	**Are pumproom gas detection and/or liquid alarms in a satisfactory condition?** **Ref: ISGOTT 2.17.2** ***Record in the Comments if gas detection or liquid alarms are not fitted.***	**Y**	**N**	**NS**	**NA**
Comments:					

sub-questions

8.12.1	If fitted, is the pumproom gas detection equipment operational and regularly tested?	
8.12.2	Is the pumproom bilge high level alarm regularly tested and are the results recorded?	

8.13	**Are manifold back pressure gauges fitted and in a satisfactory condition and are they fitted outboard of the manifold valves?**	**Y**	**N**	**NS**	**NA**
Comments:					

sub-question

8.13.1	Are gauges also fitted to the offshore manifolds, and regularly checked during the discharge for manifold valve leakage?	

8.14	**Are all derricks, cranes and other lifting equipment properly marked, and has periodical testing and inspection been carried out?** **Ref: Chain Register.** *Cargo lifting equipment should be load tested every five years, and thoroughly examined by a competent person annually. Other lifting equipment is not regulated except as usually required by Class, but should be tested and examined under a similar regime. The minimum SWL for which testing is required is one tonne (1000kgs).*	**Y**	**N**	**NS**	**NA**
Comments:					

sub-question

8.14.1	Are winches associated with lifting equipment in a satisfactory condition? *Cargo derrick topping lifts should have a means of securing them, such as a locking pin or ratchet, to prevent the weight of the derrick being solely taken by the winch brake. Check that this is fitted and that it and any associated winches are in good condition.*	

8.15	**If the vessel uses its own cargo hoses, are they in a satisfactory condition?**	**Y**	**N**	**NS**	**NA**
Comments:					

sub-questions

8.15.1	Are the vessel's cargo hoses free of kinks and material defects?	
8.15.2	Are the hoses inspected prior to each use?	
8.15.3	Are the hoses pressure tested annually to the design working pressure?	
8.15.4	Are the hoses retired in accordance with the manufacturer's recommendations?	
8.15.5	Is a record of all hose tests and inspections maintained on board?	
8.15.6	Do flange markings match certificates?	

8.16	**Is the vessel free of unauthorised inter-connections between cargo, bunker, and ballast systems?**	**Y**	**N**	**NS**	**NA**
Comments:					

8.17	**Does the cargo venting system, including inert gas lines, mast risers, high velocity vents and vent stacks, appear to be in a satisfactory condition?** **Ref: SOLAS II-2 Reg. 59. ISGOTT Ch. 17** *Verify that P/V valves, if fitted, are tight and in a satisfactory condition, and that the venting system is designed and operated in accordance with SOLAS.* ***Comment on the appearance and condition of the inert gas and vent lines, including expansion joints****. Consistent with safety and without interfering with operations, and if appropriate to the design of the venting equipment, request the demonstration of the manual lifting of PV valves and/or high velocity cones.* ***Randomly examine and record the condition of the flame screens***	**Y**	**N**	**NS**	**NA**
Comments:					

sub-question

8.17.1	Are high velocity vents, if fitted, being operated in accordance with the manufacturer's instructions? *High jet cones should not be jacked open when loading, as this defeats the object of projecting the gas clear of the deck. High jet vents are not fitted with flame screens, and rely on a gas exit velocity of a minimum of 30 metres/sec. to give adequate protection against the passage of flame, the speed of which is about 7.5 metres/sec.*	
8.17.2	Are the P/V valves in a satisfactory condition and inspected and cleaned as part of a regular maintenance routine and are there records to support this?	
8.17.3	Are flame screens easily accessible and removable, in a satisfactory condition and inspected and cleaned as part of a regular maintenance routine and are there records to support this? *Randomly examine and record the condition of the flame screens.*	

8.18	**Is the vessel capable of operating in a closed condition?** **Ref: ISGOTT 7.2, 7.6.3** ***If capable of operating in a closed condition, record in Comments the condition of the tank gauges and vapour locks, number of measuring tapes in a satisfactory condition***.	**Y**	**N**	**NS**	**NA**
Comments:					

sub-questions

8.18.1	If operating in a closed condition is there an Operator's policy to operate closed?	
8.18.2	If the vessel is handling volatile or toxic cargoes, is it operating in a closed condition at the time of the inspection?	
8.18.3	If fixed tank gauges are not fitted, are there sufficient portable tapes to gauge every tank being worked simultaneously?	
8.18.4	Is the crew able and willing to operate under closed loading? *In some cases although the vessel is equipped to perform closed loading operations, the crew do not trust the reliability of the tank gauges.*	
8.18.5	Are the vapour locks, if fitted, calibrated and certified by Class? *Corrections for datum levels, and for list and trim should be checked and approved by the vessel's classification society.* *(ISGOTT 7.2.5)*	
8.18.6	Can final ullaging, sampling and dipping be conducted in the closed condition, where applicable?	

8.19	**Are ISGOTT guidelines regarding static hazards strictly adhered to?** **Ref: ISGOTT 7.2.2, 7.4, Ch.20** *This question only applies to static accumulator cargoes in non-inert tanks.*	**Y**	**N**	**NS**	**NA**
Comments:					

sub-questions

8.19.1	Are metal tapes and other gauging or sampling devices effectively bonded before introduction into tanks?	ISGOTT 7.2.2
8.19.2	Are natural fibre ropes, as opposed to synthetic, used? *Where vessels are not equipped with inert gas and are handling static accumulator cargoes, the recommendations of ISGOTT 7.4 must be observed. These include restricted initial flow rates, non introduction of metallic equipment into the tank during loading and for 30 minutes afterwards, and the requirement to effectively bond and earth metallic equipment when it is introduced after the relaxation period. Non-conducting equipment with no metal parts, and which is not made from synthetic materials may, in general, be used at any time. Static accumulator cargoes are all those except crude oils, residual fuel oils, black diesel oils and asphalts (bitumens).* *Where non-inert vessels are not equipped with a fixed ullaging system, full tank depth sounding pipes (which must be effectively earthed and slotted to prevent pressure differentials) must be fitted below vapour locks to allow their use during cargo operations in line with the above guidance.*	ISGOTT 7.2.2
8.19.3	Are precautions relating to maximum flow rates during initial loading being observed?	ISGOTT 7.4.3
8.19.4	Are required relaxation periods being observed?	ISGOTT 7.4.3 (b)
8.19.5	Are vapour locks fitted with full depth sounding pipes? *See the guidance in question 8.19.2*	
8.19.6	If portable tank cleaning hoses are used, are continuity tests carried out and the results recorded? *Hoses should be tested for electrical continuity in a dry condition prior to use, and in no case should the resistance exceed 6 ohms per metre length. (ISGOTT 9.1.4)*	

8.20	**If fitted, are all cargo tank high level alarms in a satisfactory condition?** ***Record in the Comments if high level alarms are not fitted.***	**Y**	**N**	**NS**	**NA**
Comments:					

8.21	**Do tank hatches, tank cleaning apertures and sighting ports appear to be liquid and gas tight?**	**Y**	**N**	**NS**	**NA**
Comments:					

8.22	**Are portable gas and oxygen analysers appropriate to the cargoes being carried and are they in a satisfactory condition?** **Ref: ISGOTT Ch.18. SOLAS II-2 Reg.62.17,18** *Each vessel should comply with the ISGOTT recommendations (Chapter 9.1.6) of two each of Oxygen, LEL and % volume hydrocarbon analysers, and a toxic gas detector, as applicable.* ***Record in the comments the condition of the gas analysing instruments and determine that they are the required type for the service.***	**Y**	**N**	**NS**	**NA**
Comments:					

sub-questions

8.22.1	Is there a record of regular testing and calibration?	
8.22.2	Is sufficient span calibration gas available?	
8.22.3	Are instruments capable of measuring hydrocarbon content in an oxygen deficient atmosphere, if required, in a satisfactory condition?	
8.22.4	Are officers familiar with use and calibration of portable gas analysers?	
8.22.5	Where toxic gases may be encountered, are appropriate toxic gas detection analysers available and in a satisfactory condition?	

8.23	**Additional Comments** *If the Inspector has comments in respect of the subject matter covered by the Chapter additional to those which the Inspector may make in response to the specific key questions in the Chapter, the Inspector should include such additional comments in this section.*

Reminder: When making comment in respect to Chapter key questions or making Additional Comment at the end of a Chapter, Inspectors are reminded to pay particular attention to items 6, 7, 8, 9 and 10 of the mandatory inspection requirements on the Conduct of Inspections set out in Section III of the introductory portion of this Document.

Chapter 9. Inert Gas and Crude Oil Washing Systems

9.1	**Is the vessel fitted with an inert gas system (IGS)?** **Ref:-SOLAS II-2 Reg. 60** *If No, go to Chapter 10* ***If the vessel has been issued with a waiver from fitting an IGS, record the issuing authority in the Comments.***	**Y**	**N**	**NS**	**NA**
Comments:					

9.2	**Is the vessel fitted with a crude oil washing (COW) system?** *If No, omit questions 9.10-9.12*	**Y**	**N**	**NS**	**NA**
Comments:					

9.3	**Is the IGS in use at the time of the inspection?**	**Y**	**N**	**NS**	**NA**
Comments:					

9.4	**Is the IGS, including instrumentation, alarms, trips, and pressure and oxygen recorders, fully operational?** **Ref: SOLAS II-2 Reg. 62. OCIMF information papers: Dry type deck water seals and Semi-dry type deck water seals.**	**Y**	**N**	**NS**	**NA**
Comments:					

sub-questions

9.4.1	Does the P/V breaker appear to be in a satisfactory condition? *If the P/V breaker is filled with water, the liquid should be protected against freezing by the addition of an anti-freeze.*	
9.4.2	Is a log kept of IGS operations, and equipment maintenance?	

9.4.3	Are pressure and/or oxygen indicators in a satisfactory condition?	
9.4.4	Do the readings on the local, bridge and cargo control room oxygen and pressure recorders, if fitted, agree?	
9.4.5	Has the fixed oxygen analyser been calibrated immediately prior to use?	

9.5	**Is the IGS being operated in a safe and appropriate manner?** **Ref: SOLAS II-2 Reg. 62.21**	**Y**	**N**	**NS**	**NA**
Comments:					

sub-questions

9.5.1	Are tanks being maintained at positive pressure?	
9.5.2	Is the oxygen content of delivered IG in supply main at or below the permitted maximum? *The system shall be capable of maintaining the atmosphere in any part of any cargo tank with an oxygen content not exceeding 8% by volume (SOLAS II-2 62.2.2), and be capable of delivering inert gas with an oxygen content of not more than 5% by volume. (SOLAS II-2 62.3.2).* *Tankers constructed before 1st Sept. 1984 do not have to comply with the 5% requirement. (SOLAS II-2 62.20.1)*	
9.5.3	Does the oxygen content in the cargo tanks meet requirements? *See the guidance in Sub-Question 9.5.2 above.*	

9.6	**Is the liquid level in the deck seal correct and clearly visible?**	**Y**	**N**	**NS**	**NA**
Comments:					

sub-question

9.6.1	If the deck seal is of the dry type, has the additional instrumentation recommended by OCIMF been fitted, and is it in a satisfactory condition including the operation of the dump valve? *The OCIMF paper on 'Dry Type Seals' refers to the recommended provision of a 'Deck Main High Pressure Shutdown', a 'Differential Pressure Alarm Shutdown' and a 'Deck Main Non-Return Valve with Disc Position Indicator' as a minimum for safe operation. It also states that this type of seal is best replaced with one of another type.* *Normally with a dry type seal there is a dump valve which should open when the inert gas supply is stopped, and which allows the water from the upper tank to drain to the lower, thereby creating a seal. The crew should be requested to stop the inert gas momentarily (which will not affect cargo operations), to see if this process actually takes place. Upon restoring the supply, the dump valve should close, and the upper tank filling and lower tank drain valves open.*	
9.6.2	Is an emergency water supply available for the scrubber and deck seal?	

