Oil Companies International Marine Forum

OCIMF Report Template

BIQ5 - Europe V2.0

2209

5.0.01

General Particulars

General Particulars

1.1 Name of Barge

1.2 IMO number

1.3 ENI Number

1.4 Date of the inspection

If the inspection falls into two or more days for any reason the date shall be the date of completion of the inspection.

1.5 Country of the inspection

1.5.1 Port of the inspection

1.5.2 Place of the inspection

The Inspector should record the location of the barge (for example: name of layby berth, name/location of anchorage, name of load terminal, name of discharge terminal) as the Place of Inspection.

1.6 Flag

1.7 Maximum Tonnage

1.8 Date the barge was delivered

1.9 Has the barge been subject to rebuild/major structural conversion?

If the barge has been subject to rebuild/major structural conversion, the Inspector must record the date of the rebuild or conversion in other Inspector comments.

1.10 Name of the Company commissioning the inspection

1.11 Name of the Inspector (For use of Inspecting Company only)

1.12 Time the Inspector boarded the barge

If the inspection took place over two or more days, in two or more sessions, or was carried out by more than one Inspector, record the arrival and departure details in the comments.

1.13 Time the Inspector departed the barge

If the inspection took place over two or more days, in two or more sessions, or was carried out by more than one Inspector, record the arrival and departure details in the comments.

1.14 Time taken for the Inspection

Record the time taken to conduct the inspection to the nearest 5 minutes. This is the actual time of inspection and does not include the times the inspection was suspended for any reason (Lunch, etc.) or was conducted over two or more sessions.

1.15 Is the barge equipped with a double hull?

1.16 Barge's operation at the time of the inspection

The barge must be operational during the inspection. If inspector has doubts about this, the inspector must contact the Submitting Company and make a decision on whether to proceed with the inspection or to stop the inspection.

1.17 Last product carried, including UN number (if applicable)

Inspector must record the information as mentioned in the Transport Document

1.18 Name of the barge's Technical Operator

1.19 Date the Technical Operator assumed control of the vessel

1.20 Number of random tests completed.

The inspector must request the barge crew to carry out at least 10 random equipment tests. A selection of questions, where a test can be carried out have been provided within the BIQ with a guidance note stating that "This question is one of the random equipment tests, at least 10 random questions should be answered during each inspection." .
The inspector is able to provide comments in the comments box in any event. However, If 10 or more random equipment tests have not been carried out, then the inspector must provide reasons in the "comments" box below explaining why.

1.99 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 questions in the Chapter, the Inspector should include such additional comments in this section.

This section must not be used to record negative observations.

Certification and Documentation

Certification and Documentation

2.1 If applicable, is a Damage Stability Plan on board?

Either the plan or evidence of 3rd party Damage Stability agreement should be provided.

For vessels complying with the additional requirements for double-hull vessels:
- a damage-control plan
- the documents concerning intact stability as well as all conditions of intact stability taken into account for the damaged stability calculation in a form the master understands.

ADN 8.1.2.3

2.2 Is a recent operator's internal audit report available and is a close-out system in place for dealing with non-conformities?

An internal audit report should be available. Internal audit reports should not be greater than 12 months old.

This audit must be conducted as part of the operator's SMS procedures. Evidence should record that corrective action was taken to rectify non-conformities.

A close-out system, which includes a time limit for corrective action, informing the operator when completed and the operator ensuring that it has been.

Inspectors must not use Operator's audits as a means to record Observations. Some administrations may permit an extension for this review.

2.3 Is the vessel free of any open and/or pending Conditions of Class, memoranda, actionable items or notations mentioned in the Class certificate (Survey Statement), which are overdue?

The inspector must check if the conditions as mentioned on the Annexes of the Class Certificate are within the due date. These conditions are also mentioned in "Conditions of Class", "Memorandum of Visa" and are mentioned on the "Survey Statement", "Attestation" or "Interim Certificate", depending on the Classification Society.

The inspector must check if the Class Survey Statement is not older than 3 months; if older than 3 months this question must be answered with NO.
Inspector should mention the date of the last class survey status report. Please note the first Condition of Class and the date when this will be due.
If it is overdue at time of the inspection the question must be answered with NO.

Mandatory comments are required for this question.

2.4 Does the barge have a register of operations during carriage relating to carriage of UN 1203?

Barges accepted for the carriage of UN No.1203 Petrol shall have on board a register of operations during carriage.

This register may consist of other documents containing the information required. This register or these other documents shall be kept on board for not less than three months and cover at least the last three cargoes.
The register should be kept up-to-date during the voyage.

ADN 7.2.4.12 & ADN 8.1.11

2.5 Does the barge have an up-to-date copy of the ADN (Part 1 until 9) available on board?

ADN can be available in hardcopy but also in electronic version. The ADN must be available in a language which can be read and understood by the ADN expert(s).

ADN 8.1.2.1.(d)

2.6 Does the barge have a security plan drawn up and implemented on board, in relation to the products that can be transported?

As the security plan is strictly confidential as mentioned in ADN 1.10, the inspector will not be allowed to view it. The inspector will restrict himself to ask the barge master of the existence of such a plan.

On the other side, it will be possible for the inspector to state if certain basic principles of such a plan are followed on board, e.g. the crew must be able to identify themselves, there must be an identity control of visitors upon boarding the vessel, etc.

ADN 1.10; ISGINTT 6

2.7 Are all the statutory certificates listed in the BPQ, where applicable, valid and have the annual and intermediate surveys been carried out within the required due dates?

The inspector should at random check some certificates and testing statements, as appropriate to the vessel, to verify if they are provided on board and valid.

Example: when the inspector makes an observation about certified equipment or has doubts about certified equipment, the inspector must also check the relevant certificate or testing statement.

2.99 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 questions in the Chapter, the Inspector should include such additional comments in this section.

This section must not be used to record negative observations.

Crew Management

Crew Management

3.1 If the barge has a change of Master / Captain, is there a formalised information exchange process?

Formal crew change hand-over notes should include at the least safety, navigation items, machinery status and cargo items.

3.2 Does the operator have measures in place to prevent Drug and Alcohol abuse in accordance with OCIMF guidance?

It is recommended that crewmembers be subject to testing and screening for drugs and alcohol abuse by means of a combined programme of un-announced testing.

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)

Unannounced testing can be either tests for alcohol conducted onboard or tests for both, drug and alcohol undertaken by an independent agency or a appointed person or company by the operator.

Unannounced drug and alcohol tests conducted on-board should be initiated by the Operator.

The inspector should note the frequency of the unannounced alcohol and drug test on board of the barge in the comments, and note the maximum level of blood alcohol content as stated in the Drug and Alcohol policy of the operator (a zero tolerance policy may also be noted).

Tests may be performed for the following reasons:
- Reasonable suspicion
- After an accident
- Pre-employment
- Random testing programme

Mandatory comments are required for this question.

3.3 Is the latest unannounced on-board alcohol and drug test conducted within the last 12 months ?

Please note the date of the latest test carried out. When the latest test is over 12 months ago this must be marked as "No"

Mandatory comments are required for this question.

3.4 Does the operator have a requirement for personnel to undergo regular medical examinations to ensure fitness for duty, beyond statutory requirements?

Physical fitness for the job shall be certified by a medical certificate issued on first enlistment as a crew member by a doctor designated by the competent authority. (UNECE Res 61. 23-3.1)

Certification of fitness shall be renewed periodically in accordance with the requirements of the Administration. (UNECE Res 61. 23-3.3). When regular medical examinations are carried out as per applicable legislation this question needs to be answered with Yes. If examinations are not required, like for Dutch employed crew members, the question can be answered with N/A. If extra examintions beyond statutory requirements are carried out, the inspector should note this in the comments.

The inspector should note the frequency of the medical checks in the comments.

Mandatory comments are required for this question.

3.5 Does the barge crew comply with regulations for work and rest periods?

Different national regulations establish a period of resting time over twenty-four hours or numbers of hours before taking over a watch. Such resting period should be continuous and not fragmented. Evidence of compliance with rest periods can be obtained from the logbook. (Watch and Rest Hours record book).

The inspector must record if he has checked the Watch and Rest Hours record book.

There are 2 types of Watch and Rest Hours record books; red cover (Rhine legislation) and operation mode A1 (14 hours and once a week 16 hours); A2 (18 hours) and B (24 hours) and blue cover and operation mode A (16 hours); B (18 hours); C (20 hours) and D (24 hours). The red book is valid in the whole of Europe and the blue book is valid in the whole of Europe except on the Rhine.

All parties involved with tanker operations should be aware of the factors that can contribute to fatigue and take appropriate measures to reduce the potential for fatigue when planning and managing the activities and working times of personnel. Guidance on fatigue mitigation and management is contained in the IMO publication 'Guidelines on Fatigue'. However, the most effective means of preventing fatigue is to ensure compliance with existing hours of rest regulations.

2014/112/EU

Mandatory comments are required for this question.

3.6 Does the crew matrix for the barge on the SIRE website accurately reflect the information relating to the crew on board at the time of the inspection?

The barge-operator is responsible to maintain up-to-date records relating to the crew on board the barge at any given time, using the Crew Matrix template on the SIRE website and download the completed Crew Matrix from the vessel details of the barge. Prior to boarding, inspectors must access and download the Crew Matrix.

The Crew Matrix must be either printed out or downloaded and used during the inspection to check crew qualifications and experience. An Observation must be made in the event of any irregularities.
Inspectors must take into account that where recent changes of personnel have taken place, it is not realistic to instantly update the matrix and allowances must be made. It is not essential that the Crew Matrix is provided in paper form and inspectors are not expected to seek a paper copy from the barge.

If installed, the inspector should compare the operational mode as described in the Watch and Rest Hours record book with the tachograph.

3.7 Are there sufficient staff on board holding a valid certificate of navigation?

The number of valid certificates of navigation must be in compliance with the operating mode of the barge (see Community Inland Navigation Certificate/certificate of examination, the sailing and resthours booklet, and the sailing area)

ES-QIN
RPN Art.3
CEVNI Article 1.02 & 1.10 (e)

3.8 Are there sufficient staff on board holding a valid radar certificate?

ES-QIN
CEVNI Article 4.06 + Article 6.32

3.9 Are there sufficient staff on board holding a valid VHF certificate?

ES-QIN
CEVNI Article 4.05

3.10 Does the responsible master hold a dangerous goods certificate in compliance with ADN?

Valid personnel's ADN Dangerous Goods Certificates should apply to the requirements of the cargo (ADN 3.2.3. Table C.). When a valid "safety and health declaration" is issued by a recognised "gas expert" N/A may be crossed. Reference is made to ADN 7.2.3.15. Record type of ADN certificate of the ADN certificate holder.

ADN 8.2
ADN 7.2.3.15

Mandatory comments are required for this question.

3.11 Are fire-fighting exercises regularly carried out on board?

Fire-fighting training kept on board must be recorded in writing. This is also applicable to testing of the emergency stop tests of fans, emergency shut down devices, the closure of fire flaps, doors and bulkheads. Training on the use of fire-fighting outfit and fire -fighting equipment must be recorded. When the latest exercise is over 6 months ago this must be marked as "No".

Inspector should mention the date of the last exercise, and the frequency of these exercises as required by the Technical Operator.

ADN 1.3.2.2.2
ISGINTT 4 & 5
ISGINTT 9.9.2.7

Mandatory comments are required for this question.

3.12 Are safety exercises regularly carried out?

Training on the use of safety equipment and personal protection equipment must be held. This training may be carried out by the company's management or by a person appointed by the operator's management.

This training has to be recorded in writing. The barge operator has to enable all crew members to attend training regarding the handling of dangerous goods, fire-fighting, working instructions concerning explosion protection, restrictions etc.

These training courses may be held "in house", on board or at shore establishments. Certificates or other records should be available on board as evidence of compliance. When the latest training is over 12 months ago this must be marked as "No".

Inspector should mention the date of the last exercise and the frequency of the exercises as required by the technical operator.

ADN 1.3.2.3.

Mandatory comments are required for this question.

3.13 Are operational exercises performed on a regular basis?

Operational training with regard to loading/discharging/gas-freeing/cleaning/bunkering and nautical-technical activities must be recorded in writing.

When the latest exercise is over 12 months ago this must be marked as "No".
Inspector should mention the date of the last exercise, and the frequency of the exercises as required by the technical operator.

ADN 1.3.2.2.

Mandatory comments are required for this question.

3.14 Is an ADN certified person on board at all times?

When dangerous substances are carried, the responsible master shall at the same time be an expert according to ADN 8.2.1.2.

An expert, as required by ADN 7.2.3.15 shall be permanently on board berthed vessels carrying dangerous substances. The competent authority may, however, exempt from this obligation those vessels which are berthed in the harbour basin or in a permitted berthing position.

An expert is a person who has a special knowledge of the ADN. Proof of this knowledge shall be furnished by means of a certificate from a competent authority or from an agency recognized by the competent authority.

ADN 8.2.1.2
ADN 7.2.3.15
ADN 7.2.5.4.2

3.99 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 questions in the Chapter, the Inspector should include such additional comments in this section.

This section must not be used to record negative observations.

Navigation and Communications

Navigation and Communications

4.1 If required, is an operational compass(s) provided?

Compass can either be of a magnetic or electronic type (a magnetic compass has to be adjusted and deviation table available). The "traditional" GPS displays the followed track over the ground.

This is not the Heading course, HDG, (remind external influences such as current and wind) but the Course Over Ground, COG.

This cannot be seen as the Heading course as indicated on a compass.

Inspector should state the type of compass(s) fitted.

Mandatory comments are required for this question.

4.2 Is an operational Global Positioning System receiver GPS provided?

GPS is the standard generic term for satellite navigation systems. The GPS should be a fixed unit. If the (D)GPS is a hand held type the question should be answered 'NO' and the type of (D)GPS system stated.

GPS (=Differential GPS) and GPS are equal (they should be permanently mounted with an independent antenna).

There are also GPS systems with 2 or more antenna's which are able to calculate the Heading, HDG, of the barge; these type of GPS systems displays the Heading course as indicated on a compass. The inspector must check the number of antenna's of the GPS system and request the barge captain to show on the GPS display the COG and HDG.

4.3 Is an operational search light provided?

This question is one of the random equipment tests, at least 10 random questions should be answered during each inspection.

A searchlight that can be operated from the wheelhouse shall be fitted.

ES-TRIN Article 13.02 3 (i)

4.4 Is the Echo sounder operational?

This question is one of the random equipment tests, at least 10 random questions should be answered during each inspection.

4.5 Is the Rudder indicator operational?

This question is one of the random equipment tests, at least 10 random questions should be answered during each inspection.

On Towboats with full follow-up mechanical steering, the levers are the indicators. If none fitted then answer question 'NA'.
The rudder position shall be clearly displayed at the steering position. If the rudder-position indicator is electric it shall have its own power supply.