9.7	**Does the IG non-return valve appear to be working?** **Ref: SOLAS II-2 Reg. 62.10.8** *A non-return valve or equivalent shall be fitted forward of the deck water seal, provided with positive means of closure. As an alternative to positive means of closure, an additional valve having such means of closure may be provided forward of the non-return valve to isolate the deck water seal from the inert gas main. (SOLAS II-2 10.8)*	**Y**	**N**	**NS**	**NA**
Comments:					

sub-question

9.7.1	Are records maintained of the overhaul of the non-return valve?	

9.8	**If tanks can be individually isolated from the IG main, are means provided to protect against over or under-pressurisation?** **Ref: SOLAS II-2 Regs. 59.1 & 62.11.2.1. OCIMF Information paper on the prevention of over and under-pressurisation of cargo tanks on oil tankers** ***Record in the comments the means provided to protect against over or under-pressurisation.*** *If the protection is a P/V valve system, is it sized to cover thermal variation only, or does the system provide protection under maximum loading or discharging conditions?* *The 1996 SOLAS amendments, which require all ships to comply at the first scheduled dry docking after 1st July 1998 but not later than 1st July 2001 require:* • *a secondary means of full flow relief of vapour, air or inert gas mixtures to prevent over-pressure or under-pressure in event of failure of the original venting arrangements;* • *alternatively, pressure sensors may be fitted in each tank with a monitoring system in the cargo control room or position;* • *where the arrangements are combined with other cargo tanks, either stop valves or other acceptable means shall be provided to isolate each tank. Stop valves shall be fitted with locking arrangements which shall be under the control of the responsible ship's officer. There shall be a clear visual indication of the operational status of the valves.*	**Y**	**N**	**NS**	**NA**
Comments:					

sub-question

9.8.1	If stop valves are fitted which permit isolation of individual tanks from the common venting system, are they provided with positive locking arrangements and are the keys under the control of a responsible officer?	

9.9	**If the IGS is not functioning, is it the Operator's policy to stop cargo operations until the IG supply is restored?** **Ref: ISGOTT 10.12 SOLAS II-2 Reg 62.1**	**Y**	**N**	**NS**	**NA**
Comments:					

sub-question

9.9.1	Is this clearly understood by the master? *In the event that the inert gas system is unable to meet operational requirements of this regulation and it has been assessed that it is impracticable to effect a repair, then cargo discharge, deballasting and necessary tank cleaning shall only be resumed when the emergency conditions laid down in the IMO Guidelines on Inert Gas Systems are complied with. (SOLAS II-2 62)* *In brief, these guidelines state that;* *1) In the case of the carriage of crude oil, it is essential that the tanks are maintained in an inerted condition because of the danger of pyrophoric iron sulphide ignition (see ISGOTT Chapter 23). The discharge should be stopped either until the inert gas supply is restored on board, or an external supply of inert gas can be connected;* *2) In the case of the carriage of products, if it is considered totally impracticable to effect repair of the inert gas system, cargo discharge may only be resumed if an external supply of inert gas is connected, or the following precautions are taken:* • *that approved devices, or flame screens, to prevent the passage of flame into cargo tanks are fitted and checked to ensure that they are in a satisfactory condition;* • *the valves on the mast risers are opened;* • *no free fall of water or slops is permitted; and* • *no dipping, ullaging, sampling or other equipment should be introduced into the tank until a period of five hours since injection of inert gas ceased. If essential for the safety of the operation, this should be done only after 30 minutes have elapsed, and all metal components should be securely earthed.*	

9.10	**Is COW being carried out on this occasion?** **Ref:-MARPOL Annex I 13B IMO COW I 6.1**	**Y**	**N**	**NS**	**NA**
Comments:					

9.11	**Is there an approved COW Operations and Equipment Manual on board?** **Ref: MARPOL Annex I 13B(5)**	**Y**	**N**	**NS**	**NA**
Comments:					

9.12	**If the vessel is operating COW, is it in accordance with MARPOL and has an IMO checklist been completed?** **Ref: IMO COW III 10**	**Y**	**N**	**NS**	**NA**
Comments:					

sub-questions

9.12.1	Is the person in charge of COW operations experienced in COW? *Where a person such as the master, the chief officer or the cargo control officer assumes overall charge of a crude oil wash he shall:* *(a) Have at least one year's experience on oil tankers where his duties have included the discharge of cargo and associated crude washing. Where his duties have not included crude oil washing operations, he shall have completed a training programme in crude oil washing in accordance with Res A.446 (XI);* *(b) Have participated at least twice in crude oil wash programmes one of which shall be in the particular ship for which he is required to undertake the responsibility of cargo discharge. Alternatively, this latter participation may be acceptable if undertaken on a ship that is similar in all relevant respects; and* *(c) Be fully knowledgeable of the contents of the Operations and Equipment Manual.* *However, for new ships, for ships changing for the first time to the carriage of crude oil, for ships new to a particular owner, or for ships which are changing registry in which it may not be possible to acquire the particular experience, the Administration may accept as an alternative:* *i) a person such as a shore-based senior officer appointed by the company (additional to the ship's complement) who is experienced in the operation of crude oil washing and is present to advise the ship's personnel; or* *ii) a senior member of the crew such as the master, chief officer or cargo control officer who has participated in at least 4 crude oil washing operations and is on board the ship;* *provided that an Operations and Equipment Manual, in a language readily understood by the ship's officers, is available on the ship.*	
9.12.2	Was the COW system pressure tested prior to use?	
9.12.3	Have oxygen readings of the tanks to be crude oil washed been checked by portable meter and found to be within maximum permissible limits?	
9.12.4	Has a COW plan been prepared and is it being followed?	
9.12.5	Are COW line pressure gauges working?	
9.12.6	Is the tank cleaning heater effectively isolated from the COW line?	
9.12.7	Are any hydrant-type connections on the COW lines, if fitted, blanked?	

9.12.8	Are records maintained of COW operations? *A record should be being maintained of all COW operations, including the tanks washed, the number of machines used, the time washing started and was completed, the washing pattern employed, the washing line pressure and the method employed to ensure that the tanks were dry.* *(Oil Record Book Part II)*	

9.13	**Additional Comments** ***If the Inspector has comments in respect of the subject matter covered by the Chapter additional to those which the Inspector may make in response to the specific key questions in the Chapter, the Inspector should include such additional comments in this section.***

Reminder: When making comment in respect to Chapter key questions or making Additional Comment at the end of a Chapter, Inspectors are reminded to pay particular attention to items 6, 7, 8, 9 and 10 of the mandatory inspection requirements on the Conduct of Inspections set out in Section III of the introductory portion of this Document.

Chapter 10. Mooring

The OCIMF publications 'Effective Mooring' and 'Mooring Equipment Guidelines' provide information on all aspects of mooring operations. Review the mooring arrangements and verify compliance with the procedures contained therein. Common causes of accidents are an inadequate understanding of good mooring practices, unattended mooring lines, a mixture of wire and non-wire moorings, unbalanced mooring arrangements, poor quality of mooring lines, poor maintenance of mooring equipment, insufficient knowledge of local conditions, inattention to weather and tidal conditions and passing traffic.

10.1	**Do mooring practices comply with industry recommendations for the size of the vessel?** **Ref: OCIMF Mooring Equipment Guidelines. OCIMF Effective Mooring. ISGOTT 3.5** *Responsibility for the adequate mooring of a tanker rests with the master. Breastlines provide the bulk of transverse restraint, backsprings the longitudinal. Headlines and sternlines contribute less to the mooring strength than is commonly supposed.* *Two or more lines leading in the same direction should always be of the same material (except where a synthetic first line ashore is used which does not contribute to the final mooring pattern), and as far as possible of the same length.*	**Y**	**N**	**NS**	**NA**
Comments:					

sub-questions

10.1.1	Are moorings regularly tended?	
10.1.2	If mooring tails are fitted to wires, do they have proper connecting links? *Connecting links are usually either Tonsberg or Mandal shackles. Tonsberg have a straight pin, and the tail should be connected to it; Mandal has a curved roller and the wire should be connected to it.*	
10.1.3	Are all mooring lines stowed neatly to minimise tripping hazards?	
10.1.4	Are all mooring lines turned up correctly?	
10.1.5	Are all mooring lines secured to bitts and not to drum ends?	
10.1.6	Are all powered mooring lines secured on brakes, and are the winches out of gear?	
10.1.7	Where fitted, do all mooring wire tails meet OCIMF guidelines? *If mooring wire tails are used they should be of a material with high breaking strength such as braided or plaited (not three strand construction) nylon. The size of rope selected should be capable of easy handling, while at the same time being of sufficient quality to ensure that the tail has a dry breaking strength at least 25% greater than the associated wire.* *Dry nylon rope is slightly stronger than polyester, but wet nylon loses strength much faster under cyclic loading than polyester, and for this reason nylon tails should have at least 37% more strength than the associated wire to allow for the reduction in wet strength.* *Polypropylene rope should not be used for mooring wire tails.* *(MEG 6.2.7 and 6.3.1.2)*	
10.1.8	Are all powered mooring lines correctly reeled on drums? *Mooring lines should be reeled so that the pull is against the fixed pin of the brake strap rather than the floating end. Reeling in the contrary direction can seriously reduce the brake holding capacity.* *(ISGOTT 3.5.5)*	
10.1.9	On split drum winches, are all the lines made fast with no more than one layer on each tension drum?	

10.1.10	If the vessel is equipped for mooring at single point moorings, is all equipment fitted to OCIMF recommendations? *Ships likely to trade to SPM's should be equipped with bow chain stoppers designed to accept 76mm chafe chain:* • *up to 150,000 tdw 1 stopper 200 tonnes swl* • *150 to 350,000 tdw 2 stoppers 200 tonnes swl* • *over 350,00 tdw 2 stoppers 250 tonnes swl* *Stoppers should be located between 2.7 and 3.7 metres inboard from the bow fairlead, and due consideration should be given to the correct alignment of stoppers relative to the direct lead between bow fairlead and pedestal lead or the drum end of the winch.* *A bow fairlead should measure at least 600 by 450mm, and be placed on the centre line. Two fairleads are recommended for ships over 150,000 tonnes dwt. which should be spaced 2 metres centre to centre apart, but in no case more than 3 metres. (MEG Appendix A)*	
10.1.11	If the vessel is equipped for mooring at single point moorings, can the pick-up hawser be led to a winch drum rather than the drum end? *This should be interpreted that a direct pull can be achieved on the continuation of the lead line between the bow fairlead and the bow stopper, either directly onto a winch drum, or round a pedestal fairlead and onto a drum. If a pedestal fairlead is utilised, it should be located not less than 4.5 metres aft of the aft side of the bow stopper.* *If a winch storage drum is used to stow the pick-up rope, it should be of sufficient size to accommodate 150 metres of 80mm rope.* *(MEG Appendix A)*	

10.2	**Is all mooring equipment in a satisfactory condition?** **Ref: ISGOTT 3.5** *Check the condition of all mooring equipment (e.g. winches, winch brakes, fairleads, rollers, mooring lines etc.).*	**Y**	**N**	**NS**	**NA**
Comments:					

sub-questions

10.2.1	Are mooring wires, ropes, and synthetic tails in a satisfactory condition? *Splicing of ropes is acceptable, but reduces the strength of the rope by about 10%. Splices should have a minimum of 5 tucks.*	
10.2.2	Are fairleads, rollers, bitts and chocks in a satisfactory condition?	
10.2.3	Are deadmen and roller fairleads well greased and free to turn with no significant grooving?	
10.2.4	Is there a policy in place for the testing of winch brakes? *Mooring winch brake design capacity: the percentage of the minimum breaking load (MBL) of a new mooring rope or wire it carries, at which the winch brake is designed to render. Winch brakes will normally be designed to hold 80% of the line's MBL, and will usually be set in service to 60% of the line's MBL, although some are designed to slip at less than this. Winch brakes should be tested at intervals not exceeding 12 months. A record, both of regular maintenance and inspections and tests, should be kept on the vessel. (ISGOTT 3.5.5)* *It is very important that where self storing winches are fitted, the crew are aware of the need to monitor the brake capacity, to ensure that mooring winches will render before the rope which is used on it parts.*	
10.2.5	Are the results of testing of winch brakes recorded?	

10.2.6	Do brake linings, drums and pins appear to be in a satisfactory condition? *Defective brake gear is often evident, particularly on older vessels. Check the condition of cheek plates for wastage and distortion, the hinge pins and their retaining devices, and the condition of the brake drum below the lining.*	
10.2.7	If fitted, are steam chests and the brackets connecting them to the winches in a satisfactory condition and free of temporary repairs?	
10.2.8	If winches in a gas hazardous area are electrically powered, are motors Ex'd' rated and in a satisfactory condition? *Most mooring winches will be outside gas hazardous areas and therefore will not require an 'Ex' rating, but if not, then they will need to be rated Ex 'd' or possibly Ex 'e'. An Ex 'd' rating means that the equipment can withstand an internal explosion without igniting the outside atmosphere. Ex 'e' is an increased safety rating.*	
10.2.9	If winches are electrically powered, are insulation tests carried out and the results recorded? *Records should be available of the testing of the insulation resistance, from the phases to earth, of motors, including winch, cargo and booster pump, and vent fans, where fitted. Thermistors, where fitted, should be removed before insulation tests are carried out. Falling insulation resistance indicates deterioration. The resistance should be above 1 MW.*	
10.2.10	If one or more bow stoppers are fitted, is certificate on board attesting to safe working load?	
10.2.11	Are mooring winch foundations in a satisfactory condition?	
10.2.12	Are Emergency Towing Arrangements (ETA) readily available for deployment forward and aft, and is information posted on the bridge? *The aft ETA should be pre-rigged and capable of being deployed in a controlled manner in harbour conditions by one person within 15 minutes. The forward ETA should be capable of being deployed in harbour conditions in not more than one hour. It is unlikely that a length of chain could be retrieved within the time limit if it is stored in the foc's'le space. ETA's should be clearly marked to facilitate safe and effective use even in darkness and poor visibility.* *Once the system has been deployed the watertight integrity of adjacent spaces should be maintained.*	

10.3	**Are anchors, cables and securing arrangements in a satisfactory condition?**	**Y**	**N**	**NS**	**NA**
Comments:					

sub-questions

10.3.1	Except while alongside when locking bars should be in place, were the anchors cleared and ready for immediate use during port entry?	
10.3.2	Are the anchor chain stoppers in a satisfactory condition and effective? *The condition of the chain stoppers should be checked to ascertain that they can fulfil their function of locking the chain when the vessel is at anchor to prevent the brake having to take the full load of the cable.*	
10.3.3	Are bitter end securing arrangements unobstructed and outside the chain locker?	
10.3.4	Are the chain locker doors securely battened down?	

10.4	**Additional Comments** *If the Inspector has comments in respect of the subject matter covered by the Chapter additional to those which the Inspector may make in response to the specific key questions in the Chapter, the Inspector should include such additional comments in this section.*

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Chapter 11. Communications and Electronics

11.1	**Does the communications equipment and its operation meet minimum requirements?** **Ref: SOLAS IV Part C Regs. 6-17** *The minimum requirements for radio equipment should be taken from the Radio Certificate and it's attachment Form R.*	**Y**	**N**	**NS**	**NA**
Comments:					

sub-questions

11.1.1	Are Lists of Radio Signals the latest edition and corrected up to date?	
11.1.2	Is the emergency radio battery log up to date?	
11.1.3	Are operating instructions for the DSC and satellite communications equipment, as fitted, clearly displayed?	
11.1.4	Are radio emergency batteries in a satisfactory condition and fully charged?	
11.1.5	Is the vessel equipped with intrinsically safe portable radios for use on deck?	
11.1.6	Are EPIRBs correctly fitted, inspected and tested weekly, and armed?	

11.2	**Where required, are the main transmitting aerials earthed?** **Ref: ISGOTT 2.7; 4.11.2** *The aerials of GMDSS radio equipment might be automatically earthed when the equipment is switched off, or earthing might be facilitated by a software command, or it might not be possible to provide earthing. Ascertain that the officers know what the situation is on board their vessel.*	**Y**	**N**	**NS**	**NA**
Comments:					

11.3	**Is the Radio Log being maintained correctly?** **Ref: STCW: A-VIII/2 part 3-3: 87-89 and B-VIII/2: 10, 12, 14, 17 and 33. SOLAS: Chapter IV.17.** *The following should be being recorded:* • *a summary of distress, urgency and safety communications;* • *important incidents relating to the radio service;* • *where appropriate, the position of the ship at least once per day;* • *a summary of the condition of the radio equipment, including its sources of energy;* • *personnel assigned responsibility for sending a distress alert instructed to operate properly all radio equipment on the ship;* • *necessary instruction and information on the use of the radio equipment to relevant crew members;* • *pre-sailing checks to ensure that all equipment is in an efficient working condition;* • *the results of the testing of the DSC distress and safety radio equipment by means of a test call at least once a week;* • *the results of the testing of the distress and safety radio equipment by means of a test at least once each day but without radiating any signal;* • *the on-load and off-load daily test of the batteries;* • *the results of the weekly hydrometer or load test of the batteries;* • *the results of the monthly security check of each battery and it's connections.* *(STCW A-VIII/2 part 3-3, 87 to 89, and B-VIII/2, 10, 12, 14, 17 and 33. SOLAS IV 17)*	**Y**	**N**	**NS**	**NA**
Comments:					

11.4	**Is there a satisfactory maintenance programme for radio and electronic equipment in place?** **Ref: SOLAS Ch.IV Reg. 15** *On ships engaged on voyages in sea areas A1and A2, the radio availability shall be ensured by using such methods as:* • *duplication of equipment, or* • *shore based maintenance (the requirement on GMDSS vessels to have shore based maintenance does not infer there should necessarily be a contract, but that maintenance should be carried out annually by a shore-based i.e. 'expert' organisation), or* • *at-sea electronic maintenance capability,* • *or a combination of these as may be approved by the Administration.* *On ships engaged on voyages in sea areas A3 and A4, the radio availability shall be ensured by using a combination of at least two of the methods detailed above. (SOLAS IV 15.6 and 7)*	**Y**	**N**	**NS**	**NA**
Comments:					

11.5	**Additional Comments** *If the Inspector has comments in respect of the subject matter covered by the Chapter additional to those which the Inspector may make in response to the specific key questions in the Chapter, the Inspector should include such additional comments in this section.*

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Chapter 12. Engine Room and Steering Gear

12.1	**Are all items of main and auxiliary machinery reported to be fully operational?** *The main engine should be ready for immediate use; if disabled written authority should have been obtained from the terminal. Any major repairs or overhauls should have a completion schedule, with spare parts on board or on order.* *Boiler controls should not be overridden or by-passed.*	**Y**	**N**	**NS**	**NA**
Comments:					

sub-questions

12.1.1	Are all air start and instrument air compressors fully operational?	
12.1.2	Are all boilers fully operational?	
12.1.3	Are the boilers in automatic mode?	
12.1.4	Are all main cooling water systems operational and free of leaks?	
12.1.5	Are all other essential items of machinery operational, including stand-by machinery?	

12.2	**Is a planned maintenance system being followed?** ***Record in the Comments whether the planned maintenance system is computerised or manual, and whether it covers all areas or only machinery.***	**Y**	**N**	**NS**	**NA**
Comments:					

sub-questions

12.2.1	Are work planning meetings held?	
12.2.2	Is planned maintenance work up to date?	
12.2.3	Is a comprehensive inventory of spare parts being maintained?	

12.3	**Are hot surfaces free of any evidence of fuel, diesel and lub. oil impingement?** *Equipment should be protected against oil spray contacting hot surfaces. Protection includes a double envelope fitted around HP injection pipes and protection around HP fuel pumps. In vessels fitted with deep-well pumps driven by hydraulic pressure packs, pressure in the transmission pipes can be very high. If the vessel is operating UMS, is a fuel leak detection alarm fitted? Exhaust gas lagging should be in good condition. Fuel oil and gas oil or other oil reservoirs should be checked against possible spillage to HP steam pipes.*	**Y**	**N**	**NS**	**NA**
Comments:					

sub-question

12.3.1	Is the equipment in the vicinity of the fuel, diesel, high pressure hydraulic and lubricating oil pipes, protected against spray?	

12.4	**Are the main switchboard, alternators and other electrical equipment protected?** *Risk due to water spray in the event of failure of sea water pipes, including fire mains and hydrants, should be assessed.* ***Record in the Comments if the main switchboard is not located in the engine control room or other protected location.***	**Y**	**N**	**NS**	**NA**
Comments:					

sub-questions

12.4.1	Are main switchboard and alternators protected against water spray?	
12.4.2	Is deck insulation provided to the front and rear of electrical switchboards, and is it in a satisfactory condition?	

12.5	**Are all electrical generating units capable of independently supplying full load requirements, fully operational?**	**Y**	**N**	**NS**	**NA**
Comments:					

sub-questions

12.5.1	Are two generators, (including shaft generators) each with sufficient power to supply usual electrical current at sea, fitted? *SOLAS requires at least two generating sets, one being able to supply sufficient power for normal operational conditions of propulsion and safety regardless of main engine speed and direction.*	
12.5.2	Is back-up equipment available and are operating instructions adequate?	