Vessels with wheelhouses designed for radar navigation by one person shall be steered by means of a lever. It shall be possible to move that lever easily by hand. The position of the lever in relation to the longitudinal axis of the vessel shall correspond precisely to the position of the rudder blades. It shall be possible to release hold of the lever in any given position without that of the rudder blades changing. The neutral position of the lever shall be clearly perceptible.

ES-TRIN Article 7.04.5
ES-TRIN Article 6.07.01

4.6 Is the Rate of turn indicator operational?

This question is one of the random equipment tests, at least 10 random questions should be answered during each inspection.

Synonymous with "swing meter". The rate of turn indicator can be a standalone unit or integrated with an ECS. If none fitted then answer question 'NA'.

The rate-of-turn indicator shall be installed directly above or below the radar image or be incorporated into this.
The rate-of-turn indicator shall be located ahead of the helmsman and within his field of vision.
Craft longer than 110 m shall be fitted with a radar navigation system, together with a rate-of-turn indicator in accordance with Article 7.06(1)

ES-TRIN Article 28.04.1 (b)
ES-TRIN Article 7.06.5 (c)
ES-TRIN Article 7.06.4

4.7 Are navigation lights, shapes and signals provided and are they appropriate for the operation of the vessel?

This question is one of the random equipment tests, at least 10 random questions should be answered during each inspection.

Navigation lights includes any lights required for operational purposes, i.e. dangerous cargo lights. On barges, if light stands are used the interior of the light box should be painted flat black. If none fitted then answer question 'NA'.
In wheelhouses designed for radar navigation by one person, repeater lights shall be installed on the control panel in order to monitor the navigation lights and the light signals. Switches of navigation lights shall be included in the repeater lights or be adjacent to these and shall be clearly assigned to them.

The arrangement and colour of the repeater lights for the navigation lights and light signals shall correspond to the actual position and colour of those lights and signals.
The failure of a navigation light or light signal to function shall cause the corresponding repeater light either to go out or to provide a signal in another manner.
When visibility conditions so require, the visual signals prescribed for use at night shall also be displayed by day.

CEVNI Article 3.01.1
ES-TRIN Article 7.05.3

4.8 Is an operational Automatic Identification System (AIS) provided?

This question is one of the random equipment tests, at least 10 random questions should be answered during each inspection.

When alongside a terminal or port area where hydrocarbon gases may be present, either the AIS should be switched off or the aerial isolated and the AIS given a dummy load.

Isolating the aerial preserves manually input data that may be lost if the AIS is switched off. If necessary, the Port Authority should be informed.
When alongside a terminal or port areas where no hydrocarbon gases are likely to be present, and if the unit has the facility, the AIS should be switched to low power. The AIS must be stated upon above mentioned permit.

ISGINTT 4.8.4
ES-TRIN - Annex 5 Part IV

4.9 Is an operational automatic pilot provided?

This question is one of the random equipment tests, at least 10 random questions should be answered during each inspection.

If none fitted then answer question 'NA'.

4.10 If fitted with an autonomous sailing system, are the crew aware of the risks associated with it and have they been trained?

The crew should be aware that an (semi)autonomous sailing system still requires attention during sailing (for example:. communication, passing other traffic)

The Inspector should mention in comments if an anti collision warning system and/or a bridge warning alert is installed, connected and activated. The person who navigates must be able to explain how this system works (take over to manual mode) and is a manual available in a language the crew understands.

Mandatory comments are required for this question.

4.11 If fitted with a bridge height detection system, is it operational?

A bridge height detection system is an aid to prevent the barge wheelhouse/mast to collide with bridges.

The Inspector should mention the minimum safety margin that has been set by the system to pass the bridge (for example. 25 cm) in comments

The Inspector should mention if the system is connected with a VDR and/or if the system is connected with the general alarm in comments

The Inspector should mention the last calibration date in comments

Mandatory comments are required for this question.

4.12 Are a pair of binoculars provided and are they in good order?

This question is one of the random equipment tests, at least 10 random questions should be answered during each inspection.

A pair of binoculars, with 7x50 or larger lens diameter shall be on board.

ES-TRIN Article 13.02.3 (g)

4.13 If applicable, is there a documented procedure for the operation of the VDR to retain the VDR data in the event of an incident?

In the event of an incident the data retained in the VDR can be invaluable in accident investigations, ship's crew should be aware of how to retain this data and prevent it from being over written.

The OCIMF information paper "Recommendations on the Proactive Use of Voyage Data Recorder Information" provides further information on the use of VDRs.

4.14 If an Electronic Chart System is fitted, is it operational?

This question is one of the random equipment tests, at least 10 random questions should be answered during each inspection.

If no electronic chart system is fitted on board then answer question 'NA'
If fitted, the inspector should state in comments if the radar overlay system is used or not.

Inspector to mention date of last update.

4.15 If an electronic chart system is fitted, have the users received sufficient training in the system?

ECDIS training is industry best practice and may be conducted internally or externally. The inspector should mention what type of training the crewmembers have received. Be aware that vessels may not use radar and Inland ECDIS equipment which may be used for conning the vessel with overlaid radar image (Navigation Mode) unless a person holding a certificate of aptitude to use radar in accordance with the requirements of the competent authorities is on board.

Notwithstanding the provisions of article 1.09, paragraph 3, the radar may be used for training purposes in good visibility by day and by night, even when there is no such person on board.

CEVNI Article 4.06.1

4.16 If a bow or stern thruster is fitted, are operating instructions provided and are the directions of thrust clearly indicated on the operating console?

Craft longer than 110 m shall;

be fitted with a multi-propeller propulsion system, with at least two independent engines of equal power and a bow thruster that is controlled from the wheelhouse and is also effective when the craft is in an unladen state;
or have a single-propeller propulsion system and a bow thruster that is controlled from the wheelhouse with its own power supply and which is also effective when the craft is in an unladen state and makes it possible for the craft to proceed under its own power in the event of a breakdown of the main propulsion system.

In the case of rudder-propeller, water-jet, cycloidal-propeller and bow-thruster systems, equivalent devices shall be acceptable as control, indicating and monitoring devices.

ES-TRIN Article 28.04.1 (a)
ES-TRIN Article 7.04.9

4.17 Are the barge crew aware of the functioning and the hazards of the elevating wheelhouse or a wheelhouse where the upper part lowers over the bottom part?

This question is one of the random equipment tests, at least 10 random questions should be answered during each inspection.

The inspector should check if the wheelhouse lowering controls are clearly indicated and the crew know how to use them.

All lowering operations shall automatically trigger an optical and a clearly audible acoustic warning signal.

Elevating wheelhouses shall be fitted with an emergency lowering system, which is independent from the normal lifting mechanism and can be used even in the event of a power failure. This emergency system shall be operated from inside the wheelhouse.
Is the landing area clearly marked and free of obstacles. Are safety devices in good working order.

Elevating wheelhouses and their appliances shall be inspected regularly, but at least once every twelve months, by a competent person. The safety of the installation is to be established by a visual check and a check on satisfactory operation.
Elevating wheelhouses and their appliances shall be inspected by an expert:

a) before being put into service for the first time,
b) before being put back into service after any major modification or repair, and
c) regularly, at least every five years.

In these inspections proof of adequate strength and stability shall be provided by calculations.
An inspection attestation shall be issued, signed by the expert and showing the date of the inspection.

ES-TRIN Art.7.12

4.18 Are the different maximum Air Drafts clearly displayed in the wheelhouse?

The vertical distance from the water line to the top of the highest structure on the vessel or combined units must be displayed. Where fitted with a retractable wheelhouse, air drafts should be displayed for both (lowest and highest) conditions. This information must visible from the steering position or within reach from the steering position readily available in the wheelhouse, if only a digital format is available, the question must be answered with "No".

The Inspector must record in comments, the place where the information is located.

Mandatory comments are required for this question.

4.19 On vessels with retractable wheelhouses is the relation between the sailing speed and the time needed to lower the wheelhouse clearly posted and understood?

Information involving the relation between barge's speed and required time to fully lower the wheelhouse is visible from out the steering position or within reach from the steering position in the wheelhouse, if only a digital format is available the question must be answered with "No".

The Inspector must mention the place where the information is located.

If retractable wheelhouse not fitted answer 'NA'.

4.20 Was a comprehensive passage plan available and appropriate for the current voyage and/or previous voyage and did it cover the full voyage from berth to berth?

A detailed voyage or passage plan should be prepared, including those areas where the services of a pilot will be used. A check list with only yes/no answers is not to be considered as being a detailed voyage or passage plan.

This planning should include, but not be limited to, the following items:

- Check the planned route for proximity to hazards
- Up to date nautical charts, Light List, Tide Tables, Notice to Mariners, Coastal pilot for intended routes
- Bar crossings, Bridge transits, Restricted waterways, Locks
- Forward and after drafts of the barge or barges and under-keel and vertical clearances (air-gaps) for all bridges, ports, and berthing areas.
- Minimum expected water depth and location

Communication contacts at any Vessel Traffic Services, bridges, and facilities, and any port-specific requirements for VHF radio. a voyage plan should cover also possible interruptions of the voyage, (for example.: crew change, bunkering, inspections, repairs, deliveries, resting hours in case of A1 voyage). A risk assessment should be implemented in addition if only ECDIS is used for voyage planning.

A voyage plan should also include a pre departure checklist.
For voyages kept in port or on a dedicated route (for example: dedicated barges, bunker barges), the inspector must note the interval of updating the voyage planning, as per operator procedures, he must also note the dedicate route.

4.21 Are the Radiotelephone(s) (VHF and/or UHF) operational?

This question is one of the random equipment tests, at least 10 random questions should be answered during each inspection.

1. Where the wheelhouses have been designed for radar navigation by one person, reception from the ship to ship networks and that of nautical information shall be via a loudspeaker, and outgoing communications via a fixed microphone. Send/receive shall be selected by means of a push-button. It shall not be possible to use the microphones of those networks for the public correspondence network.

2. Where wheelhouses designed for radar navigation by one person are equipped with a radio telephone system for the public correspondence network, reception shall be possible from the helmsman's seat.
Every radiotelephone installation carried on board a barge shall conform to the Regional Arrangement concerning the Radiotelephone Service on Inland Waterways and shall be used in accordance with the provisions of this Arrangement. Details of these provisions are provided in the radiotelephony guide for inland navigation. Barges navigating in inland waterways not covered by the provisions of the above-mentioned Regional Arrangement shall carry on board a radiotelephone installation operated in accordance with the requirements of the local competent authorities.

3. Motorized barges, excluding small craft may navigate only if they are equipped with a radiotelephone installation in proper working order for ship-to-ship, nautical information and ship-to-port-authority networks. When under way, the radiotelephone installation for the ship-to-ship and nautical information channels must be permanently in a ready-to-transmit and ready-to-receive state. The channel allocated to nautical information may only be left for a short time in order to transmit or receive information on other channels. The radiotelephone installation shall ensure that two of these networks are monitored simultaneously. The ship station used in the radiotelephone service for inland waterways may consist of either separate equipment for each of the service categories or equipment for combinations of several of those.

4. Ferry-boats and motorized floating equipment may only sail if they are equipped with a radiotelephone installation in proper working order. When under way, the radiotelephone installation for the ship-to-ship channel must be permanently in a ready to-transmit and ready to receive state. This channel may only be left for a short time in order to transmit or receive information on other channels. The first and the second sentence shall also apply during operation.

5. Each barge equipped with a radiotelephone installation shall make reports on the channel allocated to the ship-to-ship network before entering blind sections, narrow channels or bridge openings and the sections determined by the competent authorities.

6. Sign B.11 (Annex 7) shall indicate that the competent authority requires the use of radiotelephone communications.

The use of permanently and correctly installed VHF and UHF equipment during cargo, bunkering, ballasting, tank cleaning, gas freeing, purging or inerting operations is considered safe. However, it is recommended that the transmission power be set to low power (one watt or less) when used in port operations.

ISGINTT 4.8.2.2
CEVNI Art.4.05.
ES-TRIN Art.7.07

4.22 Are the Radar(s) operational?

This question is one of the random equipment tests, at least 10 random questions should be answered during each inspection.

In wheelhouses designed for radar navigation by one person:

a) the radar screen shall not be shifted significantly out of the helmsman's axis of view in its normal position;
b) the radar image shall continue to be perfectly visible, without a mask or screen, whatever the lighting conditions outside the wheelhouse;
c) the rate-of-turn indicator shall

1. Vessels may not use radar and Inland ECDIS equipment which may be used for conning the vessel with overlaid radar image (Navigation Mode) unless:

(a) they are fitted with radar equipment and, if appropriate, Inland ECDIS equipment adapted to the needs of inland navigation and a rate-of-turn indicator. This equipment shall be in proper working order and of a type approved for the needs of inland navigation in accordance with the requirements of the competent authorities concerned as well as in accordance with General technical requirements for radar equipment as set out in Part III of Appendix 7 to the annex of Resolution No. 61, "Recommendations on Harmonized Europe-Wide Technical Requirements for Inland Navigation Vessels".
(b) a person holding a certificate of aptitude to use radar in accordance with the requirements of the competent authorities is on board. Notwithstanding the provisions of article 1.09, paragraph 3, the radar may be used for training purposes in good visibility by day and by night, even when there is no such person on board;

2. In convoys, the requirements of paragraph 1 above shall apply only to the vessel carrying the boatmaster of the convoy.

ES-TRIN Art.7.06.1
ES-TRIN Art.7.06.5
ISGINTT 4.8.3

4.23 Are operating instructions for any nautical equipment available?

This list contains (but is not limited to):

Compass, (D)GPS, Echo sounder, Rudder indicator, Rate of turn indicator, AIS, automatic pilot, VDR, ECDIS, VHR, Radar, Bow/stern thruster, draft meter, intercom, emergency steering gear, CCTV.

4.24 Are operating instructions for emergency steering gear clearly marked?

This question is one of the random equipment tests, at least 10 random questions should be answered during each inspection.

How to change over the different steering systems must be clearly indicated (including emergency systems) for instance, indication on a resopal tag.

4.25 Are the audible and visible alarms for the steering gear equipment operational?

This question is one of the random equipment tests, at least 10 random questions should be answered during each inspection.

An optical and acoustic alarm shall be present at the steering position to signal the following:
a) oil level of the hydraulic tanks falling under the lowest content level in accordance with Article 6.03(2) and decrease of service pressure of the hydraulic system;
b) failure of the electrical supply for the steering control;
c) failure of the electrical supply for the drive units;
d) failure of the rate-of-turn regulator;
e) failure of the required buffer devices.

ES-TRIN Art.6.07.2

4.26 Is a procedure available to ensure recent, up-to-date nautical publications and nautical charts are on board and understood by all involved with safe navigation of the barge?

A procedure describing which nautical charts, tide tables, regulations and any other nautical publication must be available on board for the intended voyage.

These documents should not be older than 1 year or should still be valid.