12.6	**Are emergency arrangements fully operational?** *The emergency air compressor should be regularly tested to the starting pressure of the diesel generator. The emergency air reservoir should be permanently maintained at the required pressure. If the vessel is steam powered with only one boiler, a back-up boiler should be fitted and regularly tested.*	**Y**	**N**	**NS**	**NA**
Comments:					

sub-questions

12.6.1	Are there records of equipment being regularly tested?	
12.6.2	Is emergency generator reserve fuel tank fully charged? *If applicable, the emergency generator fuel tank should be charged with fuel designed for use in sub-zero temperatures.*	
12.6.3	Is the emergency generator tested regularly? *There should be two independent methods of starting the emergency generator on ships delivered after 1 July 1986 unless effective manual starting is available.*	SOLAS II-1 44
12.6.4	Are concise starting instructions for the emergency generator clearly displayed?	
12.6.5	Are engine room emergency batteries in a satisfactory condition and fully charged? *The emergency generator or batteries must supply the lighting, and where necessary the emergency fire pump, with power for up to 18 hours. The emergency batteries should be discharged through the use of the emergency lighting until they are completely discharged, on a regular basis*	

12.7	**UMS vessels must have an engineers call alarm system. Is it fitted, tested regularly and are the results being recorded?** **Ref: SOLAS II-1 Reg.51, SOLAS II-2 Reg. 14**	**Y**	**N**	**NS**	**NA**
Comments:					

12.8	**Are safe engine room practices in place and complied with?**	**Y**	**N**	**NS**	**NA**
Comments:					

sub-questions

12.8.1	Do engine room machine tools have adequate eye protection measures in place?	
12.8.2	Are emergency escape routes clearly marked, unobstructed and lit?	
12.8.3	Are engine room emergency stops and shut offs clearly marked and regularly tested with tests recorded?	
12.8.4	Is engineers alarm in a satisfactory condition?	
12.8.5	Are gauge glass closing devices on oil tanks of self-closing, fail-safe type and not inhibited?	
12.8.6	Are self closing devices to double bottom tanks in satisfactory condition and closed?	
12.8.7	Is bilge high level alarm regularly tested and records maintained?	
12.8.8	Are chief engineer's standing orders posted and countersigned?	
12.8.9	Are chemicals properly stowed and are Material Safety Data Sheets (MSDS) available?	

12.9	**Does the steering gear and steering compartment comply with the latest SOLAS requirements?** **Ref: SOLAS II-1. Reg. 29**	**Y**	**N**	**NS**	**NA**
Comments:					

sub-questions

12.9.1	Has the emergency steering gear been tested within the past three months and are the results recorded?	
12.9.2	Are emergency steering gear changeover procedures clearly displayed in steering compartment and in the wheelhouse? *Simple operating instructions with a block diagram showing the change-over procedures for remote control systems and steering gear power units shall be permanently displayed on the navigation bridge and in the steering gear compartment.*	SOLAS V Reg.19.2(c)
12.9.3	Are officers familiar with operation of steering gear in the emergency mode?	
12.9.4	Is the steering gear emergency reserve tank fully charged?	SOLAS II-1 Reg. 29.12
12.9.5	Where required, is there a clearly visible compass at the emergency steering position in the steering flat? *Ships with emergency steering positions shall at least be provided with a telephone or other means of communication for relaying heading information to such positions. In addition, ships of 500 gt and upwards constructed after 1st February 1992 shall be provided with arrangements for supplying visual compass readings to the emergency steering position.*	SOLAS V Reg.12 (f)
12.9.6	Are communications with the bridge satisfactory?	SOLAS II-1 Reg.29.10
12.9.7	Is the rudder angle indicator clearly visible at the emergency steering position?	SOLAS II-1 Reg.29.11
12.9.8	Is access to steering gear unobstructed?	SOLAS II-1 Reg.29.13
12.9.9	Are suitable gratings and handrails fitted in steering gear compartment? *The steering gear compartment shall be provided with suitable arrangements to ensure working access to steering gear machinery and controls. These arrangements shall include handrails and gratings or other non-slip surfaces to ensure suitable working conditions in the event of hydraulic fluid leakage. This regulation applies to all vessels (petroleum, chemical and gas) except those of less than 10,000 gt built before 1st July 1986.*	SOLAS II-1 Reg.29.13, 19.1
12.9.10	Are means of meeting single failure criteria adequate? *The main steering gear of every tanker, chemical tanker or gas carrier of 10,000 gt and upwards shall be so arranged that in the event of loss of steering capability due to a single failure in any one part of the power actuating systems, excluding the tiller, quadrant or components serving the same purpose, or seizure of the rudder actuators, steering capability shall be regained in not more than 45 seconds.*	SOLAS II-1 Reg.29.16, 17, 19,20
12.9.11	Are electric motors in steering gear compartment protected against water spray?	
12.9.12	Is the steering gear compartment free of spilt oil?	
12.9.13	Are arrangements for the disposal of oily steering flat bilge water adequate?	

12.10	Is the engine room, steering compartment and machinery clean and free from obvious leaks?	Y	N	NS	NA
Comments:					

sub-questions

12.10.1	Is the engine room seawater pipework in a satisfactory condition and free of hard rust and temporary repairs, particularly outboard of the ship-side valves?	
12.10.2	Are engine room spaces clean and in satisfactory condition overall?	
12.10.3	Are bilges free of oil?	
12.10.4	Are purifier rooms and fuel and lub oil handling areas ventilated and clean?	
12.10.5	Are diesel engines free of significant fuel and lub oil leaks which might present a fire hazard?	

12.11	**Additional Comments** *If the Inspector has comments in respect of the subject matter covered by the Chapter additional to those which the Inspector may make in response to the specific key questions in the Chapter, the Inspector should include such additional comments in this section.*

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Chapter 13. General Appearance and Condition

Check that each area is clean, painted, properly maintained and in a satisfactory condition. The visual inspection should include checking of plating, piping, fittings, support structures, ladders, catwalks, rails, etc. ***Equipment or fittings no longer active should be recorded as these may present a hazard or adversely affect the safe operation of the vessel.***

13.1	**Is the general hull condition satisfactory?** ***Comment on the cosmetic appearance of the exterior hull.***	**Y**	**N**	**NS**	**NA**
Comments:					

sub-question

13.1.1	Is the hull free of fractures or indentations, oil staining indicating oil overflow, extensive coating breakdown and excessive marine growth?	

13.2	**Are hull markings correctly placed and legible?**	**Y**	**N**	**NS**	**NA**
Comments:					

sub-question

13.2.1	Are loadlines, draught marks, thruster warnings, vessel's name, tug push points, pilot access points and frame markings, as applicable, clearly indicated?	

13.3	**Are weather decks in a satisfactory condition?** *Inspection of weather decks should include checking for any evidence of wastage, structural problems including evidence of overpressurisation, collision contact or distortion from heavy weather.* ***Comment on the cosmetic appearance of the weather decks.***	**Y**	**N**	**NS**	**NA**
Comments:					

sub-questions

13.3.1	Is the vessel free from visible structural defects which warrant further investigation?	
13.3.2	Is deck lighting adequate?	ISGOTT 6.5.4 USCG 33CFR 154. 570
13.3.3	Are fo'c'sle space, lockers and holds free of water?	

13.4	Is the general condition of external electrical equipment satisfactory?	Y	N	NS	NA
Comments:					

sub-questions

13.4.1	Are light fittings in gas-hazardous areas secure and lamp covers free of cracks or breakages? *Lights will be either explosion-proof or pressurised. The flame paths of explosion-proof lights, which must be kept clear, should not be painted over. Fluorescent fittings will generally have flame paths at each end.* *The manufacturer's or Administration certificate approving the fitting for use in gas-hazardous areas will be invalidated if the correct bolts for securing the fitting together, or the correct light bulb size, are not used.*	
13.4.2	Are electrical conduits and wiring to electrical motors in a satisfactory condition?	
13.4.3	If motors are fitted in a gas hazardous area, are they Ex'd' rated? *Vent fan, cargo pump and cargo winch motors, and also lighting, are likely to be found within gas-hazardous areas. An Ex 'd' rating means that the equipment can withstand an internal explosion without igniting the outside atmosphere. Ex 'e' is an increased safety rating.*	

13.5	Is the general condition of superstructure satisfactory? ***Comment on the cosmetic appearance of the superstructure.***	Y	N	NS	NA
Comments:					

13.6	Is accommodation clean and tidy? ***Comment on the condition and cleanliness of the accommodation and living quarters, including hygiene, sanitation and cleaning facilities.***	Y	N	NS	NA
Comments:					

sub-questions

13.6.1	Are all alleyways free of obstructions?	
13.6.2	Are all exits clearly marked?	
13.6.3	Are fittings, such as central radio and TV antennae, lights, emergency lighting, domestic piping isolation valves etc., identified and in a satisfactory condition?	
13.6.4	Is the level of accommodation lighting satisfactory?	USCG 33 CFR.154.570
13.6.5	Are food storerooms, food handling spaces, refrigerated spaces, galleys and pantries clean and tidy and in a hygienic condition?	

13.6.6	Are personnel alarms in refrigerated spaces in satisfactory condition?	
13.6.7	Are wooden gratings, if fitted, in storerooms and refrigerated spaces, in a satisfactory condition?	

13.7	**Are pumproom spaces clean and tidy?**	**Y**	**N**	**NS**	**NA**
Comments					

sub-question

13.7.1	Is the area well lit with lights approved for use in gas-hazardous areas? *Lights will be either explosion-proof or pressurised. The flame paths of explosion-proof lights, which must be kept clear, should not be painted over. Fluorescent fittings will generally have flame paths at each end.* *The manufacturer's or Administration certificate approving the fitting for use in gas-hazardous areas will be invalidated if the correct bolts for securing the fitting together, or the correct light bulb size, are not used.*	
13.7.2	Is the area free from combustible material?	

13.8	**Are all deck openings, including watertight doors and portholes, in a satisfactory condition and capable of being properly secured?** **Ref: Loadline 12, & 17-23**	**Y**	**N**	**NS**	**NA**
Comments:					

13.9	**Are vents and air pipes on the freeboard deck in a satisfactory condition and are they fitted with closing devices to prevent the ingress of water?** **Ref: Loadline 19, 20** *Vents and air pipes should be marked to indicate the spaces they serve.*	**Y**	**N**	**NS**	**NA**
Comments:					

sub-question

13.9.1	Are closing devices, associated packing material and locking arrangements in a satisfactory condition?	

13.10	**Additional Comments** *If the Inspector has comments in respect of the subject matter covered by the Chapter additional to those which the Inspector may make in response to the specific key questions in the Chapter, the Inspector should include such additional comments in this section.*

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Chapter 14. Ship To Ship Transfer Procedures

This Chapter applies to vessels which carry out Ship to Ship (STS) transfer operations in open water, and not to vessels which carry out STS operations solely in port.

14.1	**Is the vessel suitably equipped to be utilised for STS operations?**	**Y**	**N**	**NS**	**NA**
Comments:					

sub-questions

14.1.1	Have the vessel's senior deck officers had STS experience within last 12 months?	
14.1.2	Were the STS operations in 14.1.1, conducted in open water?	
14.1.3	Are sufficient closed fairleads and mooring bitts provided? *It is recommended that all fairleads used during STS transfer operations are of an enclosed type. Such fairleads should be strong enough to take the anticipated mooring loads and large enough to allow the mooring line (plus any soft rope and tackle) to pass through comfortably.* *Full size mooring bitts and Panama chocks should be fitted within 35 metres of the centre of the manifold fore and aft.* *It is recommended that all tankers be fitted with an array of mooring bitts of sufficient strength on each side of the ship.* *In addition it is recommended that provision be made for securing fender lines. (Ship to Ship Transfer Guide 9.3)*	

14.2	**Additional Comments** *If the Inspector has comments in respect of the subject matter covered by the Chapter additional to those which the Inspector may make in response to the specific key questions in the Chapter, the Inspector should include such additional comments in this section.*

Reminder: When making comment in respect to Chapter key questions or making Additional Comment at the end of a Chapter, Inspectors are reminded to pay particular attention to items 6, 7, 8, 9 and 10 of the mandatory inspection requirements on the Conduct of Inspections set out in Section III of the introductory portion of this Document.

Chapter 15. Chemical Tanker Supplement

This Chapter contains chemical-specific questions which are additional to those contained elsewhere in the VIQ.