4.27 Are Navigational procedures available for areas 1?

Applicable areas as indicated in the Community Inland Navigation certificate (Ship's certificate, load line certificate). The procedure must contain a checklist related to minimum actions to be taken.

4.28 Are Navigational procedures available for areas 2?

Applicable areas as indicated in the Community Inland Navigation certificate (Ship's certificate, load line certificate). The procedure must contain a checklist related to minimum actions to be taken.

4.29 Is a procedure for 'sailing with restricted visibility' in place?

EN 12798
CEVNI Art.6.30

4.30 Does the height of eye from wheelhouse provide sufficient visibility beyond the barge?

There shall be an adequately unobstructed view in all directions from the steering position.

ES-TRIN Article 7.02.1

4.31 Are Audible signals operational?

This question is one of the random equipment tests, at least 10 random questions should be answered during each inspection.

Systems with regard to audible signals are:
Not Under Command (Do not approach signal) automate equipment and barge horn.

The 'Do not approach' signal consists of a sound signal and a light signal. The sound signal is made up of one short and one long sound which are constantly repeated for no less than 15 consecutive minutes.

The sound pressure levels given below shall be measured at, or referred to, a point 1 metre in front of the centre of the opening of the horn, the measurement being made, as far as possible, away from any sound reflecting surfaces.
(a) For motorized vessels other than the small craft referred to in paragraph (b), the weighted sound pressure level shall be between 120 and 140 dB(A);
(c) For the three-tone signals used by vessels navigating by radar under conditions of reduced visibility, the weighted sound pressure level of each tone shall be between 120 and 140 dB(A).

CEVNI Art. 8.01
ES-TRIN Art.7.05.4
CEVNI Art. 4.01

4.32 Are 'Intra' barge communication systems operational?

This question is one of the random equipment tests, at least 10 random questions should be answered during each inspection.

Communication systems for internal use as intercom, walky-talkies and hand held VHF set. Stations must be clearly indicated and regular tested.

There shall be internal communication facilities on board vessels with a wheelhouse designed for radar navigation by one person.

It shall be possible to establish communication links from the steering position:
a) with the bow of the vessel or convoy;
b) with the stern of the vessel or convoy if no direct communication is possible from the steering position;
c) with the crew accommodation;
d) with the boatmaster's cabin.

Reception at all positions of these internal communication links shall be via loudspeaker, and transmission shall be via a fixed microphone.

ES-TRIN Art.7.08

4.33 If fitted, is the draft meter operational and the read out checked with the actual draft on monthly basis?

This question is one of the random equipment tests, at least 10 random questions should be answered during each inspection.

The following points of attention must be assessed:

- the draft meter is operational.
- the read out of the draft meter must be checked regularly with the actual draft. Records are available.

4.34 If fitted, is the closed Circuit Television, CCTV, system working properly?

This question is one of the random equipment tests, at least 10 random questions should be answered during each inspection.

CCTV (closed-circuit television) is a TV system in which signals are not publicly distributed but are monitored, primarily for surveillance and security purposes. CCTV relies on strategic placement of cameras, and observation of the camera's input on monitors somewhere.

Because the cameras communicate with monitors and/or video recorders across private coaxial cable runs or communication links, they gain the designation "closed-circuit" to indicate that access to their content is limited by design only to those able to see it.

4.99 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 questions in the Chapter, the Inspector should include such additional comments in this section.

This section must not be used to record negative observations.

Safety Management

Safety Management

5.1 If fitted, are safety ropes and equipment in good condition and available to effectively undertake rescue from enclosed spaces?

Prior organisation is of great value in arranging quick and effective response. Lifelines, rescue harness, breathing apparatus, resuscitation equipment (if available) and other items of rescue equipment should always be kept ready for use and trained personnel should be available.

Entry into empty cargo tanks, the cargo pump-rooms below deck, cofferdams, double-hull spaces, double bottoms and hold spaces is not permitted, except where the person entering the spaces wears a self-contained breathing apparatus and other necessary protective and rescue equipment, and is secured by a line.

ISGINTT 10.6.2
ADN 7.2.3.1.6

5.2 Are Safety Data Sheets (SDS) on board for all the bunkers and other products being handled, and are all personnel familiar with their use?

Inspector must write down what information sources are used in comments

SDS data sheets should be on board (in paper, digital or on the package) for the following:-
- All grades of fuel used on board
- All chemicals used on board
- Paints, protective coatings and all other corrosive or toxic materials that are carried on board

Mandatory comments are required for this question.

5.3 Are there contingency plans and procedures in place?

Contingency plans and procedures should be in place to cover as a minimum the following scenarios:

- Leakage, spillage or fire involving the cargo
- Pollution
- Breakout from the berth
- failure of steering gear
- collision or grounding
- Loss of power/blackout.
- Jettisoning of cargo
- Uncontrolled gas release
- Fire. (Accommodation, Engine room, pumproom etc.)
- Security.
- cargo leakage into adjoining space
- hose burst/pipe fracture

The actions to be taken in the event of an emergency at a terminal should be contained in the terminal's Emergency Plan

ISGINTT 26.5

5.4 Is a Permit to Work system used on board the vessel?

The Permit to Work system may include one or more of the following documents to control hazardous activities:

- A work instruction.
- A maintenance procedure.
- A local procedure.
- An operational procedure.
- A check-list.
- A permit.

It is the responsibility of the Company to establish procedures for safe entry of personnel into enclosed spaces on board. The process of requesting, raising, issuing and documenting permits to enter into an enclosed space should be controlled by procedures in the tanker's safety management system (SMS).

Hot Work on board the tanker must be prohibited until all applicable regulations and safety requirements have been met and a Permit to Work has been issued.

ISGINTT 9.3.1
ISGINTT 10.4
ISGINTT 22.7.1.2

5.5 Are emergency first aid kits available?

An appropriate first-aid kit with a content in accordance with a relevant standard of a Member State.

The first-aid kit shall be kept in an accommodation room or in the wheelhouse and be stored in such a way that it is easily and safely accessible if necessary. If first-aid kits are stored under cover, the cover shall be marked by a symbol for first aid kit, according to figure 8 of Annex 4, having a side length of at least 10 cm.

ES-TRIN Art. 13.02.3.f

5.6 Are the risks associated with tank cleaning clearly understood?

Every precaution must be taken to guard against the dangers associated with static electricity during tank cleaning and use of re-recycled wash water. The toxic hazards when tank cleaning after the carriage of chemicals must be understood. It is essential that a comprehensive tank cleaning guide is available on board. Some major chemical tanker operators have developed their own comprehensive tank cleaning guidelines, and these should be reviewed. If they have not, a recognized professionally produced industry publication should be available on board.

All tank washing operations should be carefully planned and documented. Potential hazards relating to planned tank washing operations should be systematically identified, risk assessed and appropriate preventive measures put in place to reduce the risk to as low as reasonably practicable (ALARP).

There must be procedures on board, even if the cleaning is carried out by third parties. This also applies if the barge is trading in a dedicated mode. A procedure may be a general guideline supplemented with specific working instructions. The crew must know and understand the instruction and ensure that cleaning is carried out in compliance with the instructions. Even when tank cleaning is done by a 3rd. party cleaning company, tank cleaning procedures should be in place.

ISGINTT 11.3.2
ISGINTT 11.3.6.8

5.7 Are cargo tank atmospheres controlled during tank cleaning?

When question is answered with NA, inspector should provide supporting comment.

Safe and effective procedures should be in place when tank cleaning using chemicals and solvents or water washing and when gas freeing and steaming cargo tanks and records should be available.

The crew must be aware that the use of chemicals or other additives, in wash water may induce static generation. Gas freeing and cleaning must be carried out according to ADN instructions and guidelines as mentioned in ISGINTT. Company procedures must hold guidelines for working with chemicals with TLV-levels included. Re-circulated water may induce static generation. This requirement should be stated in the company manual.

Awareness should be demonstrated that toxic products are harmful, produce serious or fatal effects, as a result of skin contact, ingestion and inhalation. There are products having a damaging effect through inhalation, at a level which is lower than that which is detectable by smell i.e. benzene.

Records should be available indicating that deck and pump room areas were monitored for toxic gas levels during gas freeing operations.
Records should be available indicating that the atmospheres of cargo tanks were monitored when gas freeing, prior to washing and the injection of live steam.

5.8 If fitted, are outside air conditioning units type-approved for use in gas-hazardous areas?

If possible, central air conditioning intakes or mechanical ventilation systems should be adjusted to prevent the entry of petroleum gas by recirculating air within the spaces.

Externally located air conditioning units, should not be operated during any of the operations listed in Section 24.1 unless they are either located in safe areas or are certified as safe for use in the presence of flammable vapours.

Electrical installations and equipment shall be of at least the 'limited explosion risk' type.

ISGINNT 11.4.3
ISGINTT 24.2
ADN 9.3.X.52
ADN 8.1.2.3 r, s, t, u, v
ADN 8.1.7.2
ADN9.3.X.53

5.9 Does the Operator provide adequate personal protection equipment (PPE) appropriate to the cargo(es) being carried and is it being used correctly?

Personnel should be properly trained in the use of PPE. Protective clothing and equipment should be worn by all personnel engaged in operations on board and ashore. It is recommended that this should comprise of a boiler suit (or similar clothing providing full cover, anti-static and flame retardant), safety shoes, safety glasses and a safety helmet as appropriate. All personnel should also wear life vests or other similar buoyancy devices where there is a risk of falling into the water.
The list of Dangerous Goods Column (18) contains the alphanumeric codes for the equipment required for the carriage of the dangerous substances. Insofar as the provisions of Chapter 3.2, Tables A or C require, the following equipment shall be available on board;

PP: for each member of the crew, a pair of protective goggles, a pair of protective gloves, a protective suit and a suitable pair of protective shoes (or protective boots, if necessary. On board tank vessels, protective boots are required in all cases;
EP: a suitable escape device for each person on-board;
EX: a flammable gas detector with the instructions for its use;
TOX: a toximeter appropriate for the current and previous cargo, with the accessories and instructions for its use;
A: a breathing apparatus ambient air-dependent.

In case LNG is carried on board, appropriate (low temperature) PPE should be available.
Persons connecting or disconnecting the loading and unloading piping, relieving pressure in cargo tanks, taking samples, carrying out measurements or cleaning or replacing the flame arrester plate stack (see 7.2.4.22), shall wear the PP equipment referred to in 8.1.5 if this equipment is prescribed in column (18) of Table C of Chapter 3.2; they shall also wear protective equipment A if a toximeter (TOX) is prescribed in column (18) of Table C of Chapter 3.2

ISGINTT 26.2.11
ADN 3.2.3.1
ADN 8.1.5.1
ADN 7.2.4.16.8

5.10 Are all personal protection equipment (PPE) used in compliance with ADN and local regulations?

Procedures of technical operator should mention the requirements for PPE's for all persons (including third parties) on board or boarding. If a person comes on board without wearing the proper PPE and is challenged by a crewmember without prompting this question should be answered Yes.

ISGINTT 26.2.1
ADN 8.1.5.1

5.11 Are the appropriate breathing apparatus / masks available and ready for immediate use?

The breathing apparatus can be:

•Independent breathing apparatus (for example a breathing system by air system or compressed air bottles)
The breathing apparatus should be under positive pressure, which whilst not required under existing regulations is Best Industry Practice, or a full mask (with product related ,approved filter). Permitted is a positive breathing apparatus set as of the long line type – check mask, line and filter for acceptability, or, self-contained. Check air bottle pressure and ensure low pressure alarm is functioning correctly. A spare fully charged cylinder should be available for each set. Check masks and bottles for condition. When using compressed air (in enclosed spaces) the personnel involved to be medical examined as prescribed by national legislation. Check visual the condition of the mask/cap, air (line) system, lung automaton, filter and filter bench. Look for evidence if these apparatus, air filter system included, is checked with regular intervals. Filter-type respirators should not be used when the use of independent breathing apparatus are required.

•Dependent breathing apparatus (for example a full face mask, with substance dependent, approved filter)
Where filter-type respirators are carried, their use must be strictly supervised, they should be stored under the control of the boat master, and there should be clear labelling for which chemicals the canisters are approved. There should be recognition that the lifetime of canisters is affected by the exposure and records should be maintained of use in order that this is not exceeded.

Inspector must note in comments, the number and type of breathing apparatus available onboard.

ADN 7.2.3.1.6 & 8.1.5.1

Mandatory comments are required for this question.

5.12 Are gas tight proximity suits available and in good condition?

This is Industry Best Practice in case of Ammonia transport and VCM (Vinyl Chloride Monomer).

The gas tight proximity suits shall comply with EN943-1:2019 - gas tight protective clothing against liquid and gaseous chemicals and aerosols

The inspector should mention the exact type and the amount of suits on board (1a - 1b - 1c - 1aET - 1bET) in the inspector comments.

Mandatory comments are required for this question.

5.13 Are chemical resistant suits available and in good condition?

Check the presence of a resistance list. Where suits are available, but no resistance list is present, the question must be answered "No".

Write the type of resistance suits in the inspector comments and also mention the amount of suits on board:
- Type 3 or Type 3 PP(Partial body protection) according EN14605:2005+A1:2009 - protection against liquid chemicals - liquid tight
- Type 4 or Type 4 PP according EN14605:2005+A1:2009 - protection against liquid chemicals - spray tight
- Type 6 or Type 6 PP according EN13034:2005+A1:2009 - Limited protection against liquid chemicals - splash proof

Where the following type of chemical suits is present, the question must be answered "No":
- Type 5 according EN ISO13928-1 - protection against solid particulars

Mandatory comments are required for this question.

5.14 Are the person(s) in the rank of Boatmaster able to demonstrate sufficient knowledge of the safety procedure for working in dangerous areas?

Working in dangerous areas include: all work which requires a risk analysis or a work permit system.

A risk assessment should entail a careful examination of what, in the range of operations, could cause harm, with a view to deciding whether the precautions are adequate, or whether more should be done to minimise accidents and ill health on board a tanker.

The risk assessment should first establish the hazards that are present at the place of work and then identify the significant risks arising out of the work activity. The assessment should take into account any existing precautions to control the risk, such as permits to work, restricted access, use of warning signs, agreed procedures and personal protective equipment.

A Permit to Work system is a formal written system that is used to control certain types of work. It delivers a risk based approach to safety management and requires personnel to undertake and record risk assessments in the development of a safe system of work.

For operations in hazardous and dangerous areas, permits should normally be used for tasks such as:

• Hot Work.
• Work with a spark potential.
• Work on electrical equipment.
• Diving operations.
• Heavy lifts.
• Entry into enclosed spaces (see Chapter 10).
• Work at heights and near waterfront.
• Opening of tank and line systems.

Check issued work permits for example the latest issued work permit for entrance enclosed.

ISGINTT 9.2.11
ISGINTT 9.3.1
ISGINTT 19.1.3
ISGINTT 9.2.1, 9.3 & 9.6

5.15 Are the person(s) in the rank of Boatmaster able to demonstrate sufficient knowledge of the safety procedure for entering enclosed spaces?

Enclosed space means a space which has any of the following characteristics:

1. limited openings for entry and exit;
2. inadequate ventilation; and
3. is not designed for continuous worker occupancy, and includes, but is not limited to, cargo spaces, double bottoms, wing tanks, hold spaces, fuel tanks, ballast tanks, cargo pump-rooms, cargo compressor rooms, cofferdams, chain lockers, void spaces, duct keels, inter-barrier spaces, boilers, sewage tanks, bunker boom foundation spaces and adjacent connected spaces. This list is not exhaustive.

Procedure must contain at least minimum and maximum levels in order to allow the safe entry into enclosed spaces. A documented risk assessment should be carried out to identify the potential hazards and to determine the safeguards to be adopted.

ADN 7.2.3.1.
ISGINTT 10

5.16 During visual inspection on board no visible deficiencies regarding safety were observed which are not covered by another question in this questionnaire.

The following should be checked but is not limited to:

• "No Smoking" signs
• Containers for rags
• Combustible materials on deck and in engine rooms
• Proper stowage of paint, chemicals, equipment, tools and materials.
• signs on deck and in engine rooms
• door, escape windows, and hatch rubbers in good condition
• flame arrestors in good condition (check, if possible)
• portable ladders (incl. man over board or swimming ladder); check type plate, maintenance state, wear and tear / deformation, stored in an appropriate way avoiding sagging.
• lighting on deck and in engine room (in good shape)
• all manholes fully bolted
• only intrinsically safe equipment in the cargo area
• electrical connections in good shape
• all cargo tanks on deck are clearly marked (when tanks are not in use they must be blanked off)
• in case of interruption of the railing there must be a provision in place to prevent for falling over board

ES-TRIN
ISGINTT
ADN 7.2
ADN 9

5.17 Are emergency eye and face baths available and in good condition?

This question is one of the random equipment tests, at least 10 random questions should be answered during each inspection.

An eye and face bath shall be provided on the vessel at a location which is directly accessible from the cargo area. The water shall meet the quality of drinking water on board. Additional decontamination substances for the purpose of avoiding corrosion of eyes and skin are allowed. Check if the liquid has been refreshed or flushed on a regular basis.

A connection of this special equipment with the area outside the cargo zone is accepted.

A spring-loaded non-return valve shall be fitted to ensure that no gases can escape through the eye and face bath system outside the cargo area.

Eye and face bath shall be kept ready in all weather conditions for use during loading and unloading operations and cargo transfer operations by pumping. The inspector should write the location of the emergency eye and face bath

ADN 9.3.x.60
ADN 7.2.4.60
ISGINTT appendix 7

Mandatory comments are required for this question.

5.18 Are decontamination shower(s) available and in good condition?

This question is one of the random equipment tests, at least 10 random questions should be answered during each inspection.

A shower shall be provided on the vessel at a location which is directly accessible from the cargo area. The water shall meet the quality of drinking water on board. Additional decontamination substances for the purpose of avoiding corrosion of skin are allowed.

A connection of this special equipment with the area outside the cargo zone is accepted.

The shower shall be kept ready in all weather conditions for use during loading and unloading operations and cargo transfer operations by pumping. The inspector should write the location of the emergency decontamination shower
ADN 9.3.x.60
ADN 7.2.4.60
ISGINTT Appendix 7

Mandatory comments are required for this question.

5.19 If applicable, does the barge have toxic detection equipment suitable for the cargoes carried, is the crew familiar with the operation and is the equipment being maintained in accordance with manufacturers and industry recommendations?

This question is one of the random equipment tests, at least 10 random questions should be answered during each inspection.

Portable Toxi detector: Check if indicator tubes for the relevant cargoes are available including spare tubes. Pump and tubes must be compatible. If applicable, the inspector should write which toxic measuring tubes are on board together with their expiry date. Spare test tubes must be within the expiry date and suitable for the cargo to be carried. Check function of toxic gas pump by ensuring that it will hold a vacuum. The pump should be tested on a regular basis. When only a pump on board without test tubes this question must be answered NO. In case of a PID meter check if a suitable calibration table is available. The operating manual must be available in a language understood by the crew. Also note the operators policy for carrying products of which no correct tubes are on board before loading.

The inspector must note which type (brand and type nr) and sort (PID of pump with tubes) of toxi meter is on board, and if tubes are present note also for which type of products they can be used.

ISGINTT 8.2
ADN 8.1.5 & Table C (TOX)

Mandatory comments are required for this question.

5.20 If applicable, does the barge have portable gas detection equipment suitable for the cargoes carried, is the crew familiar with the operation and is the equipment being maintained in accordance with manufacturers and industry recommendations?

This question is one of the random equipment tests, at least 10 random questions should be answered during each inspection.

The portable gas detector(s) should be function checked to ensure battery is within charge limits and that the correct zero (must be tested in fresh air prior use) adjustment can be made. The instrument may be electronic and self-checking. The possible combination of EX/OX/H2S/CO test results must be logged. Check if the available hose for is of sufficient length and check if the pump motor runs and if a floater is at the end of the hose. Evidence of testing should be recorded periodically. The equipment must be in good condition and maintenance records must be available on request. Periodical maintenance performed may not exceed the prescribed limits. Crew must have received instruction on how to use the equipment and on how to perform measurements and how to interpretate the readings. The operating manual must be available in a language understood by the crew. The inspector must note what type (brand and type nr) and sort (EX/O2, H2S, CO etc.) of gas detectors are on board.

ISGINTT 8.2
ADN 8.1.5 & Table C (EX)

Mandatory comments are required for this question.

5.21 If required, is operational personal gas detection equipment available?

Write down type (brand and type number) and which sensors (for example. H2S or CO) are available. Are activated personal detectors operational and in good working condition.

ISGINTT 8.2

Mandatory comments are required for this question.

5.22 Are all portable electrical equipment of an approved type for use in hazardous areas?

This question is one of the random equipment tests, at least 10 random questions should be answered during each inspection.

Only torches that have been approved by a competent authority for use in flammable atmospheres may be used on board tankers. Handheld UHF/VHF portable transceivers must be of an intrinsically safe type.

Small battery powered personal items such as watches, miniature hearing aids and heart pacemakers are not significant ignition sources.
Unless approved for use in a flammable atmosphere, portable radios, electronic calculators, cameras containing batteries, photographic flash units, portable telephones, radio pagers, smart watches and fitness bands however, must not be used on the tank deck or in areas where flammable gas may be present. Trimode gauging tapes are battery operated electronic units and should be certified as being suitable for use in flammable atmospheres.

ADN 8.3.2

5.23 Is special medical equipment available?

Special medical equipment is that equipment which is listed in the Chemical Charts Book or the Safety Data Sheets or in other procedures from the vessel's SMS. (i.e. Phenol box, Cyanide box, Medical oxygen etc.)

5.24 Is an Automated External Defibrillator (AED) with operating instructions and procedures for safe use available on board?

Check location of the Automated External Defibrillator (AED) is clearly marked and easily accessible.

5.25 Is the crew aware of the required medical treatment and first aid in case of exposure to cargo carried at the time of inspection?

The Crew should be able to identify the medical treatment required following exposure to the products carried at time of the inspection, or in case the barge is empty the previous cargo, including the identification of the correct medicant and corresponding instruction leaflet.

5.26 Is the person(s) in the rank of Boatmaster able to demonstrate sufficient knowledge of the written procedures regarding tank cleaning?

The technical operator should provide tank-cleaning procedures, which are pertinent to barge grade changes. These procedures may be contained in company manuals, computer system or a separate company instructions book/manual.
There should be evidence that a cargo tank-cleaning plan is established prior to tank cleaning operations. The crew should understand the company tank cleaning procedures and ensure that the execution of the procedures does not allow practices, which are contrary to the regulations, and safe tanker practices.

5.27 Is the person(s) in the rank of Boatmaster able to demonstrate sufficient knowledge of the written procedures regarding cargo transfer?

The concept of "cargo transfer" includes loading, discharging and internal transfers. The inspector should ascertain that the minimum number of competent crew members needed, cargo segregation and checks during loading and discharging (e.g. tank level, temperatures, pressure, alarms, communication, etc.) are taken care of as per the procedures.

5.28 Is the person(s) in the rank of Boatmaster able to demonstrate sufficient knowledge of the written procedures regarding loading/unloading and (de)ballasting?

A procedure may be a general guideline supplemented with specific working instructions. The related possible stability issues are known by the crew.

ISGINTT 11.6

5.29 Is the person(s) in the rank of Boatmaster able to demonstrate sufficient knowledge of the written procedures regarding ship-ship transfer?

A Ship-ship transfer is a transfer between two vessels.

Check that the crew are familiar with the safety rules concerning connection and disconnection of hoses, the dangers of dropping objects during hoisting works.

ISGINTT 11.9

5.30 Is the person(s) in the rank of Boatmaster able to demonstrate sufficient knowledge of the written procedures regarding the use of a life jacket during mooring/ unmooring operations, activities outside the area protected by railings and during other risky activities on deck?

Crew members and other persons on board are required to wear a life-jacket:

a) when going from or on board; when danger to fall in the water exists,
b) when they stay in the life-boat,
c) when working outboard, or
d)when they stay or work on deck and in the gangway, when there are no bulwarks of at least 90 cm height or no continued railing.

ISGINTT 26.2

5.31 Is the person(s) in the rank of Boatmaster able to demonstrate sufficient knowledge of the written procedures regarding handling cargoes that might contain H2S and the use of the appropriate PPE?

It cannot be excluded that one of the following products contain H2S: Crude oil, fuel oil, naphtha, sulphur. For detailed information consult the written instructions, SDS, chemical card H2S and ISGINTT. In case of possible exposure of products containing H2S personnel must wear H2S detection/alarm equipment.

ISGINTT 2.3.6 & 2.7.5

5.32 Is the person(s) in the rank of Boatmaster able to demonstrate sufficient knowledge of the written procedures regarding ensuring barge's stability?

The crew understands possible stability issues and how to solve them.

ISGINTT 11.2

5.33 Is the person(s) in the rank of Boatmaster able to demonstrate sufficient knowledge of the written procedures regarding unintentional activation of equipment in maintenance or out of use?

Unintentional activating of equipment can be avoided by for example a Lock Out Tag Out (LOTO) Procedure which forms part of system of safety control preventing equipment or systems being energized or used whilst under repair, maintenance, out of service, or when such operations are not permissible.

LOTO Systems are frequently used within Permit to Work Systems.

The inspector should check that procedures are available onboard and being applied.

Examples of common LOTO Systems on barges include:
- warning signs posted in wheelhouse and/or the engine room to prevent main engine being started when the propeller shaft brake is on.
- padlocks on bilge overboard valves to prevent accidental discharge overboard.
- locking pins to prevent accidental lowering of top half of the wheelhouse.
- removal of fuses/breakers and posting of warning signs to prevent operation of equipment.
- removal of power connectors and labeling of portable equipment to prevent usage.

ISGINTT 9.3.2

5.34 Are provisions made to prevent slips and falls on walkways and working decks?

Decks and working areas must have

- anti-slip areas
- obstacles in passageways (e.g. edges of steps) and tops of side deck bollards are made recognisable by means of signal/bright colours
- Deck must be flat and it shall be impossible for puddles to form
- Where persons might fall more than 1 meter, a bulwark or coaming of at least 0.9m high or a continuous guard rail shall be fitted. This is not applicable in cases of vessels with flush or trunk decks where the passageways run over those decks which are surrounded by fixed guard rails and signs ("Mandatory to wear a life jacket) have been affixed in clearly visible positions on deck

Stairs and ladders shall be securely fixed, steps shall have non-slip surfaces and stairs with more than 3 steps shall be fitted with handrails. Ladders and separately attached rungs shall be clearly recognisable from above and shall be equipped with safety handles above.

ES-TRIN Art. 14.02
ES-TRIN Art 14.07
ISGINTT 26.2.2

5.35 Are the means of access available on board in a good condition?

A boarding gangway has to comply to either ES-TRIN 13.02 or to EN526:1993 or to EN14206 and the following has to be assessed:

- a boarding gangway shall be at least 0.4 m wide and 4m long (EN526:1993 = max 8m)
- side edges are defined by a brightly-coloured strip
- the gangway shall be equipped with at least one handrail and/or stanchions.

The use of wood, aluminium alloys or plastic materials within the cargo area is only permitted for gangways. The walking surface has a non-slip surface or transverse bars to provide foot grips for when it is inclined.

In some sailing areas or ports, additional requirements (e.g. safety net, minimum 2 hand rails) could be imposed.

ADN 9.3.x.0.3
ES-TRIN 13.02
ADN 9.3.x.0.3
ISGINTT 16.4.3.2

5.36 Is the barge crew aware of the hazards related to operating in extreme weather conditions?

Extreme conditions include but are not limited to; - ice and sub zero conditions - heat waves - strong wind / gales.

There should be procedures that could include:
- Risk management and risk mitigation measures when preparing for and operating in extreme weather conditions
- Procedures for passage assisted by an ice breaker or in ice convoy
- Guidance on passage planning
- Guidance on safety equipment, operating machinery and systems
- Means to protect personnel from the effects of heat waves or cold weather clothing, management of watch routines and duty periods, measures to prevent dehydration
- Measures to maintain safe access and movement around the vessel

5.37 Is the required firefighting equipment available and ready for use?

This question is one of the random equipment tests, at least 10 random questions should be answered during each inspection.

The inspector shall verify, to the best of their ability all fire-fighting equipment and that the crew knows the location and properties of all fire-extinguishing equipment and systems. If the inspection takes place during loading or unloading, the fire extinguishing systems, the fire main with hydrants complete with couplings and jet/spray nozzles or witch couplings and hose assemblies with couplings and jet/spray nozzles shall be kept ready for operation in the cargo area on deck.

The following points of attention must be assessed by the inspector:
- Ventilation inlets / Fire flaps
- Notice boards fitted at the ventilation inlets indicating the condition under which they shall be closed (e.g. 'to be closed in case of fire')
- Ventilation inlets of accommodation, wheelhouse and service spaces leading to the open air outside the cargo area fitted with devices permanently fixed, enabling them to be closed rapidly. It shall be clear whether they are open of closed
- Ventilation inlets of services spaces in the cargo area may be located within that area
- Ventilation inlets of combustion air for the propulsion engines may not be fitted with closing devices.
- Fire hoses and nozzles and/or directable jet/spray nozzles
- 3 suitable and sufficient long hoses with jet/spray nozzles of not less than 12mm are available. Alternatively one or more of the hose assemblies may be substituted by directable jet/spray nozzles having a diameter of not less than 12mm

- Fire pumps
• Two independent fire or ballast pumps, one of which shall be ready for use at any time, are available and operational
• These pumps and their means of propulsion and electrical equipment shall not be installed in the same space
• The capacity shall be at least sufficient for a jet of water to have a minimum reach of not less than the vessel's breadth from any location on board with 2 spray nozzles being used at the same time
• The pumps shall be capable of being put into operation from the wheelhouse and from the deck.