If the vessel is provided with a Certificate of Fitness (excluding a Noxious Liquid Certificate), this Chapter must be completed. In answering the questions below, note that the IBC Code applies only to those vessels where the keel was laid on or after 1 July 1986. The BCH code applies to vessels whose keel was laid or which were at a similar stage of construction on or after 12 April 1972. It also applies to vessels constructed before this date, except for the construction provisions of BCH 1.7.3 (a) to (f).

15.1	**Is the required statutory documentation valid?**	**Y**	**N**	**NS**	**NA**
Comments:					

sub-questions

15.1.1	Is a Procedures and Arrangements Manual available? *The list of cargoes which the vessel is allowed to carry should be the same as that appended to the Certificate of Fitness.*	IBC 16A.3; BCH 5A.3
15.1.2	Is the Cargo Record Book correctly completed and up to date?	MARPOL Annex 2 Reg 9
15.1.3	Are Damage Stability Guidelines available? *The master should be supplied with a loading and stability information booklet which contains details of typical service and ballast conditions, provisions for evaluating other conditions of loading, and a summary of the ship's survival capabilities. (IBC 2.2.5 and BCH 2.2.2. See also 'Guidelines for the uniform application requirements of the BCH and GC Codes')*	IBC 2.2.5; BCH 2.2.2

15.2	**Is adequate cargo information available?**	**Y**	**N**	**NS**	**NA**
Comments:					

sub-questions

15.2.1	Is information on cargo loading limitations available?	IBC 16.1; BCH 5.2
15.2.2	Is adequate information available, including a cargo stowage plan for the safe stowage of the cargo?	IBC 16.2.3
15.2.3	Are relevant Material Safety Data Sheets available and displayed in a public place on board?	
15.2.4	Are the cargoes on board described in the shipping documents by the correct technical name?	IBC 16.2; BCH 5.2
15.2.5	Is a cargo compatibility chart available?	IBC 16.2; BCH 5.2
15.2.6	Are tank cleaning guidelines available? *This can either be an in-house guide or a recognised tank cleaning publication.*	IBC 16.2; BCH 5.2

15.3	Is the on-board safety management, as it affects a chemical tanker, of an acceptable standard?	Y	N	NS	NA
Comments:					

sub-questions

15.3.1	Has the Ship to Shore Safety Check List and Chemical Supplement been completed, and are its provisions being complied with?	
15.3.2	Are the cargoes carried listed on the Certificate of Fitness?	
15.3.3	When a new chemical is to be carried, is a review of the safety aspects and handling procedures carried out?	
15.3.4	Are records available to prove that the breathing apparatus required by the Codes, have been examined by an expert agency within the past year?	IBC 14.2.6 BCH 3.16.8
15.3.5	Are records available indicating that monthly on-board inspections of the items of safety equipment required by the Codes are carried out as part of the vessel's normal maintenance programme?	IBC 14.2.6 BCH 3.16.8
15.3.6	Is the Master aware of the worst damage stability condition in Stability Book?	IBC 2.2.5; 2.9 BCH 2.2.1; 2.2.3
15.3.7	Are the dangers associated with co-mingling non-compatible cargoes in slop tanks and drip trays considered?	

15.4	Are the officers and crew suitably qualified, and is their training and experience adequate?	Y	N	NS	NA
Comments:					

sub-questions

15.4.1	Can officers demonstrate familiarity with the carriage requirements for the cargoes on board?	
15.4.2	Is there a formal programme of regular chemical-specific medical checks and blood tests?	

15.5	Is the cargo monitoring instrumentation in a satisfactory condition?	Y	N	NS	NA
Comments:					

sub-questions

15.5.1	Are ullage, temperature and pressure gauges and indicators regularly checked for accuracy, and are the results recorded? *There should be a reference thermometer and reference pressure gauge available, and records to show that they have been used to check the accuracy of the tank temperature and pressure measuring systems. Reference instruments should have certificates stating that they have been calibrated by a competent organisation, and should themselves be calibrated annually.*	
15.5.2	Is the cargo tank tank high level alarm system independent of gauging devices and the overflow-control alarm system? *Where required by the note 15.19.6 in column 'o' of Chapter 17, vessels carrying those cargoes must be fitted with a visual and audible high-level alarm which indicates when the liquid in the cargo tank approaches the normal full condition (95%).* *(IBC 15.19.6 and BCH 4.14.1 (Alternative 1 and 2), except Alternative 1 does not require the alarm to be visual and audible)* *This alarm should be independent of any gauging device.* *(IBC 13.1/15.19.5 and BCH 4.14.1 Alternative 2. The high level alarm is not required to be independent of the gauging devices under Alternative 1)*	IBC 15.19.5
15.5.3	Are approved portable tapes and vapour locks provided as a back-up in case of a failure of the fixed gauges?	
15.5.4	Where portable tapes are the only method of ullaging during closed operations, are there sufficient portable tapes to gauge every tank normally worked simultaneously? *There should also be two spare tapes on board.*	

15.6	**If a tank overflow-control system is fitted, is it in a satisfactory condition?** **Ref: IBC 13.1.2, 15.19; BCH 3.9, 4.14.2** *Where required by the note 15.19 (i.e. includes all the requirements of 15.19, including 15.19.6 and 15.19.7) in column 'o' of Chapter 17, vessels carrying those cargoes must be fitted with both the high-level alarm above and a visual and audible tank overflow-control system which indicates when the liquid level in the cargo tank approaches the normal full condition (98%).* *(IBC 15.19.7 and BCH 4.14.2 Alternative 2)* *The overflow control system should be independent (except for Alternative 1 below) of the high level alarm system.* *(IBC 15.19.5 and BCH 4.14.1 Alternative 2)* *The overflow control system should be independent of the gauging devices. (IBC 13.1.2 and BCH 3.9)* *Note: Alternative 1 provides for an automatic shutdown system instead of an overflow alarm. This option is found only on older tonnage, and is not permitted under the latest regulations. Where an automatic shutdown system is fitted, it shall operate independently of the high level alarm. On ships constructed after 27 September 1982, it should also be independent of the gauging system. (BCH 3.9)*	**Y**	**N**	**NS**	**NA**
Comments:					

sub-questions

15.6.1	Is the tank overflow-control system independent of the gauging devices and the high-level alarm system?	IBC 15.19
15.6.2	Is the tank overflow-control system in a satisfactory condition, tested regularly, and are the test results recorded?	

15.6.3	Has the tank overflow-control automatic shut-down system been by-passed? *If not, approval must have been obtained from the Administration and the port State authority. If the vessel is required by chapter 17 to have an overflow control, and an automatic system as detailed in Alternative 1 above is fitted, then if it is by-passed one of the other alternatives required by the Codes must be fitted.*	

15.7	**Is the cargo pumping equipment in a satisfactory condition?**	**Y**	**N**	**NS**	**NA**
Comments:					

sub-questions

15.7.1	Is all the cargo pumping instrumentation in a satisfactory condition, and are discharge pressure gauges provided outside where a cargo pumproom is fitted?	IBC 3.3.6 BCH 2.8.7
15.7.2	On vessels where a pumproom if fitted, is the bilge pump in a satisfactory condition, and can it be operated from a position outside the pumproom?	IBC 3.3.5 BCH 2.8.6

15.8	**Are the deck pipelines in a satisfactory condition?**	**Y**	**N**	**NS**	**NA**
Comments:					

sub-questions

15.8.1	Are the electrical bonding arrangements across gasketed pipeline connections in a satisfactory condition?	IBC 10.3
15.8.2	Are cargo pipeline expansion arrangements in a satisfactory condition?	IBC 5.2.4
15.8.3	Are pipeline drains and stub pieces valved and capped, and do they appear to have been used recently?	
15.8.4	Are cargo line drains suitably positioned to preclude liquid remaining in the line after draining?	

15.9	**Are cargo manifold arrangements satisfactory?**	**Y**	**N**	**NS**	**NA**
Comments:					

sub-questions

15.9.1	Are the manifold valves and pipelines marked to identify the tank or tanks they serve?	IBC 3.6
15.9.2	If flexible cargo hoses or U-shaped spool pieces are being used to interconnect manifolds (especially on the outboard side of the vessel), are all flange connections fully bolted in every hole?	
15.9.3	Are the manifolds fitted with drain lines and purge points, and are they valved and capped?	

15.10	Are the cargo tank venting arrangements satisfactory?	Y	N	NS	NA
Comments:					

sub-questions

15.10.1	Are the vent lines fitted with drain plugs, and do they appear to have been used recently?	IBC 8.2.2 BCH 2.13.4

15.11	Is the cargo sample locker satisfactory? *The requirements for cargo sample lockers are contained in IBC 16.5.1 and BCH 4.16. Only if the locker contains flammable liquids are SOLAS fire extinguishing arrangements required.*	Y	N	NS	NA
Comments:					

sub-questions

15.11.1	Is the cargo sample locker situated within the main cargo area? *Samples may exceptionally and subject to the approval of the Administration, be stowed elsewhere.*	IBC 16.5.1
15.11.2	Is the locker suitably constructed to prevent breakages (i.e. cellular subdivision)? *The stowage space should be:* • *cell divided in order to avoid the shifting of bottles at sea;* • *made of material fully resistant to the different liquids intended to be stowed;* *Samples should not be retained on board longer than necessary, and those which react with each other dangerously should not be stowed close to each other.*	IBC 16.5.2
15.11.3	Is the locker adequately ventilated? *Mechanical ventilation is not required.*	IBC 16.5.2

15.12	Is the gas detection equipment functional, and in a satisfactory condition?	Y	N	NS	NA
Comments:					

sub-questions

15.12.1	Are at least two instruments designed and calibrated to test for toxic vapours available?	IBC 13.2.1 BCH 3.11.1
15.12.2	Where such instruments rely on the use of glass tubes (eg Draeger tubes), is there an adequate supply of tubes, specific to the cargoes being carried, and are they within their expiry date?	
15.12.3	Is an up to date inventory of tubes being maintained?	

15.13	Is the vessel provided with safety equipment as required by the IBC and BCH Codes?	Y	N	NS	NA
Comments:					

sub-questions

15.13.1	Is suitable protective clothing available for all crew members engaged in cargo operations? *For the protection of crew members engaged in cargo operations, the ship should have on board suitable protective equipment consisting of large aprons, special gloves with long sleeves, suitable footwear, coveralls of chemical-resistant material, and tight fitting goggles or face shields or both. (IBC 14.1.1 and BCH 3.16.1)* *Work clothes and protective equipment should be kept in easily accessible places and in special lockers. Such equipment should not be kept within accommodation spaces, with the exception of new, unused equipment and equipment which has not been used since undergoing a thorough cleaning process. The Administration may, however, approve storage rooms for such equipment within accommodation spaces if adequately segregated from living spaces such as cabins, passageways, dining rooms, bathrooms etc. (IBC 14.1.2 and BCH 3.16.2)*	IBC 14.1.1; 14.1.3 BCH 3.16.1; 3.16.3
15.13.2	If required by the Codes, are there at least 3 complete sets of safety equipment, and are they in a satisfactory condition and available and ready for immediate use? *Ships carrying toxic cargoes, identified by 15.12, 15.12.1 or 15.12.3 in column 'o' of Chapter 17, should have on board sufficient, but not less than three complete sets of safety equipment, each permitting personnel to enter a gas-filled compartment and work there for at least 20 minutes.* *A complete set of safety equipment should consist of:* • *one self contained air-breathing apparatus;* • *protective clothing, boots, gloves and tight fitting goggles;* • *fireproof line with belt resistant to the cargoes carried; and* • *an explosion-proof lamp.* *(IBC 14.2.2 and BCH 3.16.5)* *At least one set of safety equipment should be kept in a suitable clearly marked locker in a readily accessible place near the cargo pumproom. The other sets should also be kept in suitable, clearly marked, easily accessible places.* *(IBC 14.2.5 and BCH 3.16.7)*	IBC 14.2.1; 14.2.2 BCH 3.16.4; 3.16.5; 3.16.7
15.13.3	For each set of safety equipment, is there one set of fully charged air cylinders, plus a charging compressor and manifold with a sufficient number of spare cylinders, or alternatively, are there sufficient fully charged spare cylinders to provide 6000 litres of free air capacity for each set?	IBC 14.2.3 BCH 3.16.6
15.13.4	Is there a medical first-aid kit with antidotes, as required, for the cargo onboard?	IBC14.2.9 BCH 3.16.11
15.13.5	Are emergency escape sets, where required, provided for every person on board? *Ships intended for the carriage of certain cargoes identified by 'E' in column 'n' of Chapter 17 should be provided with suitable respiratory and eye protection sufficient for every person on board for emergency escape purposes. Self-contained breathing apparatus should have a duration of service of 15 minutes. Filter type respiration protection is not acceptable. (IBC 14.2.8 and BCH 3.16.10)*	IBC 14.2.8 BCH 3.16.10