- Portable fire extinguishers
• There shall be at least one portable fire-extinguishers in accordance standards EN 3-7:2007 and EN3-8:2007 in the wheelhouse; close to each entrance from the deck to the accommodation; close to each entrance to service spaces which are not accessible from the accommodation spaces and which contain heating, cooking or refrigeration equipment using solid or liquid fuels or liquefied gas; at each entrance to engine rooms and boiler rooms; at suitable points below deck in engine rooms and boiler rooms such that no position in the space is more than 10 meters walking distances from an extinguisher
• Only powder type extinguishers of at least 6kg or other portable extinguishers with the same extinguishing capacity may be used. They shall be suitable for Class A, B and C fires. By way of derogation on vessels with no liquefied gas installations, spray foam fire extinguishers using aqueous film-forming foam (AFFF) frost proof to - 20 °C are permissible even if they are unsuitable for Class C fires. These fire extinguishers shall have a minimum capacity of 9 liters. All extinguishers shall be suitable to extinguish fires in electrical systems of up to 1000 V.
• Portable fire extinguishers with CO2 as the extinguishing agent may be used only for extinguishing fires in galleys and electrical installations. The content of these fire extinguishers shall be no more than 1 kg per 15 m3 of the room in which they are made available for use.
• In addition to the fire-extinguishing appliances as prescribed by the inspection body (noted in the Inland Navigation Certificate at item 43), each vessel shall be equipped with at least 2 additional hand-fire extinguishers having the same capacity.
• An inspection label shall be affixed to the fire extinguisher, signed by the competent person and showing the date of the inspection.
• If portable fire extinguishers are installed in such a way that they are out of sight, the panel covering them shall be identified by a symbol for fire extinguishers and having a side length of at least 10 cm.
• Portable fire extinguishers should be placed in a designated holder.

- Fire-mains and hydrants
• Measure shall be taken to prevent the freezing of fire-mains and hydrants
• Fire mains and hydrants shall be sufficiently marked in red

ES-TRIN Art. 13.03
ES-TRIN Art. 13.05
ADN 7.2.4.40
ADN 8.1.4
ADN 8.1.6.1
ADN 9.3.X.40.1

5.38 Is the general alarm system operational and tested (records available)?

This question is one of the random equipment tests, at least 10 random questions should be answered during each inspection.

There shall be an independent alarm system enabling the accommodation, engine rooms and, where appropriate, the separate pump rooms to be reached.

The helmsman shall have within reach an on/off switch controlling the alarm signal; switches which automatically return to the off position when released are not acceptable.

In engine rooms and pump rooms the alarm signal shall take the form of a flashing light that is visible on all sides and clearly perceptible at all points.

Other systems (e.g. bilge alarm, BNWAS) could be connected with the general alarm system. Check if the crew is familiar with these features.

ES-TRIN Art. 7.09

5.39 Is the centralised smoke/fire detection system operational and tested (records available)?

If a centralised smoke/fire detection system is not installed on the barge and not required by ADN, the answer must be "N/A".

This applies to a centralised system and not to independent fire smoke detectors.

Mention the frequency and manner of testing and the type of sensors (smoke or heat) in the operator comments.

Check if the laundry room or a similar room is protected by the smoke-/ fire detection system.

ES-TRIN Art. 13.05.3
ADN 9.3.x.40.2.3
ISGINTT 5.4

Mandatory comments are required for this question.

5.40 Is emergency lighting operational and tested (records available)?

This question is one of the random equipment tests, at least 10 random questions should be answered during each inspection.

For the following rooms and locations emergency lighting can be provided:

- locations where life-saving equipment is stored and where such equipment is normally prepared for use;
- escape routes, gangways, entrances and exits, connecting corridors, cabin areas and accommodation areas;
- markings on the escape routes and emergency exits;
- service rooms, engine rooms, steering equipment rooms and their exits;
- wheelhouse;
- emergency electrical power source room;
- points at which extinguishers and fire extinguishing equipment controls are located;
- areas in which crew muster in the event of danger;
- locations where an automated external defibrillator is to be found.

Light fittings for the emergency lighting shall be marked as such

Check if the system has been tested and the records of the tests are available on board.

5.41 If fitted, are fixed gas extinguishing system(s) operational and tested (records available)?

This question is one of the random equipment tests, at least 10 random questions should be answered during each inspection.

Fixed fire-extinguish gas installations are CO2, HFC 227(e.g. FM-200), FK-5-1-12 (e.g. NOVEC 1230), K2CO3 (potassium carbonate) or any other approved type.

The following has to be checked:
- the installation is ready for use (check if the operating wires are connected properly)
- when opening the door of the operating cabinet, a visual and acoustic alarm should be activated and the fan should stop, or any other check as considered by the maker of the installation. When the operating cabinet is closed again the fan should not start again.
- the good condition of the control box
- in case a key to open the control box is required, check if it is in close vicinity of the control box
- the operating instructions are posted inside the door of the control box.
- The Pressure tests of the receptacles filled with CO2; HFC 227 (FM200) and IG-541 have been conducted every 10years. The date of the periodic inspection must be marked on each receptacle and must be mentioned in the inspector comments.
- The crew is well aware with the location of the operating cabinet(s).
- The crew well aware of what medium in use and the associated risks, possibilities and limitations.
- Records of periodic inspections and test by the crew are available on board.

ES-TRIN Art. 13.05
ADN 9.3.x.40.2

5.42 Is the muster list posted?

A muster list should contain as a minimum the duties and responsibilities for all crewmembers during different scenarios like grounding, man over board, fire etc.. (described per crew position).

The plan must be posted on a location where it's available for everyone on board.

5.43 Is the safety plan posted?

A safety plan may comprehend the following:

- the location of present fire-fighting equipment, life-saving equipment, First Aid kit(s),AED(s), emergency escape exits, fire flaps, emergency shut-down systems, etc.
- the legend of symbols used.

The plan must be posted on a location where it's available for everyone on board.
Check if the crew has been made familiar with the safety plan.

ISGINTT 9.9.2.5

5.44 Are the condition of the life jackets satisfactory?

The inspector shall verify whether a valid certificate and/ or tag for(on) each life jacket is available. The buoyancy of each life jacket must be noted in Newton(N) in the remarks field. Life jacket to comply with the European standards EN-ISO 12402-2:2006 (275N), EN-ISO 12402-3:2006 (150N) and SOLAS chapter III, regulation 7.2 and LSA-code, sub-section 2.2.

ES-TRIN Art. 13.08.2.
ISGINTT 26.2

Mandatory comments are required for this question.

5.45 Is the condition of the lifeboat satisfactory and is it ready for use?

Synthetic boats are only allowed when they are constructed of a material that has low flame spread characteristics, according to EN 1914-2016. An information plate must be present with indication EN 1914 or the standard must be demonstrable in an other way. Mention in the report the location of the life-boat. Attention: NA can be only an option with bunker- and bilge boats. Check if the boat is free of any material and equipment and that strapping and cover can easily be removed.

A boat shall have:
- two rowlocks for rowing;
- two oars;
- one towing ring;
- at least three attachment holes for lifting equipment;
- one bailer;
- one buoyant painter/robe at least 5 m long and at least 12 mm in diameter.
- Retro-reflecting strips fitted of at least 0,1m wide X 1 m long on either side
- A warning sign giving instructions regarding the use of life-jackets
- Manufacturer's plate with following information:
o Permissible persons
o Deadweight
o Weight with equipment
o Permissible motor rating
o Permissible weight of motor including full tank
o Material
o Year of manufacture/series
o Manufacturer or supplier
o Mark of testing

Additional equipment for a motorized boat
- arch board/base
- fuel tank and batteries with mounting

ES-TRIN Art. 13.07 / ADN 7.2.3.29/ ADN 9.3.x.0.5
For Estuary Barges: Rescue-boats approved as per IMO MSC.81(70) can also be accepted as a life boat.

Mandatory comments are required for this question.

5.46 Is the lifeboat davit ready for use?

It shall be possible for one person to launch lifeboats safely within five minutes from the first manual action necessary.
If a powered launching device is used this shall be such that safe, quick launching shall not be impaired if its power supply fails.
The inspector should describe the type of launching device and ascertain that launching can be done at all times.

ES-TRIN Art. 13.07.2

Mandatory comments are required for this question

5.47 Is the condition of the life-raft satisfactory and is it ready for use?

In case a lifeboat is stowed in the cargo area, a life raft should be available within the accommodation area

Life rafts shall:

a) bear a notice indicating their purpose and the number of persons for whom they are approved;
b) offer adequate seating space for the permitted number of persons;
c) provide a buoyancy of at least 750 N per person in fresh water;
d) be provided with a rope linked to the vessel to prevent them drifting away;
e) be made of suitable materials and be resistant to oil, oil products and temperatures up to 50 °C;
f) assume and maintain a stable trim and, in this respect, be fitted with appropriate devices enabling them to be grabbed by the indicated number of persons;
g) be fluorescent orange in colour or have fluorescent surfaces, visible from all sides, of at least 100 cm2;
h) be such that they can be released from their stowed position and put overboard quickly and safely by one person, or can float free from their stowed position;
i) be provided with appropriate means of evacuation if the vertical distance between the deck of the evacuation areas and the plane of maximum draught is greater than 1 m.

ADN 7.2.3.29

5.48 Are the condition of the life buoys satisfactory?

This question is one of the random equipment tests, at least 10 random questions should be answered during each inspection.

3 life buoys must be present on board barges in accordance with EN 14 144:2003 or in accordance with SOLAS, Chapter III, regulation 7.1 and the LSA-code, sub section 2.1.

They must be readily available on fixed appropriate locations on deck and may not be permanently attached to the holder. At least one life buoy must be located in close vicinity of the wheelhouse and must be fitted with an automatic self igniting lamp, powered by batteries, in such a way that it will not stop burning in the water. 'in close vicinity' is subjective therefore please note the location of this buoy and do not make an observation about the location of this buoy.

ES-TRIN Art. 13.08.1
ISGINTT 16.4.2

5.49 Are all ventilation systems on board operational?

This question is one of the random equipment tests, at least 10 random questions should be answered during each inspection.

Check during loading, discharging, or gas free operations if the ventilation systems of the locations as mentioned under item 4.6.2 1.1.22 of the general technical information (BPQ) are operational. In case of any other situation one should enter the answer of the barge captain.

Check the following during an inspection:

- Breakdown alarm by simulating a loss of pressure
- Shutting down of installations and equipment that do not meet the requirements set out in 9.3.x.51 (a) and (b) and 9.3.x.52.1 by simulating a loss of pressure. A visual and audible signal must be activated in the accommodation, the wheelhouse and on the deck and, if necessary, the emergency lighting shall be activated

ADN 9.3.x.12.4

5.50 Are gas detection system(s) linked to the ventilation system(s) and operational?

Check during loading, discharging, or gas free operations if gas detection system of the over pressure systems on the locations as mentioned under item 4.6.2 of the general technical information (BPQ) are operational.

In case of any other situation the inspector should enter the answer of the barge captain.

Check if the locations of the sensors are clearly indicated on the gas detection control panel.

The sensors present (near air inlet) must be tested on good working order and the results of these tests must be recorded.

ADN 9.3.x.12.4 (b) (v) 1-4

5.51 Is a Quality Manual (SMS) available on board?

The Quality Manual (SMS) may be electronic or written.

This should include the Operator's Health, Safety and Environment (HSE) policy.

Policies should be written in the working language of the vessel.

5.52 Date the Quality Manual was last updated:

5.53 Are the crew familiar with the Quality Manual (SMS)?

The crew, new and temporary included, should be properly trained on the barge (note type of training and evidence). Familiarization of general and specific aspects of the barge must be completed. Note in inspector comments the language of Quality Manual (SMS) and the common working language on board.

ISGINTT 13.1 &13.2

Mandatory comments are required for this question.

5.54 Is a recent backup of electronic files available?

For the purpose of this question a back-up of electronic files is that which is stored locally on board. A recent back-up is not older than 1 month. A hard-copy is considered as a back-up.

5.55 Are the Crew aware of measures in place onboard that prevent and report cyber crime?

A barge should have as a minimum, guidance on minimising the risk of Cyber attacks, including guidance on typical threats such as phishing, ransomware, social engineering and water holing and computer viruses in general.

Guidance should also include contingency plans for limiting the impact of a malicious or accidental Cyber incident including report, support and damage limitation.

Use of anti-virus software, virus scanning and back-up routines for key systems should also be covered.

Barges crews should be aware of all systems onboard which could be vulnerable to Cyber attack which may include machinery systems as well as navigation, communications and cargo systems.

5.56 Is the operator / barge emergency plan immediately available and do the crew demonstrate sufficient knowledge about it?

There should be an Emergency Plan on board giving easily detailed instructions to the barge crew as to what actions to take in the event of incidents listed.

5.57 Are the crew aware of the hazards of working with Nitrogen?

Procedures must contain following minimum information
- Control of cargo tanks atmosphere
- Inerting of cargo tanks and lines
- Covering cargoes with N2 blanket (padding)
- Static charges
- Indication of inerted spaces
- Method of measurement and values

The crew must be familiar with the fact that N2 displaces air/oxygen and can be perilous at the entrances and openings of enclosed spaces (N2 is an inert gas which is, colorless and odorless gas.)

5.58 Is the crew aware of the dangers associated with the compatibility between different cargoes?

This should be mentioned in the technical operators procedures and the crew members must be aware of these.

5.59 Are the crew aware of the dangers of handling of stabilised product?

Awareness of requirement to have, on board, an Inhibitor Certificate after loading of stabilized products. Information can be found in ADN Chapter 3.2.3. Table C. column 5 marked as "inst" and ADN 3.2.3.1 Explanatory notes - Column (20) remark 3

• The need to ensure that pipeline or tanks does not contain any materials, which are identified as unsuitable on the product data sheet.
• Emergency procedure should the product start to react
• The transport document shall contain the following additional particulars
(a) Name and amount of inhibitor added
(b) Date of which inhibitor was added and expected duration of effectiveness under normal conditions
(c) any temperature limits having an effect on the inhibitor

When stabilisation is ensured solely by blanketing with an inert gas it is sufficient to mention the name of the inert gas used in the transport document.
When stabilisation is ensured by another measurement, e.g. the special purity of the substance, this measurement shall be mentioned in the transport document.

5.60 Are the crew aware of the dangers of handling static accumulators?

The following measures should be considered to prevent electrostatic hazards

- bonding of metal objects to the metal structure of the tanker
- removal from tanks or other hazardous areas of any loose objects that cannot be bonded
- restricting the linear velocity of the cargo to a max of 1m/sec at the individual tank inlets during the initial stages of loading:
a) The filling pipe and any other structure on the base of the tank has been submerged to twice the filling pipe diameter so that all splashing and surface turbulence has ceased.
b) Any water collected in the pipeline has been cleared. It is necessary to load at this restricted rate for 30 minutes or until two pipeline volumes (i.e. from shore tank to ship's tank) have been loaded into the tank, whichever is the lesser.
- continuing to restrict the product flow to a maximum of 1m/sec at the tank inlet for the whole operation unless the product is 'clean'
- avoiding splash filling by employing bottom entry using a fill pipe terminating close to the bottom of the tank.