15.13.6	Are decontamination showers and an eye-wash, where required, provided in suitably marked locations? *Decontamination showers and an eyewash, operable in all ambient conditions, should be available on deck in suitably marked locations. (IBC 14.2.10 and BCH 3.16.12)*	IBC 14.2.10 BCH 3.16.12

15.14	**Does the vessel comply with the SOLAS fire fighting regulations, as supplemented by the IBC and BCH Codes?**	**Y**	**N**	**NS**	**NA**
Comments:					

sub-questions

15.14.1	Is the fixed deck foam system in a satisfactory condition, and are the foam monitors and foam line isolating valves free to operate by hand?	IBC 11.3.1; 11.3.11 BCH 3.14.1; 3.14.11
15.14.2	Is the type of foam compound suitable for the cargoes which the vessel is certified to carry? *Every ship should be provided with a fixed deck foam system. (IBC 11.3.1 and BCH 3.14.1* *Only one type of foam concentrate should be supplied, and it should be effective for the maximum possible number of cargoes intended to be carried (normally alcohol resistant foam - regular protein foam should not be used). For other cargoes for which foam is not effective or is incompatible, additional arrangements to the satisfaction of the Administration should be provided. (IBC 11.3.2 and BCH 3.14.2)* *Note: ships constructed before 20 May 1981 should comply with the 1977 edition of the Code, and might have a dry powder system instead of foam fitted. (BCH 3.15)*	IBC 11.3.1; 11.3.2 BCH 3.14.2; 3.15
15.14.3	Is a full charge of foam compound on board? *Sufficient foam for 30 minutes of operation at the maximum foam concentrations should be available.*	IBC 11.3.6 BCH 3.14.6
15.14.4	Are records available to show that samples of foam compound have been submitted for testing at regular intervals?	
15.14.5	Are at least four portable foam applicators available?	IBC 11.3.10 BCH 3.14.10
15.14.6	Is a fixed foam monitor and a connection for a portable foam applicator provided on both sides of the bridge or accommodation block front and facing the cargo area?	IBC 11.3.9 BCH 3.14.9

15.15	**Is there a contingency plan specific to chemical spills?**	**Y**	**N**	**NS**	**NA**
Comments:					

sub-questions

15.15.1	Are the crew trained in accordance with contingency plan?	
15.15.2	Are regular exercises based on this plan undertaken?	

15.16 Additional Comments

If the Inspector has comments in respect of the subject matter covered by the Chapter additional to those which the Inspector may make in response to the specific key questions in the Chapter, the Inspector should include such additional comments in this section.

Reminder: When making comment in respect to Chapter key questions or making Additional Comment at the end of a Chapter, Inspectors are reminded to pay particular attention to items 6, 7, 8, 9 and 10 of the mandatory inspection requirements on the Conduct of Inspections set out in Section III of the introductory portion of this Document.

Chapter 16. Gas Carrier Supplement

This Section contains gas-specific questions which are additional to those contained elsewhere in the VIQ.

In answering the questions below, note that:

- *the mandatory IGC Code applies only to those vessels the keel of which was laid on or after 1st July 1986;*
- *the mandatory GC Code applies to vessel delivered after 30th June 1980 (different dates apply for the building contract - 31st October 1976, or keel laid - 31st December 1976); and*
- *the non-mandatory EGC Code applies to those vessels delivered on or before the 31st October 1976.*
- *The IGC and GC Codes were amended during their lifetime, and vessels built before those amendments came into force do not necessarily have to comply with those amendments.*

Gas carriers are also required to have a Noxious Liquids Certificate when carrying dual-code cargoes (Diethyl ether, Ethylene oxide/Propylene oxide mixtures with an E-o content of not more than 30%, Isoprene, Isopropylamine, Monoethylamine, Pentanes, Pentene, Propylene oxide, Vinyl ethyl ether and Vinylidene chloride).

Gas carriers carrying oil cargoes, which are regulated under Annex 1, are required to hold an IOPP Certificate with a Form B which identifies the ship as a product carrier. The SOLAS Safety Construction and Safety Equipment Certificates should also identify the vessel as 'a tanker engaged in the trade of carrying oil other than crude oil'.

Relevant cargoes are those which do not contain heavy components likely to remain in the tanks after a ventilation procedure, and will typically be Light naphtha, Jetfuel (also called Turbofuel white or White cut gasoline), Mogas, Natural gasoline, Condensate, Pentane, and Casinghead gasoline.

Gas carriers accepted under this Notice of Equivalency will have:

- *Independent cargo tanks;*
- *an arrangement suitable for tank cleaning by ventilation procedures, tank cleaning with water will be prohibited as a normal procedure;*
- *deep well pumps, but submerged electrical motors will not be accepted.*
  (IMO Notice of Equivalency MEPC Circular 167 - 3rd June 1986)

16.1	**Is the required statutory documentation valid?**	**Y**	**N**	**NS**	**NA**
Comments:					

sub-questions

16.1.1	Is a Procedures and Arrangements Manual available? *The list of cargoes which the vessel is allowed to carry should be the same as that appended to the Certificate of Fitness. The P and A Manual is required only for the dual code cargoes where there is a NL Certificate.*	
16.1.2	Are Damage Stability Guidelines available? *The Master should be supplied with a loading and stability information booklet which contains details of typical service and ballast conditions, provisions for evaluating other conditions of loading, and a summary of the ship's survival capabilities.* *(See also 'Guidelines for the uniform application requirements of the BCH and GC Codes')*	IGC 2.2.3; 2.2.5

16.2	Is adequate cargo information available?	Y	N	NS	NA
Comments:					

sub-questions

16.2.1	Is information on cargo loading limitations available? *The master should ascertain that the quantity and characteristics of each product to be loaded are listed, and within the limits indicated, in the Certificate of Fitness, and in the Loading and Stability Information booklet*	IGC 18.2.1
16.2.2	Is adequate information available, including a cargo stowage plan, for the safe carriage of the cargo? *Information should be on board and available to all concerned, giving the necessary data for the safe carriage of the cargo. Such information should include for each product carried:* • *a full description of the physical and chemical properties necessary for the safe containment of the cargo;* • *action to be taken in the event of spills or leaks;* • *counter-measures against accidental personal contact;* • *fire-fighting procedures and fire-fighting media;* • *procedures for cargo transfer, gas freeing, ballasting, tank cleaning and changing cargoes;* • *special equipment needed for the safe handling of the particular cargo;* • *minimum allowable inner hull steel temperatures; and* • *emergency procedures.*	IGC 18.1
16.2.3	If the cargo is required to be inhibited, is the required information available? *Where required by column 'I' of Chapter 19 (Butadiene, Isoprene, Vinyl ethyl ether and Vinylidene chloride), products should be sufficiently inhibited to prevent polymerisation at all times during the voyage. The ship should be provided with a certificate from the manufacturer stating:* • *name and amount of inhibitor added;* • *date inhibitor was added and the normally expected duration of its effectiveness;* • *any temperature limitations affecting the inhibitor;* • *the action to be taken should the length of the voyage exceed the effective lifetime of the inhibitors.* *Products required to be inhibited should be refused if the certificate above is not supplied.*	IGC 17.8; 18.1.2
16.2.4	Is a cargo compatibility chart available? *Care should be taken to avoid dangerous chemical reactions if cargoes are mixed, of particular significance in respect of:* *tank cleaning procedures required between successive cargoes in the same tank; and simultaneous carriage of cargoes which react when mixed. This should be permitted only if the complete cargo systems are separated.*	IGC 18.2.2
16.2.5	Are the relevant Material Safety Data Sheets available and displayed in a public place on board?	

16.3	Are the officers and crew suitably qualified, and is their training and experience adequate?	Y	N	NS	NA
Comments:					

sub-questions

16.3.1	Can the officers demonstrate familiarity with the carriage requirements for the cargoes on board?	

16.4	**Is the on-board safety management, as it affects a gas carrier, of an acceptable standard?**	**Y**	**N**	**NS**	**NA**
Comments:					

sub-questions

16.4.1	Has the Ship to Shore Safety Check List and Gas Supplement been completed and are its provisions being complied with?	
16.4.2	Are the cargoes being carried listed on the Certificate of Fitness?	
16.4.3	Are records available to prove that the breathing apparatus required by the Codes have been examined by an expert agency within the past year?	
16.4.4	Are records available indicating that monthly on-board inspections of the items of safety equipment required by the Codes are carried out as part of the vessel's normal maintenance programme?	
16.4.5	Is the master aware of the worst damage stability condition in the Stability Book?	

16.5	**Is the Emergency Shut Down (ESD) System in a satisfactory condition?**	**Y**	**N**	**NS**	**NA**
Comments:					

sub-questions

16.5.1	Are there at least two remote positions where the ESD can be manually activated, one of which is in the cargo control room/position?	
16.5.2	Is the ESD system designed to be fail-safe? *Emergency shut-down valves should close upon the loss of power and be capable of local manual closing operation.* *(IGC 5.6.4 and GC 5.3.4(a))*	IGC 5.6.4; GC 5.3.4(a)
16.5.3	Is the ESD system tested at regular intervals and are records maintained?	
16.5.4	Are ESD fusible plugs fitted on the liquid domes and in the vicinity of the manifolds, and are they in a satisfactory condition? *ESD fusible links are designed to melt at temperatures between 98 and 104 ^{o}C. The fusible link or melting plug should not be painted over.*	IGC 5.6.4 CG 5.3.4(a)
16.5.5	Are all ESD manifold valves and tank filling valves tested and timed to close within 30 seconds? *ESD valves in liquid piping (at each cargo hose connection) should fully close under all service conditions within 30 seconds of actuation. Information about the closing time of the valves and their operating characteristics should be available onboard and the closing time should be verifiable and reproducible. Such valves should close smoothly.* *Cargo pumps and compressors should be arranged to shutdown automatically if the emergency shutdown valves are closed by the ESD system.*	IGC 5.6.4; GC 5.3.4(b), IGC 5.6.1.3; GC 5.3.1(c))