Following additional precautions should be considered during ullaging, dipping, gauging or sampling:
- banning the use of all metallic equipment for dipping, ullaging and sampling during loading and for 30min after completion of loading. After the 30-minute wait, metallic equipment may be used but it must be effectively bonded and securely earthed to the structure of the tanker before it is introduced into the tank, and must remain earthed until after removal.
- banning the use of all non-metallic containers of more than 1lt capacity for dipping, ullaging and sampling during loading and for 30 minutes after completion of loading. Non-metallic containers of less than 1lt capacity may be used for sampling in tanks at any time, provided that they have no conducting components and they are not rubbed prior to sampling. Cleaning with a high conductivity proprietary cleaner, a solvent such as 70:30 IPA/toluene mix, or soapy water, is recommended to reduce charge generation. To prevent charging, the container should not be rubbed dry after washing.

ISGINTT Chapter 3

5.61 Is the crew aware of the dangers of handling heated cargo?

Only if the barge is not able to heat cargo, which means there are no heating coils or cargo heating system on board, this question can be answered with Not Applicable.

The following operational aspects must be considered with heated cargo:
- Damage to the vessel's tank coatings, and undue stress on the vessel's structure due to thermal loads. The temperature at which cargo can be loaded is limited by:
1. The tank coating's heat tolerance, as guided by the manufacturer.
2. The Classification Society's restrictions to prevent thermal shock to the vessel's structure.
3. The cargo valve seats and seal material requirements.
- Cargo loaded at very high temperatures may adversely affect tank coatings and structure. Loading a first flush slowly into each tank in turn, before increasing the rate for bulk loading, will help to reduce this.
- Injury to ship's staff from splash burns when sampling, by holding a toolbox talk with crew before sampling takes place.
- If cargo heating installation is permanently taken out of service this must be reported in the inspector observations and question must be answered "Not Applicable".

ADN 7.2.3.42
ADN 9.3.x.42

5.62 Are non-smoking regulations well communicated and publicly displayed, and are these followed by the crewmembers?

Smoking in port should only be permitted under controlled conditions and preferably not during cargo operations, ballasting and gas freeing. Difficulties perceived in introducing a restrictive smoking policy, including a total ban, should not impede the implementation of such a policy if it is in the interest of safe operations. Appropriate measures should be in place, both on the ship and the shore, to ensure full compliance.

Smoking should be strictly prohibited within the restricted area enclosing all tanker berths and on board any tanker while at a berth.
While the tanker is moored at the terminal, even when no operations are in progress, smoking can only be permitted in designated smoking places or, after there has been prior agreement in writing between the Responsible Person and the Terminal Representative, in any other closed accommodation, subject to local (port) regulations.

ISGINTT Appendix 1: Tanker – Shore Safety Check-list
ISGINTT Appendix 2: Seagoing – Inland Tanker / Inland Tanker Safety Check-List
Warning notices should be posted on the doors to these designated compartments.
The notice boards displaying the prohibition of smoking in accordance with 8.3.4 shall be legible from either side of the vessel. Notice boards indicating the circumstances under which the prohibition applies shall be fitted near the entrances to the spaces where smoking or the use of fire or naked light is not always prohibited.
(ADN 9.3.1/2/3.74)
ISGINTT 4.2.2.2
ISGINTT 4.2.2.3
ADN 8.3.4
ISGINTT 11.4.3

5.63 Are earth wire connections free of paint and rust?

5.64 Is sampling achieved by a closed loop system?

5.65 Are sampling units closed and blinded?

5.66 Is the maximum working pressure displayed on the manifold and/or tank dome?

5.67 Are the minimum and maximum working temperatures displayed on the manifold and/or tank dome?

5.68 Is the deck area in use around the manifold covered by rubber mats?

5.69 Are wing tanks, double hull, double bottoms, hold spaces, enclosed spaces and cofferdams tested weekly to ensure that they are free from gasses and liquids, and are records maintained?

Inspector comments should include the date of the last check.

ADN 7.2.3.1.1
ISGINTT 7.3.4

Mandatory comments are required for this question.

5.70 Is a pre-departure proof of a stability recalculation available?

Where the barge is empty, the Inspector should also check the history of previous voyages.

5.71 Is the crew responsible for the cargo operations of the tank dumb barge?

5.72 Is a procedure for the safe operation and handling of the bunker boom available, and understood by those on board?

A procedure must be available which prescribes safe operations of bunker boom. This also includes fall protection.

5.73 Is cargo handling carried out by third party personnel?

5.74 Is the latest edition of ISGINTT on board?

This can be a hardcopy as well as an electronic version.

5.99 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 questions in the Chapter, the Inspector should include such additional comments in this section.

This section must not be used to record negative observations.

Pollution Prevention

Pollution Prevention

6.1 Is suitable equipment provided to deal with small oil spills?

A designated ready-to-use spill kit, capable of dealing with small spills of around 200L, is preferred.(ISGINTT 12.4)

Inspector should note what kind of equipment is on board and where it is located.

Mandatory comments are required for this question.

6.2 Is the condition of scupper plugs satisfactory and are scuppers effectively plugged, and is a two man cross check carried out?

This question is one of the random equipment tests, at least 10 random questions should be answered during each inspection.

This question is one of the random equipment tests, at least 10 random questions should be answered during each inspection.

If required, during cargo operations scupper plugs should be in place and liquid tight. For the carriage of substances of UN No. 2448, or goods of class 5.1 or 8, the bulwark ports, openings in the footrail, etc. shall not be closed off. Nor shall they be closed off during the voyage, in the event of carriage of other dangerous goods.

Scuppers on gas carriers will only be required to be plugged when bunkering or if carrying a MARPOL Annex 1 cargo. For gas carriers this question should be answered 'NA' unless the vessel is undertaking bunkering at the time.
Evidence (for example. in loading plan) is required.

ADN 7,2,4,16,13

6.3 Are all loading arms/ hose connections and manifold blank flanges fully bolted?

Only one reducer/expander should be fitted outboard of the manifold valve. Blank flanges should be fully bolted and be of at least the same thickness as the flanges to which they are attached.

The tightness of valves should not be relied upon to prevent the escape or seepage of products. All tankers cargo pipelines not in use must be securely blanked at the manifold.

6.4 Are sampling connections, valves, caps or plugs in satisfactory condition?

The tightness of valves should not be relied upon to prevent the escape or seepage of products. All shore pipelines, loading arms and hoses not in use at a berth must be securely blanked. All tankers cargo pipelines not in use must be securely blanked at the manifold.

ISGINTT 24.7.5

6.5 Are slop disposal receipts complete and retained on board the barge?

The Convention on the collection, deposit and reception of waste generated during navigation on the Rhine and other inland waterways (CDNI Convention) describes the disposal of waste and cargo residues.

The following receptacles must also be present: a) a marked receptacle for domestic waste; b) separate, marked receptacles, with sealing covers, made of steel or another sturdy, non flammable material, of adequate size but holding at least 10 litres, for the collection of aa) oily cleaning cloths; bb) hazardous or pollutant solid wastes; cc) hazardous or pollutant liquid wastes; and, inasmuch as they may arise, for the collection of dd) slops; ee) other oily or greasy waste. If the barge is used in a dedicated trade the answer is "N/A".

CDNI Part B Ch. VII Obligations incumbent on the carrier, the charterer, the consignee, and on the operator of the handling facility
ES-TRIN Art. 13.02.2

6.6 Date of the last disposal of slops.

6.7 Are disposal receipts complete and retained on board the barge for disposals containing oil and grease from the engine room?

Bilge water (from engine rooms).

Reception station operators attest to the vessel the deposit of oily and greasy waste generated from the operation of the vessel in the used-oil log.

CDNI Part A art. 1.01

6.8 Date of last disposal of oil and grease from the engine room?

6.9 Are slop tanks in good condition?

The following points of attention must be assessed:

Condition of level gauging systems, connections with stop valves and hose connections and safety valves.
The inspector should check if the slop tank is taken out of service; this must be clearly marked on the slop tank

ADN 9.3.x.26 Residual cargo tanks and receptacles for residual products

6.10 If slop tanks are in use, are records (specifications and quantity) maintained and available?

Article 6.03 CDNI unloading declaration

6.11 Are instructions for pollution prevention available on board?

6.12 Are the crew aware of those pollution prevention instructions?

Means should be provided for the prompt removal of any spillage on deck. Any oil spill should be reported to the terminal and port authorities and the relevant shore and tanker oil pollution emergency plans should be activated.

ISGINTT 24.7.1

6.13 Has the barge been free of pollution and/or product/bunker spills originating from the barge for the last 12 months?

Product/Bunker spill should be considered to be any spill, however minor, of cargo or bunkers on deck and/or overboard. Also a possibility may be a leakage of for instance, Hydraulic oil or Thermal oil.

6.14 Are suitable drip trays available and ready for direct use?

Permanently fitted drip trays, provided with suitable means of draining, should be fitted under all barge manifold connections. If no permanent means are fitted, portable drip trays should be placed under each connection in use to retain any leakage. The use of synthetic material should be avoided. Suitable means: resistance for products to be carried and connected to ship's hull. Attention: content of drip tray should be reported under inspector comments. When drip trays not in use they should be empty. Drip trays should always be empty (except during connection or disconnection operations)

ADN 8.6.3 (question 8,1) Are suitable means of collecting leakages placed under the pipe connections which are in use and are the empty?
ADN 8,6,3 (question 8,2) Is a water film activated (Refrigerated liquefied gases)

Drips trays shall be installed under the shore connections of the piping for loading and unloading through which the loading and unloading operation is carried out. They must be made of materials which are able to resist the temperature of the cargo and be insulated from the deck.
Receptacles intended for recovering possible liquid spillage shall be placed under connections to shore installations used for loading and unloading. Before coupling and after uncoupling the connections and in between if necessary, the receptacles shall be emptied. These requirements shall not apply to the carriage of substance of Class 2.

ISGINTT 24.7.4
ADN 8.6.3
ADN 7.2.4.16.5

Mandatory comments are required for this question.

6.15 Are procedures on how to respond in the event of a spillage available?

The company manual should contain action procedures in the event of a spill.

Such procedures should, as a minimum include:
• Cessation of cargo operation
• Raise the alarm
• Inform terminal/barge/authorities/shore staff
• Spillage containment
• Spill clean-up action
• Correct personal protection equipment to be worn
• Cessation of accommodation/engine room ventilation
• Disposal of residues and absorption materials

Means should be provided for the prompt removal of any spillage on deck. Any oil spill should be reported to the Terminal and Port Authorities and the relevant shore and tanker oil pollution emergency plans should be activated.

ISGINTT 24,7,1

6.16 If fitted, is the connection for the lube oil bunker tank different from the fuel tank connection?

Filling connections to fuel oil tanks and lube oil tanks can be different to prevent the wrong grade of oil bing filled in a tank and to also reduce the possibility of overfilling the tanks.

Inspector should record in comments what type of connection is in use.

6.17 Is the bunker checklist fully completed prior to bunkering fuels for own consumption?

The boatmaster shall ensure that, before starting the bunkering operation, the bunker station or tank truck supervising person and vessel crew member responsible for the filling operation have filled in and signed a checklist (in two copies) and agreed on the following:
(a) The automatic shut-off device (if any) is in proper working order;
(b) A safe and direct way of communication;
(c) The quantity to be supplied to each tank and the filling rate, in particular, with regard to possible problems with the tank ventilation systems;
(d) The order in which the tanks are to be filled;
(e) The speed of navigation in case of bunkering when under way.

An example of the checklist is included in annex 11.
4. The boatmaster and supervising person of the bunker station or tank truck are authorized to start the bunkering operation only after agreement has been reached on the points set above. The checklist must be stored for a minimum of six months by the receiving vessel and bunker station or tank truck. The competent authority is allowed to inspect the checklists
An example of a Bunkering Safety Check-List for Bunker Delivery to Inland Ships is contained in Appendix 5. The Check-List is primarily structured for loading bunkers from a barge, a jetty or when loading bulk lubricating oil or gas oil from a road tanker.
CEVNI article 10,07
ISGINTT 25 & appendix 5

6.18 Are bilge drain valves in the engine room(s) (aft) closed and locked or sealed?

Where a drainage system incorporates permanently installed pipework the bilge-bottom drainage pipes intended to extract oily water shall be equipped with closures that have been sealed in position by an inspection body. The number and position of those closures shall be entered on the inland navigation vessel certificate.

Locking the closures in position shall be regarded as equivalent to sealing in accordance with (10). The key or keys for the locking of the closures shall be indicated accordingly and kept in a marked and easily accessible location in the engine room.
Craft whose length exceeds 110 m shall: have a permanently-installed bilge pumping system in accordance with Article 8.08.

ES-TRIN Art. 8.08.10
ES-TRIN Art. 8.08.11
ES-TRIN Art. 28.04.1.c

6.19 Are the bilge drain valves in the engine room(s) (fore) closed and locked or sealed?

Where a drainage system incorporates permanently installed pipework the bilge-bottom drainage pipes intended to extract oily water shall be equipped with closures that have been sealed in position by an inspection body. The number and position of those closures shall be entered on the inland navigation vessel certificate.

Locking the closures in position shall be regarded as equivalent to sealing in accordance with (10). The key or keys for the locking of the closures shall be indicated accordingly and kept in a marked and easily accessible location in the engine room.
Craft whose length exceeds 110 m shall: have a permanently-installed bilge pumping system in accordance with Article 8.08.

ES-TRIN Art. 8.08.10
ES-TRIN Art. 8.08.11
ES-TRIN Art. 28.04.1.c

6.20 Are padlock keys stored in an easily accessible and conspicuously marked location in the engine room?

Locking the closures in position shall be regarded as equivalent to sealing in accordance with (10). The key or keys for the locking of the closures shall be indicated accordingly and kept in a marked and easily accessible location in the engine room.

ES-TRIN Art. 8.08.11

6.99 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 questions in the Chapter, the Inspector should include such additional comments in this section.

This section must not be used to record negative observations.

Structure

Structure

7.1 Is the appearance and condition of the hull and superstructure satisfactory?

In assessing the appearance and condition of the hull and superstructure, the age of the Barge should be taken into consideration. However the following should not be considered satisfactory:
• Large areas of contact damage on hull
• Areas of paint work on deck or accommodation damaged.
• Areas of hull showing signs of severe rusting, or extensive marine growth
• Areas of accommodation or deck showing signs of severe rusting.
• General appearance of paint work poor.
• Outside accommodation decks showing signs of poor maintenance.
• Hull markings such as draught marks, bow thruster warnings, not clearly marked.
• Pipe lines in poor condition.

For the purpose of uniformity the assessment of coating condition should be based on the same guidance as per RESOLUTION MSC.261(84)

Coating condition is defined as follows:
GOOD condition with only minor spot rusting;
FAIR condition with 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.

7.99 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 questions in the Chapter, the Inspector should include such additional comments in this section.

This section must not be used to record negative observations.

Cargo Handling

Cargo Handling

8.1 Does the operator require independent verification of cargo and ballast line up prior to commencement of each stage of the operation?

Prior commencing operations the entire cargo system (cargo and ballast lineup) should be cross checked by more than one crew member. Records should contain name or rank, time, date and signature of the individual conducting each check. Inspector should note which information source was used (checklist or loading plan etc.)

ISGINTT 11.1.2

Mandatory comments are required for this question.

8.2 If a loading computer or stability programme is in use, is it flag state or class approved?

If a flag state or class approved loading computer is not available, record in comments how stress and stability calculations are performed.

8.3 Are there records indicating that the operational accuracy of the load computer or stability programme is tested regularly?

At each survey, the loading instrument is to be checked for accuracy and the approved loading guidance information confirmed as being available on board. Class approved data should be used and the tests should be carried out in the presence of the attending surveyor. Regular on-board testing should also take place and records attesting to this should be maintained.

The test should involve physically entering the data for each tank into the computer and verifying the result. It is not acceptable to simply retrieve a stored test condition from the computer and compare this against the official conditions. Testing of non flag state or class approved stability programs should be checked as well, an example can be by checking the outcome of the calculated draught with the actual draughts or by making a manual stability calculation.

8.4 Is the stress and stability information included with the cargo plan and are any limitations understood by the cargo watch personnel?

Inspectors should determine that prior to transfer of cargo, calculations have been made for stress and stability conditions for the start, interim and completion of transfer conditions. Regular monitoring of stress and stability should be taking place throughout cargo transfer to ensure that the conditions have been maintained within design limits.

The proof of sufficient stability shall be shown for every operating, loading and ballast condition in the stability booklet, to be approved by the relevant classification society, which classes the vessel. If it is impractical to pre-calculate the operating, loading and ballast conditions, a loading instrument approved by the recognised classification society which classes the vessel shall be installed and used which contains the contents of the stability booklet.

For vessels complying with the additional requirements for double hull vessels;
- A damage-control plan;
- The documents concerning intact stability as well as all conditions of intact stability taken into account for the damaged stability calculation in a form the master understands. If the vessel is carrying deck cargo in to form of oil in drums or other packaged cargo, this should be taken into account in the stability calculations.

ADN9.3.1/2/3.13.3
ADN 8.1.2.2

8.5 If the cargo is required to be inhibited, is the information required for the inhibitor certificate available?

Care shall be taken to ensure that these cargoes are sufficiently protected to prevent deleterious chemical change at all times during the voyage. Ships carrying such cargoes shall be provided with a certificate of protection from the shipper and kept during the voyage, specifying:
- The name and amount of additive present;
- Whether the additive is oxygen dependent;
- Date the additive was put in the product and the duration of its effectiveness;
- Any temperature limitations qualifying the additive's effective lifetime; and
- The action to be taken should the length of the voyage exceed the effective lifetime of the additives.

Arrangements shall be made to ensure that the cargo is sufficiently stabilised in order to prevent a reaction at any time during carriage. The transport document shall contain the following additional particulars:
(a) Name and amount of inhibitor added;
(b) Date on which inhibitor was added and expected duration of effectiveness under normal conditions;
(c) Any temperature limits having an effect on the inhibitor.

When stabilisation is ensured solely by blanketing with an inert gas it is sufficient to mention the name of the inert gas used in the transport document.
When stabilisation is ensured by another measurement, e.g. the special purity of the substance, this measurement shall be mentioned in the transport document. ADN 3.2.3.1 Column (20)3)
While many of the liquefied gases are polymerisable (as indicated by a double bond in their molecular structure), cargo polymerisation difficulties only arise in practice in the case of butadiene, isoprene, ethylene oxide and vinyl chloride.
Polymerisation may be dangerous under some circumstances, but can be delayed or controlled by the addition of inhibitors.
Inhibitors can be toxic. Those most commonly used are hydroquinone (HQ) and tert-Butylcatechol (TBC). As will be noted, care should be taken when handling inhibitors and cargoes with inhibitor added.

IBC 15.13.3
ADN 3.2.3.1. column 20 (3)
ISGINTT 27.8)

8.6 Are legible and up to date pipeline and/or mimic diagrams available?

All barge types should have pipeline or mimic diagrams and should be available for the following where fitted:-
- Cargo systems
- Ballast Systems
- Inert gas Systems
- Venting systems
- Cargo tank washing systems

Piping for loading and unloading shall be clearly distinguishable from other piping, e.g. by means of colour marking.
A schematic drawing on which the cargo system is visualized should be available.

ADN 9.3.1/2/3.25.2

8.7 Are the dangers associated with co-mingling non-compatible cargoes in slop tanks and drip trays considered?

When residues of the previous cargo may cause dangerous reactions with the next cargo, any such residues shall be properly removed.

ADN 7.2.4.13.1

8.8 Are procedures in place for the efficient stripping (final draining) of tanks at the end of cargo discharge?

This must be described in the procedures of the technical operator and the crew members must be familiar with them.

8.9 Are procedures in place for changing cargo grades?

This must be described in the procedures of the technical operator and the crew members must be familiar with them.

8.10 If fitted, is the general condition of the cargo tank heating system satisfactory

State type of heating system fitted: e.g. Cargo boiler, coils, heat exchanger, or other.
Cargo tanks containing substances which are heated during transport shall be equipped with devices for measuring the temperature of the cargo.
Where a heating system is provided inside the cargo tanks, the heating coils shall be subjected to initial tests before being put into service and thereafter at prescribed intervals.
The cargo heating system shall be designed so that the cargo cannot penetrate into the boiler in the case of a leak in the heating coils.

ADN 7.2.3.42.2
ADN 9.3.2/3.23.1
ADN 9.3.2/3.42.1

Mandatory comments are required for this question.

8.11 Are procedures in place for gas freeing?

Records of operation should be maintained

Empty or unloaded cargo tanks having previously contained dangerous substances of Class 2 or Class 3, with classification code including the letter 'T', may only be gas freed by either competent persons or companies approved by the competent authority for that purpose.

Gas-freeing may be carried out only at the locations approved by the competent authority.

Gas-freeing of empty or unloaded cargo tanks having contained dangerous goods other than those referred to above maybe carried out while the vessel is underway or at locations approved by the competent authority by means of suitable venting equipment with the tank lids closed and by leading the gas/air mixtures through flame arrestors capable of withstanding steady burning.

Gas-freeing is, however prohibited within the area of locks including their lay-bys.

The inspector should also check if the mandatory ADN-checklist has been completed prior a degassing to a reception facility (ADN 8.6.4)

ADN 7.2.3.7.1 & 2
ISGINTT 2.5 & ch 11.4

8.12 Is the gas detection system of the pumproom operational?

If the barge is certified to carry non-volatile cargoes, it may have a pumproom but may not be required to have a gas detection system fitted, in this case answer the question NA.

The sensors of the gas detection system shall be set not more than 20% of the lower explosive limit of the substances allowed for carriage in the vessel.

When the gas detection system is activated, the loading and unloading operations shall be stopped immediately. All shut-off devices shall be closed and the cargo pump-rooms shall be evacuated immediately. All entrances shall be closed. The loading or unloading operations shall not be continued except when the damage has been repaired or the fault eliminated.

The gas detection system shall be maintained and calibrated in accordance with the instructions of the manufacturer.

The condition of the gas detection system shall be checked by a recognised classification society whenever the certificate of approval has to be renewed and during the third year of validity of the certificate of approval.

A service space located within the cargo area below deck shall not be used as a cargo pump-room for the loading and unloading system except where the cargo pump-room is provided with a permanent gas detection system which automatically indicates the presence of explosive gases or lack of oxygen by means of direct-measuring sensors and which actuates a visual and audible alarm when the gas concentration has reached 20% of the lower explosive limit.

ADN 7.2.2.6
ADN 7.2.3.6
ADN 7.2.3.2.2
ADN9.3.1/2/3.8.3
ADN 9.3.1/2/3.17.6

8.13 Are ventilation fan shut-down arrangements of the pumproom operational?

This question is one of the random equipment tests, at least 10 random questions should be answered during each inspection.

Any forced ventilation present in the room to be protected, shall switch off automatically if the fire-fighting system is triggered.

There shall be devices available with which all apertures which can allow air to enter or gas to escape from the room to be protected can be quickly closed. It shall be clearly recognisable whether they are open or closed.

8.14 If applicable, have satisfactory column/cofferdam purging routines been established where deep well pumps are fitted?

This SMS system of the operator must state that test must be carried out and reports must be available

8.15 Is an emergency cargo discharge system/method available?

A method of discharging the cargo in the event of cargo pump failure. A detailed procedure should be in place. Please note which method is used on board.

Mandatory comments are required for this question.

8.16 If required, are static electricity precautions being observed, and is a schedule with loading rates available?

Adherence to the latest ISGINTT or industry guidance addressing Static Electricity should be made.

Whenever a flammable atmosphere could potentially be present, the following measures must be taken to prevent electrostatic hazards:
- The bonding of metal objects to the metal structure of the tanker to eliminate the risk of spark discharges between metal objects that might be electrically insulated. This includes metallic components of any equipment used for dipping, ullaging and sampling.
- The removal from tanks or other hazardous areas of any loose conductive objects that cannot be bonded.
- Restricting the linear velocity of the cargo to a maximum of 1 metre per second at the individual tank inlets during the initial stages of loading, i.e. until:
a) the filling pipe and any other structure on the base of the tank has been submerged to twice the filling pipe diameter in order that all splashing and surface turbulence has ceased and
b) any water collected in the pipeline has been cleared. It is necessary to load at this restricted rate for a period of 30 minutes or until two pipeline volumes (i.e. from shore tank to ship's tank) have been loaded into the tank, whichever is the lesser.
- Continuing to restrict the product flow to a maximum of 1 m/s at the tank inlet for the whole operation unless the product is 'clean'. A 'clean' product, within this context, is defined as one which contains less than 0.5% by volume of free water or other immiscible liquid and less than 10 mg/l of suspended solids1.
- Avoiding splash filling by employing bottom entry using a fill pipe terminating close to the bottom of the tank.

The following additional precautions should be taken against static electricity during ullaging, dipping, gauging or sampling of static accumulator products:
- Banning the use of all metallic equipment for dipping, ullaging and sampling during loading and for 30 minutes after completion of loading. After the 30 minute waiting period, metallic equipment may be used for dipping, ullaging and sampling, but it must be effectively bonded and securely earthed to the structure of the tanker before it is introduced into the tank, and must remain earthed until after removal.
- Banning the use of all non-metallic containers of more than 1 litre capacity for dipping, ullaging and sampling during loading and for 30 minutes after completion of loading. (ISGINTT 3.2.1)

8.17 If multiple cargoes are being handled during the inspection, are signs placed at each cargo manifold, identifying the grade of cargo?

Are there markings or labels be placed at each manifold, tank hatch / valves etc. Are markings known by the crew?

8.18 If fitted, are cargo and vapour line expansion arrangements in a satisfactory condition?

8.19 If fitted, are liquid and vapour lines free to move inside their clamps?

8.20 Are relief valves fitted to the cargo pipeline system?

Check documentation for last test date. Valve may be tagged (stamped) with last test date. Verify seal has not been tampered with. The Gas Codes' best practice requires all pipelines which may be isolated, when full of liquid, to be provided with relief valves to allow for thermal expansion of the liquid. These valves usually exhaust back into cargo tanks. The relief valve must be fitted with a mechanism in order to prevent unintentionally closure.

ISGINTT 31.1.4

8.21 If a deck water spray system is installed, is it fully operational, tested, and are the inspection records up to date?

This question is one of the random equipment tests, at least 10 random questions should be answered during each inspection.

When water-spraying is required in column (9) of Table C Ch. 3.2, a water-spray system shall be installed in the cargo area on deck to enable gas emissions from loading to be precipitated and to cool the tops of cargo tanks by spraying water over the whole surface so as to avoid safely the activation of the high-velocity vent valve at 50 kPa (0.5 bar).

The system shall be capable of being put into operation from the wheelhouse and from the deck.
When tested during the inspection, check if all sprinklers are in good working order.

ADN 9.3.1/2/3.28

8.22 Is there an effective means of segregating the cargo system?

There should be an effective means of segregating multiple cargoes on board the vessel. These may include, but not be limited to double valve segregation, removable spool pieces with bolted blanks etc.

Familiarity with the use of chemical compatibility information. In cases where a reaction may occur between two chemicals there is a need to provide double separation in all aspects of the transfer and stowage of the products i.e. Suet Valve(Yo-yo). Mention in comments in which way separation of cargo lines take place.

Mandatory comments are required for this question.

8.23 Are the cargo pumps in the pumproom fitted with temperature sensors and are the sensors in good order?

Cargo pumps within a pumproom should be fitted with temperature sensors, deep well pumps may not be required to have temperature sensors.

8.24 Where fitted, is the cargo conditioning (reliquefaction) plant and associated machinery and instrumentation in good order?

The refrigeration system shall be composed of one or more units capable of keeping the pressure and temperature of the cargo at the upper limits of the ambient design temperatures at the prescribed level.

ADN 9.3.1.27.1

8.25 If fitted, is the compressor room/space well lit; are the light fittings suitable for use in gas-hazardous areas and are they in a satisfactory condition?

Only lighting appliances of the 'flame –proof enclosure' or 'apparatus protected by pressurisation' type shall be installed within the services spaces of the cargo area below deck (Zone 1)

ADN9.3.1.52.1

8.26 If fitted, is the motor room being maintained at a positive pressure?

8.27 If fitted, is the motor room access located in a gas-hazardous area, is it provided with an air-lock suitably alarmed to warn if both doors are opened at the same time?

In such cases, an air-lock suitably alarmed to warn if both doors are opened at the same time should be fitted. Airlocks and alarms should be in good order. If pressure in the air-lock is lost, the system should shut down.

8.28 Is the gas detection equipment in the motor room in a satisfactory condition?

The gas detection system shall be checked and inspected in accordance with the instructions of the manufacturer concerned by persons authorised for this purpose by the competent authority. A certificate concerning this inspection shall be carried on-board.
ADN8.1.6.3

8.29 Are fixed gas detection sample points fitted at the appropriate levels for the cargo being carried?

The sensors of this system shall be placed at suitable positions at the bottom and directly below deck.

ADN9.3.1.17.6

8.30 Are cargo compressors isolated from the cargo when carrying Propylene Oxide?

8.31 Are void space seals, where fitted, in a satisfactory condition?

External condition of void space seals should be checked at deck level.