16.6	Is the cargo monitoring instrumentation in a satisfactory condition?	Y	N	NS	NA
Comments:					

sub-questions

16.6.1	Are the cargo tank high level alarms independent of the gauging system, and, in the case of IGC vessels, also independent of the high level shut-down (overflow control) system? *Except as detailed below, each cargo tank should be fitted with a high liquid level alarm operating independently of other liquid level indicators, and giving an audible and visual warning when activated. Either this sensor (GC vessels) or an independent sensor (IGC vessels) should automatically actuate a shutoff valve (which might be either the ESD or the cargo tank filling valve) in a manner which will both avoid excessive liquid pressure in the loading line, and prevent the tank from becoming liquid full.* *Neither of these devices are required if the cargo tank:* ▪ *is a pressure tank with a volume of not more than 200 m^3;* ▪ *is designed to withstand the maximum possible pressure during the loading operation, and such pressure is below that of the start-to-discharge pressure of the cargo tank relief valve.*	IGC 13.3; GC 13.3
16.6.2	Are level and shut-down alarms, and the visual and audible warnings, in a satisfactory condition, tested regularly, and the results recorded?	
16.6.3	If the high level and/or shut-down systems can be overridden by a key switch, is there a written procedure detailing under what circumstances and by whom the system may be overridden? *The system should only be overridden in exceptional circumstances, such as if the tank has been overfilled and it is necessary to by-pass the overflow control system to discharge the tank.*	
16.6.4	Are all cargo tank ullage, temperature and pressure gauges in a satisfactory condition? *Each cargo tank should be provided with at least two devices for indicating cargo temperatures, one at the bottom of the tank and the second near the top below the highest allowable liquid level, which should be marked to show the lowest temperature for which the cargo tank has been approved by the Administration. (IGC and GC 13.5.1)* *The vapour space of each cargo tank should be provided with a pressure gauge which should incorporate an indicator in the cargo control position. (IGC and GC 13.4.1)* *Hold spaces without open connection to the atmosphere should be provided with pressure gauges. (IGC and GC 13.4.4)*	IGC 13.4.1; 13.4.4; 13.5.1; GC 13.4.1; 13.4.4; 13.5.1
16.6.5	Are ullage, temperature and pressure gauges and indicators regularly checked for accuracy, and are the results recorded? *There should be a reference thermometer and reference pressure gauge available, and records to show that they have been used to check the accuracy of the tank temperature and pressure measuring systems. Reference instruments should have certificates stating that they have been calibrated by a competent organisation, and should themselves be calibrated annually.*	
16.6.6	If slip tubes are fitted, confirm that they are not in use.	

16.7	Are tank domes and associated fittings in a satisfactory condition?	Y	N	NS	NA
Comments:					

sub-questions

16.7.1	Are the tank domes and their fittings free of cargo leaks?	
16.7.2	Are the tank domes and their fittings free of corrosion and otherwise in a satisfactory condition?	
16.7.3	Are sample lines provided for both liquid and vapour and are they valved and capped?	
16.7.4	Are void seals, if fitted, in a satisfactory condition? *Spaces surrounding cargo containment systems for flammable gases requiring secondary barriers or partial secondary barriers should be inerted with suitable inert gas and kept inerted with make-up gas provided either by a shipboard inert gas generation system, or by shipboard storage. (IGC and GC 9.2)* *Dry air may be used for partial secondary barriers subject to Administration approval provided the ship maintains a stored charge of inert gas or is fitted with an inert gas generation system. (IGC 9.2.2.2 and GC 9.2.2(b))* *For non-flammable gases the spaces may be maintained with a suitable dry air or inert atmosphere. (IGC and GC 9.2.3)* *Spaces surrounding refrigerated type C independent tanks should be filled with suitable dry inert gas or dry air.* *(IGC and GC 9.3)*	IGC 9.2; 9.3 GC 9.2; 9.3

16.8	Are cargo pumping arrangements satisfactory?	Y	N	NS	NA
Comments:					

sub-questions

16.8.1	Are all cargo pumps in a satisfactory condition?	
16.8.2	Can the cargo pumps be isolated from their electrical supply? *Cargo pumps should be capable of being isolated from their electrical supply during gas-freeing operations.*	
16.8.3	Are gland seals on electrical connections in a satisfactory condition?	
16.8.4	Are local pump controls and monitoring equipment in a satisfactory condition? *Each cargo pump discharge line, and each liquid and vapour manifold should be provided with a pressure gauge.* *(IGC and GC 13.4.2)*	IGC 13.4.2 GC 13.4.2
16.8.5	Are cargo pump mechanical seals free of oil leaks?	
16.8.6	Are the pumps protected by non-return valves, and are there records of testing having been carried out? *Some pumps are designed for loading through the pump in which case a non-return valve is not fitted.*	
16.8.7	If refrigerated cargoes are carried, is a means of hydrate control provided, and is a supply of freezing depressant maintained onboard? *A supply of methanol or the equivalent, with a means of delivering it under pressure to the pump suction to dispose of hydrate formation.*	

16.8.8	Is an emergency discharge method available? *Where cargo transfer is by means of cargo pumps not accessible for repair with the tanks in service, at least two separate means should be provided to transfer cargo from each tank. (IGC 5.8.1 and GC 5.5.1)* *Cargo compressors can be used to pressurise the cargo tanks in the event of failure of a cargo pump, but this method should preclude lifting of the relief valves, and the design factor of safety should not be reduced.*	IGC 5.8.1 GC 5.5.1
16.8.9	If a booster pump is fitted, is it in satisfactory condition?	
16.8.10	If a cargo heater is fitted, is it in satisfactory condition? *Confirm that there are no plugged tubes, and that the pressure gauge and temperature indicators are in a satisfactory condition.*	
16.8.11	If fitted, is there a written procedure describing the precautions that must be taken when a cargo pump, a booster pump and cargo heater are lined up in series?	

16.9	**Are deck pipelines in a satisfactory condition?**	**Y**	**N**	**NS**	**NA**
Comments:					

sub-questions

16.9.1	Are liquid and vapour lines free to move inside their clamps?	
16.9.2	Is there means to prevent brittle fracture by isolating cargo lines from contact with mild steel? *Low temperature piping should be thermally isolated from the adjacent hull structure, where necessary, to prevent the temperature of the hull from falling below the design temperature of the hull material. (IGC 5.2.1.3 and GC 5.2.2)*	IGC 5.2.1.3 GC 5.2.2
16.9.3	If any pipelines are insulated, is the insulation intact?	
16.9.4	Are the electrical bonding arrangements across gasketed pipeline connections in a satisfactory condition?	IGC 5.2.1.4
16.9.5	Are cargo pipeline expansion arrangements in a satisfactory condition? *Bellows and expansion joints or loops should be provided to allow for expansion of piping. If necessary, bellows should be protected against icing (usually by steam tracing). Slip joints should not be used except within the cargo tanks.*	IGC 5.2.1.2; 5.4.5 GC 5.2.1(b)
16.9.6	Are liquid lines fitted with a means of relieving over-pressure? *All pipelines or components which may be isolated in a liquid-full condition should be provided with relief valves. (IGC 5.2.1.6 and GC 5.2.5(a))*	IGC 5.2.1.6 GC 5.2.5
16.9.7	Are cargo pipelines free of screwed-in connections? *Screwed couplings acceptable to the Administration should only be used for accessory and instrumentation lines with external diameters of 25mm or less. (IGC 5.4.2.3 and GC 5.2.10(b)(iii))*	IGC 5.4.2.3 GC 5.2.10(b)
16.9.8	Are suitable arrangements provided to prevent the backflow of cargo vapour into the inert gas system? *The arrangements should be such that each space being inerted can be (IGC and GC 9.4.5)*	IGC 9.4.5 GC 9.4.5

16.10	**Are cargo manifold arrangements satisfactory?**	**Y**	**N**	**NS**	**NA**
Comments:					

sub-questions

16.10.1	Is the cargo manifold arrangement satisfactory with safe access provided for connection and disconnection of arms and hoses?	
16.10.2	Is the manifold area clear of obstructions which could interfere with the automatic release of a hard arm?	
16.10.3	Is the cargo manifold pressure gauge fitted outboard of the manifold valves? *Local-reading manifold pressure gauges should be provided to indicate the pressure between stop valves and hose connections to the shore. (IGC and GC13.4.3)*	IGC 13.4.3 GC 13.4.3
16.10.4	Is a temperature gauge fitted at the manifold?	
16.10.5	Are the manifolds fitted with drain lines and purge points, and are they valved and capped?	
16.10.6	Are liquid spill arrangements adequate and where necessary, take into account the lowest temperature cargoes which the vessel is certified to carry? *Where leakage may be anticipated, such as at shore connections and at pump seals, protection for the hull beneath should be provided. (IGC 5.2.1.3 and GC 5.2.2)*	IGC 5.2.1.3 GC 5.2.2
16.10.7	If manifold strainers are capable of being by-passed, confirm that this is not being done.	

16.11	**Is the cargo reliquefaction plant and associated machinery in a satisfactory condition?**	**Y**	**N**	**NS**	**NA**
Comments:					

sub-questions

16.11.1	Are the compressors and associated equipment in a satisfactory condition? *There should be records available of the pressure testing of the cargo condensers.*	IGC 7.2.1
16.11.2	Is the cargo plant instrumentation in a satisfactory condition, and are there records of calibration available?	
16.11.3	Are the compressor and motor rooms clean and free of combustible material?	
16.11.4	Is the compressor room ventilation system maintaining negative pressure and operating satisfactorily?	
16.11.5	Are the bulkhead seals between the compressor room and the motor room gas tight and well lubricated? *Lubricator reservoirs, where fitted, should be checked to ensure they contain sufficient oil.*	IGC 3.3.2
16.11.6	Are gas detectors fitted in the appropriate position for the cargo being carried? *Sampling heads should be at deck level for all cargoes except ammonia and LNG.*	
16.11.7	Is the compressor room well lit and are the light fittings suitable for use in gas-hazardous areas and in good condition?	
16.11.8	Is the compressor room free of gas leaks?	

16.11.9	If the motor room is located in a gas-hazardous area, is it provided with an air-lock suitably alarmed to prevent both doors being opened at the same time, and gas detection? *A gas-hazardous zone is:* • *a zone on the open deck within 3 metres of any cargo tank outlet, gas or vapour outlet, cargo pipe flange or cargo valve or of entrances and ventilation openings to cargo pumprooms and cargo compressor rooms;* • *the open deck over the cargo area and 3 metres forward and aft of the cargo area on the open deck up to a height of 2.4 metres above the weather deck;* • *a zone within 2.4 metres of the outer surface of a cargo containment system where such surface is exposed to the weather;* • *an enclosed or semi-enclosed space in which pipes containing product are located;* • *a compartment for cargo hoses; or* • *an enclosed or semi-enclosed space having a direct opening into any gas-hazardous zone.*	IGC 1.3.17; 3.6; GC 1.4.16
16.11.10	Is the motor room ventilation system maintaining positive pressure and operating satisfactorily?	

16.12	**Are the cargo tank venting arrangements satisfactory?**	**Y**	**N**	**NS**	**NA**
Comments:					

sub-questions

16.12.1	Have the safety relief valves been tested and are the test certificates onboard? *Pressure relief valves should be set and sealed by a competent authority acceptable to the Administration and a record of this action, including the values of set pressure, should be retained on board the ship.* *In the case of cargo tanks permitted to have more than one relief valve setting this may be accomplished by:* • *installing two or more properly set and sealed valves and providing means as necessary for isolating the valves not in use from the cargo tank; or* • *installing relief valves whose settings may be changed by the insertion of previously approved spacer pieces or alternative springs or by other similar means not requiring pressure testing to verify the new set pressure. All other valve adjustments should be sealed.* *(IGC and GC 8.2.5 and 6)*	IGC 8.2 GC 8.2
16.12.2	If the cargo tank safety relief valve settings can be altered, are the appropriate settings being used for the cargo carried, and are the current settings prominently displayed in the cargo control position and at the valves? *The changing of the set pressure in the case of cargo tanks permitted to have more than one relief valve setting should be carried out under the supervision of the master in accordance with procedures approved by the Administration and specified in the ship's operating manual. Changes in set pressures should be recorded in the ship's log and a sign posted in the cargo control room, if provided, and at each relief valve, stating the set pressure. (IGC and GC 8.2.7)*	IGC 8.2.7 GC 8.2.7
16.12.3	Are expansion bellows, if fitted in the vent lines, in a satisfactory condition?	

16.12.4	Is the vent stack outlet fitted with a protective screen? *Suitable protection screens should be fitted on vent outlets to prevent the ingress of foreign objects. They should be fitted after removal of flame screens. (IGC and GC 8.2.14, IGC 17.10 and GC 17.15)*	IGC 8.2; 17.10; GC 8.2; 17.15
16.12.5	Where required, is the vent stack fitted with an approved flame screen, and are there records to show that it has been regularly inspected? *Where required by the note 17.10 in column 'I' of Chapter 19, (Diethyl ether, Ethylene oxide-Propylene oxide mixtures with an E-o content of not more than 30%, Isoprene, Isopropylamine, Monoethylamine, Pentanes, Pentene, Propylene oxide, Vinyl ethyl ether and Vinylidene chloride) cargo tank vent outlets should be provided with readily renewable and effective flame screens or safety heads of an approved type.* *(IGC 17.10 and GC 17.15)*	IGC 17.10 GC 17.15
16.12.6	Where the discharges from the liquid pressure relief valves are led directly to the vent mast, is there a means to assist vaporisation such as a puddle heater? *Relief valves discharging liquid cargo from the cargo piping system should discharge into the cargo tanks; alternatively they may discharge to the cargo tank vent mast if means are provided to detect and dispose of any liquid cargo which may flow into the vent system.* *(IGC 5.2.1.7 and GC 5.2.5(b)*	IGC 5.2.1.7 GC 5.2.5

16.13	**Is the gas detection equipment in a satisfactory condition?** **Ref: IGC 13.6; GC 13.6** *A permanently installed system of gas detection and audible and visual alarms should be provided for:* • *cargo pump-rooms;* • *cargo compressor rooms;* • *motor rooms for cargo handling machinery;* • *cargo control rooms unless designated gas-safe;* • *other enclosed spaces in the cargo area where vapour may accumulate;* • *airlocks.* *(IGC and GC 13.6)* *The fixed gas detection system should be switched on at all times.*	**Y**	**N**	**NS**	**NA**
Comments:					

sub-question

16.13.1	Is a source of span gas available, and are there records showing that regular checks are made on the fixed gas detecting system?	

16.14	**Is the vessel provided with safety equipment as required by the IG, GC or EGC Codes?**	**Y**	**N**	**NS**	**NA**
Comments:					

sub-questions

16.14.1	If the vessel has a cargo capacity greater than 5000 m^3, is the additional firemen's outfit carried?	

16.14.2	Are there at least two complete sets of safety equipment on board, and are they in a satisfactory condition? *Sufficient, but not less than two complete sets of safety equipment should be provided. Each set should consist of:* • *a self contained air-breathing apparatus having a capacity of at least 1200 litres of free air;* • *protective clothing, boots, gloves and tight-fitting goggles;* • *steel-cored rescue line with belt; and* • *explosion proof lamp.* *An adequate supply of compressed air should be provided and should consist of:* • *one set of fully charged spare air cylinders for each breathing apparatus;* • *a special air compressor suitable for the supply of high-pressure air for the above; and* • *a charging manifold; OR* • *fully charged spare air cylinders with a total free air capacity of at least 6000 litres for each breathing apparatus.* *Alternatively, the Administration may accept a low-pressure airline system. (IGC 14.2 and GC 14.3)*	IGC 14.2 GC 14.3
16.14.3	Is suitable protective equipment available for all crew members engaged in cargo operations? *Protective equipment and safety equipment should be kept in suitable, clearly marked lockers in readily acceptable places. (IGC 14.2.5 and GC 14.2)*	IGC 14.4.4 GC 17.2.3
16.14.4	Where required in vessels of a cargo capacity of 2000 m^3 and over, are the two additional sets of safety equipment on board? *Where required by the note 14.4.4 in column 'h' of Chapter 19, (Acetaldehyde, Ammonia, Chlorine, Dimethylamine, Ethylene oxide, Methyl bromide, Monoethylamine, Pentanes, Pentene, and Sulphur dioxide), two complete sets of safety equipment with at least three spare charged air cylinders each should be provided. (IGC 14.4.4 and GC 17.2.3)*	IGC 14.4.4 GC 17.2.3
16.14.5	Are emergency escape sets provided for all personnel, plus two sets in the wheelhouse? *Where required by the note 14.4.2 in column 'h' of Chapter 19, (Ammonia, Chlorine, Diethyl ether, Dimethylamine, Ethylene oxide, Isopropylamine, Methyl bromide, Monoethylamine, Sulphur dioxide, Vinyl chloride, Vinyl ethyl ether and Vinylidene chloride), respiratory and eye protection should be provided subject to the following:* • *filter-type respiratory protection is unacceptable;* • *self-contained breathing apparatus should have a duration of at least 15 minutes;* • *the equipment should not be used for fire-fighting or cargo handling purposes.*	IGC 14.4.2
16.14.6	Are decontamination showers and an eye-wash provided on deck in suitably marked locations? *Where required by the note 14.4.3 in column 'I' of Chapter 17, (Acetaldehide, Ammonia, Chlorine, Diethyl ether, Dimethylamine, Ethylene oxide, Ethylene oxide-Propylene oxide mixtures with an E-o content of not more than 30%, Isoprene, Isopropylamine, Methyl bromide, Monoethylamine, Propylene oxide, Sulphur dioxide, Vinyl chloride, Vinyl ethyl ether and Vinylidene chloride), showers and eye-washes operable in all ambient conditions should be provided.* *(IGC 14.4.3 and GC 17.2.2. Note the requirement to be operable in all ambient conditions applies only to IGC vessels)*	IGC 14.4.3 GC 17.2.3

16.15	**Does the vessel comply with SOLAS fire fighting regulations, as supplemented by the IGC, GC or EGC Codes?**	**Y**	**N**	**NS**	**NA**
Comments:					

sub-questions

16.15.1	Is the water spray system in a satisfactory condition? *On ships carrying flammable or toxic products, a water-spray system for cooling, fire prevention and crew protection should be installed to cover:* *exposed cargo tank domes and any exposed parts of cargo tanks;* *exposed on-deck storage vessels for flammable or toxic products;* *cargo liquid and vapour discharge manifolds and the area of their control valves and any other areas where essential control valves are situated and which should be at least equal to the area of the drip trays; and* *boundaries of superstructures and deckhouses normally manned, cargo compressor rooms, cargo pump-rooms, store-rooms containing high fire risk items and cargo control rooms, all facing the cargo area. Boundaries of unmanned forecastle structures not containing high fire risk items do not require water spray protection.* *(IGC and GC 11.3)*	IGC 11.3 GC 11.3
16.15.2	Is the chemical dry powder system in a satisfactory condition? *Ships in which the carriage of flammable products is intended should be fitted with fixed dry chemical powder type extinguishing systems in accordance with the following:* • *the system should be capable of delivering powder form at least two hand hose lines or combination monitor/hand hose lines to any part of the above-deck exposed cargo area;* • *the system should be activated by an inert gas such as nitrogen;* • *the system for use in the cargo area should consist of at least two independent self-contained chemical powder units, except for ships with a cargo capacity of less than 1000 m^3 only one such unit need be fitted;* • *a monitor should be provided and be so arranged as to protect the cargo loading and discharge manifold areas;* • *all hand hose lines and monitors should be capable of actuation at the hose storage reel or monitor;* • *hand hose lines should be non-kinkable and be fitted with a nozzle of on/off operation, the length of the hand hose should not exceed 33 metres;* • *at least one hand hose or monitor should be situated at the aft end of the cargo area.* *(IGC and GC 11.4)*	IGC 11.4 GC 11.4
16.15.3	Are the cargo space smothering systems in a satisfactory condition? *Under the IGC Code, cargo compressor and cargo pump-rooms should be provided with a carbon dioxide system. These spaces in ships dedicated to the carriage of a restricted number of cargoes should be protected by an appropriate fire fighting system approved by the Administration.* *Under the GC Code, the spaces should be provided with a fixed installation which is capable of extinguishing a fire within the space. (IGC and GC 11.5)*	IGC 11.5 GC 11.5

16.16 Additional Comments

If the Inspector has comments in respect of the subject matter covered by the Chapter additional to those which the Inspector may make in response to the specific key questions in the Chapter, the Inspector should include such additional comments in this section.

Reminder: When making comment in respect to Chapter key questions or making Additional Comment at the end of a Chapter, Inspectors are reminded to pay particular attention to items 6, 7, 8, 9 and 10 of the mandatory inspection requirements on the Conduct of Inspections set out in Section III of the introductory portion of this Document.

Chapter 17. Combination Carrier Supplement

The inspection of combination carriers should be conducted only when the vessel is operating in the 'wet' mode.

17.1	**Are the Master and officers sufficiently experienced for this class of vessel?**	**Y**	**N**	**NS**	**NA**
Comments:					

sub-question

17.1.1	Does the Master and at least two deck officers have experience in combination carriers including one year operating in wet service?	

17.2	**Is vessel being operated with due regard to stability considerations?** **Ref: ISGOTT 12.4.2**	**Y**	**N**	**NS**	**NA**
Comments:					

17.3	**Are longitudinal stresses maintained within design limits throughout operations?** **Ref: ISGOTT 12.5**	**Y**	**N**	**NS**	**NA**
Comments:					

17.4	**Are hatch covers sealed and gas tight?** **Ref: ISGOTT 12.7.1, 12.7.2** *Particular attention should be paid to the checking of hatch sealing, corners of hatches and the adjacent decks which are prone to cracks. It is generally accepted as proper industry practice that OBO's arrive at a terminal with a minimum tank pressure of 500mm tank pressure.*	**Y**	**N**	**NS**	**NA**
Comments:					

17.5	**Are ballast tanks free of any leakage from cargo tanks?** **Ref: ISGOTT 12.11**	**Y**	**N**	**NS**	**NA**
Comments:					

17.6	**If the vessel is fitted with a tunnel, is it monitored for gas throughout the voyage and is a log of monitoring and testing maintained?**	**Y**	**N**	**NS**	**NA**
Comments:					

sub-questions

17.6.1	Is the bilge or liquid high level alarm for the pipe tunnel operational? *The access manhole into the tunnel should be kept closed except when removed for access.*	
17.6.2	Is a system implemented to check, by a fixed or portable gas monitoring equipment, the stool spaces routinely used for the installation of heating coils between hatches?	

17.7	**Additional Comments** *If the Inspector has comments in respect of the subject matter covered by the Chapter additional to those which the Inspector may make in response to the specific key questions in the Chapter, the Inspector should include such additional comments in this section.*

Reminder: When making comment in respect to Chapter key questions or making Additional Comment at the end of a Chapter, Inspectors are reminded to pay particular attention to items 6, 7, 8, 9 and 10 of the mandatory inspection requirements on the Conduct of Inspections set out in Section III of the introductory portion of this Document.

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