8.32 Is there means of checking the void spaces are free of liquid?

Inspector must record the means of checking the void spaces in comments.

Mandatory comments are required for this question.

8.33 Is the oxygen and hydrocarbon content of the interbarrier spaces or void spaces regularly monitored and are the results recorded?

Inspector must record the frequency of testing in comments.

Mandatory comments are required for this question.

8.34 Are the P/V valves in good order?

This question is one of the random equipment tests, at least 10 random questions should be answered during each inspection.

The barge captain must be able to demonstrate that checks and maintenance as requested in the planned maintenance system checklist are performed. When the barge is re-classified from N-closed to N-open with flame arresters, the vapour recovery lines and pressure/vacuum valves must be blanked off or removed. Inspector must record the date of the last cleaning/inspection of the PV valves in comments.

ADN 9.3.X.22.4
ISGINTT 7.2.1

Mandatory comments are required for this question.

8.35 Are flame arrestors inspected and cleaned as part of a regular maintenance routine as stated in the operators SMS?

The barge captain must be able to demonstrate that checks and maintenance as requested in the planned maintenance system checklist are performed. When the barge is re-classified from N-closed to N-open with flame arresters, the vapour recovery lines and pressure/vacuum valves must be blanked off or removed.

ADN 9.3.X.22.4
ISGINTT 7.2.1

8.36 If an inert gas system is fitted, and is in use, is it operating satisfactorily?

The Inert Gas System including instrumentation, alarms, trips, pressure and oxygen recorders should be operational. Inert gas supply from the Inert gas generator should be less than 5% oxygen, and the inert gas in the cargo tanks should be less than 8% oxygen. Inert gas may be produced by either flue gas, Inert gas generator or by either bottled nitrogen or from Nitrogen generator.

In cases in which the inerting or blanketing of the cargo is prescribed, the vessel shall be equipped with an inerting system. This system shall be capable of maintaining a permanent minimum pressure of 7 kPa (0.07 bar) in the spaces to be inerted. In addition, the inerting system shall not increase the pressure in the cargo tank to a pressure greater than that at which the pressure valve is regulated. The set pressure of the vacuum-relief valve shall be 3.5 kPa (0.035 bar).

ADN 9.3.1/2/3.18

8.37 If applicable, is a log kept of inert gas operations?

8.38 Is an operator's policy provided in case of failure of the inert gas system and do the crew members standing cargo watches understand this?

In the event that the inert gas system fails to deliver the required quality and quantity of inert gas, or to maintain a positive pressure in the cargo tanks, action must be taken immediately to prevent any air being drawn into the tanks. All cargo and or ballast discharge from inerted tanks must be stopped, the inert gas deck isolating valve closed, the vent valve between it and the gas pressure regulating valve (if provided) opened, and immediate action taken to repair the inert gas system.

Tanker Masters are reminded that national and local regulations may require the failure of an inert gas system to be reported to the harbour authority, terminal operator and to the port and flag state administrations.

ISGINTT 7.1.12.1

8.39 If fitted, are nitrogen systems and associated pipework in a satisfactory condition?

Nitrogen may be provided from either a nitrogen generator or bottled form to provide padding.

8.40 Has a safety checklist been completed prior commencing cargo operations and is it available for review?

The inspector shall confirm that the safety checklist has been filled out by both parties and all data has been filled out correctly, prior to the start of loading or discharge operations.

In case ISGINTT barge/shore checklist is in use, inspector shall check if repetitive checks were done as agreed and shall note the frequency of the repetitive checks and duration of cargo operation. In case ISGINTT barge/barge/ship checklist is in use, inspector shall check if the operational agreement was made and if repetitive checks were done as agreed.

The inspector shall note the frequency of the repetitive checks and duration of cargo operation
In case the barge is not loading or discharging during the inspection the inspector shall ask for the safety checklist of the previous voyage.

ISGINTT 26 & ADN 8.6.3

Mandatory comments are required for this question.

8.41 Are cargo hoses, gaskets, pumps, filters, tank lid seals, valves and expansion bellows free of any visible damage?

8.42 Is the barge emergency shutdown (ESD) system ready for use?

An ESD system is one which enables remote stopping of the discharge pump(s) and the automatic closure of discharge valve and/or the manifold valve on board.

ISGINTT 31.1.3
ADN 7.2.2.21 (Class 2 and UN 1280 & 2983)

8.43 Is the emergency shutdown (ESD) system for the barge's cargo pumps ready for use?

During loading: If provided with a shut down system, cargo tank high level sensors are installed in each cargo tank. When activated, they should give a visual and audible alarm on board and at the same time actuate an electrical contact which in the form of a binary signal interrupts the electric current loop provided and fed by the shore facility, thus initiating measures at the shore facility against overflowing during loading operations. The signal should be transmitted to the shore facility via a watertight two-pin plug of a connector device in accordance with (e.g.) standard EN 60309-2 : 1999 for direct current of 40 to 50 volts, identification colour white, position of the nose 10 h. The plug should be permanently fitted to the tanker close to the manifold position.
The high level sensor should also have the capability of shutting down the tanker's pumps when discharging. It is recommended that the high level sensor is independent of the level alarm device.

During discharging: During discharging by means of the on-board pump, a shut down system will make it possible for the shore facility to shut down the tanker's pumps. For this purpose, an independent intrinsically safe circuit, fed by the vessel, is switched off by the shore facility by means of an electrical contact. It should be possible for the binary signal of the shore facility to be transmitted via a watertight two-pole socket or a connector device in accordance with (e.g.) standard EN 60309-2 : 1999, for direct current of 40 to 50 volts, identification colour white, position of the nose 10 h. This socket should be permanently fitted to the vessel close to the shore connections of the transfer system.

ADN 9.3.X.21.5
ISGINTT 11.1.6.3

8.44 Can the barge ESD system be linked to the shore shut down system?

The Overfill Prevention System must be regularly checked

ADN 7.2.2.21

8.45 If installed, can the ESD system for the barge's cargo pumps be linked to shore shut down system?

The high level sensor referred to in 9.3.1/2/3.21.1 (d) shall give a visual and audible alarm on-board and at the same time actuate an electrical contact which in the form of a binary signal interrupts the electric current loop provided and fed by the shore facility, thus initiating measures at the shore facility against overflowing during loading operations.

ADN 9.3.1/2/3.21.5 (a)
ISGINTT 11.1.6.3

8.46 Is a written loading and discharging plan available?

The written loading and discharging plan must describe beside the cargo particulars, how cargo handling operations and ballast operation sequential have to be performed. This plan must be available to the crew.
All cargo operations should be carefully planned and documented well in advance of their execution. The details of the plans should be discussed with all personnel, both on the tanker and at the terminal. Plans may need to be modified following consultation with the terminal and following changing circumstances, either on board or ashore. Any changes should be formally recorded and brought to the attention of all personnel involved with the operation.

ADN 7.2.4.11.2 & 8.1.2.1
ISGINTT 22.5

8.47 Does the loading and discharging plan include: viscosity

ISGINTT 11 & 22.5 & 22.6 / ADN 7.2.4.11.2 & 8.1.2.1

8.48 Does the loading and discharging plan include: melting point

ISGINTT 11 & 22.5 & 22.6 / ADN 7.2.4.11.2 & 8.1.2.1

8.49 Does the loading and discharging plan include: liquid density

ISGINTT 11 & 22.5 & 22.6 / ADN 7.2.4.11.2 & 8.1.2.1

8.50 Does the loading and discharging plan include: vapour density

ISGINTT 11 & 22.5 & 22.6 / ADN 7.2.4.11.2 & 8.1.2.1

8.51 Does the loading and discharging plan include: tank filling limits

ISGINTT 11 & 22.5 & 22.6 / ADN 7.2.4.11.2 & 8.1.2.1

8.52 Does the loading and discharging plan include: inhibitor requirements

ISGINTT 11 & 22.5 & 22.6 / ADN 7.2.4.11.2 & 8.1.2.1

8.53 Does the loading and discharging plan include: load discharge sequence

ISGINTT 11 & 22.5 & 22.6 / ADN 7.2.4.11.2 & 8.1.2.1

8.54 Does the loading and discharging plan include: ballasting - deballasting sequence

ISGINTT 11 & 22.5 & 22.6 / ADN 7.2.4.11.2 & 8.1.2.1

8.55 Does the crew understand the relationship between tank filling limits and cargo temperature (and pressure on ADN type Gas)?

ADN 8.2.1.
ADN 7.2.4.21

8.56 Are the cargo tank pressure and vacuum alarms and gauges fully operational, checked and maintained according to the barge's SMS system?

Record N/A for those barges for which ADN does not require these alarms.

9.3.2.21.1 Cargo tanks shall be provided with the following equipment:
e) an instrument for measuring the pressure of the vapour phase inside the cargo tank.

9.3.2. 21.3 Permanent reading of the overpressure and vacuum shall be possible from a location form which loading or unloading may be interrupted. The permissible maximum overpressure and vacuum shall be marked on each level gauge. Readings shall be possible in all weather conditions.

9.3.2.21.7 When the pressure or temperature exceeds a set value, instruments for measuring the vacuum or overpressure of the gaseous phase in the cargo tank or the temperature of the cargo shall activate a visual and audible alarm in the wheelhouse and on deck. The alarm must be relayed to the accommodation automatically if it has not been switched off. The instrument for measuring the overpressure or vacuum shall activate the alarm at latest when;
a)An overpressure equal to 1.15 times the opening pressure of the pressure relief valves/high velocity vent valves is reached; or
b)The lower threshold of the design pressure of the vacuum valves, but not exceeding a vacuum of 5kPa (0,05 bar) is reached.

When it is prescribed in column 20 of Table C of Chapter 3.2, the instrument for measuring the overpressure of the gaseous phase in the cargo tank a visible and audible alarm in the wheelhouse when the overpressure exceeds 40 kPa (0,4 bar) during the voyage. The alarm must be relayed to the accommodation automatically if it has not been switched off. It shall be possible to read the gauges in direct proximity to the control for the water spray system.

There are different types of over and under pressure alarms testing. Therefore check what is prescribed in the SMS system of the operator
- There are systems in which a separate wheel (tool) is used that can be used to adjust the maximum over- and under-pressure. In this way the alarms are tested while not increasing or decreasing the pressure in the cargo tanks;
- There are also systems in which the over- and under-pressure alarms are tested by manipulating the alarm settings in the vessel work computer. In this way the alarms are tested while not increasing or decreasing the pressure in the cargo tanks;
- There are systems that tests itself every 5 seconds, no alarm is raised and therefore there is no physical alarm observed. As soon as the (software) testing sequence detects a fault in the system an alarm is raised, which is reflected in the alarm page of the computer.

Note: All these alarm testing are only testing the alarm settings. The testing of the sensors is done separately during Special Survey.
ADN 9.3.2.21.1
ADN 9.3.2.21.3
ADN 9.3.2.21.7

8.57 Are pressure gauges on cargo lines fully operational?

ADN 9.3.X.25.7 The piping for loading and unloading shall be fitted with pressure gauges at the outlet of the pumps. The permissible maximum overpressure or vacuum value shall be indicated on each measuring device. Reading shall be possible in all weather conditions.

8.58 Are the ballast and cargo systems free of any fixed connections between them?

In case ballast has to be loaded /unloaded a removable connection might be there.

The barges permanently carrying ballast in specified cargo tanks must have a ballast system, which is totally separated from the cargo system. Besides that attention must be paid to the compatibility of the cargo carried compared to ballast water.

Those barges carrying cargo and ballast in turn must have a flexible/removable link. It must be disconnected during cargo operations and internal cargo transfer.

ADN 7.2.3.25.

8.59 Are all deck lines clearly indicated?

To ensure the unambiguous recognition of pipes on the deck of tankers, the recommended colour coding as per Standards ISO 14726-1 and ISO 14726-2 should be followed:

Fire extinguishing pipes Red,
Drinking water pipes Blue,
Ballast pipes Green,
Fuel Lines Brown,
Steam heating pipes Gray,
Vapor return Pipes Yellow,
Breathing air ducts (for humans) Grey / White / Grey,
Working air pipes (not for humans) Grey/Orange/Grey,
Hydraulic pipes Orange

2. The colour coding can be carried out in different ways:
(a) on the pipe with a coloured self-adhesive band, or;
(b) with dyed colour stripes, or;
(c) by colouring (painting) the pipes along the entire length

Piping for loading and unloading shall be clearly distinguishable from other piping, e.g. by means of colour marking. To guard against the possible misconnection of the tanker's vapour manifold to a terminal liquid loading line, the vapour connection should be clearly identified. Pipes for loading and unloading shall be clearly distinguishable from other piping, e.g. by means of colour marking.

ADN 9.3.x.25.2.c
ISGINTT 11.1.13.2

8.60 Are records indicating inspection of tank coatings and/or stainless steel tanks available?

In case tanks are not coated or not stainless steel, N/A should be selected. Stainless steel tanks must be passivated on a regular basis.
Passivation is a process which is realized using a certain acid to create a protecting surface to prevent oxidizing.
The Inspector should note the inspection intervals in other inspector comments.

8.61 Are written procedures for treatment of crystalizing substances available?

ADN table C column 20 makes reference to remark 6 for those substances that may crystalize and for substances for which a heating system or possibility is required and the vapour pressure of which at 20 degrees Celsius is greater than 0.1 kPa.

8.62 Are procedures concerning ballasting of wing tanks and double bottoms with loaded cargo tanks available and are the crew aware of these procedures?

The ballasting procedure contains the following subjects:
• the compatibility of the cargo with water
• the temperature sensitivity to the cargo
• the ullaging of the ballast tanks and compartments
• the ballasting of cargo tanks

ADN 7.2.3.20
ISGINTT 11.6

8.63 Can the cargo vapour return system be totally segregated?

Familiarity with the use of chemical compatibility information. In cases where a reaction may occur between two chemicals there is a need to provide double separation in all aspects of the transfer and stowage of the products i.e. Suet Valve(Yo-yo). Mention in comments in which way double separation of cargo vapour return lines take place.

ISGINTT 7.2 & 7.3

8.64 Is a pressure gauge available to be used outboard of the manifold valve(s) during cargo operations?

A pressure gauge must be available on all manifolds in use during cargo operations and fitted before connecting and removed only after disconnecting. The pressure gauge must be available during the entire cargo operation, and fitted during connecting and disconnecting. During inspections when the barge is laying idle this question must be answered Yes when a portable pressure gauge is available. The inspector must note if the pressure gauge is portable or fixed.

ISGINTT 24.6.3

Mandatory comments are required for this question.

8.65 If fitted, are emergency stops for cargo pumps operable from the wheelhouse or cargo control room?

8.66 If fitted, are emergency stops for cargo pumps tested before every discharge?

8.67 Is a new appropriate and product related gasket used for every transfer?

ADN 8.6.3 question 6.2

8.68 Are the cargo tank levels marked on the sample connections?

8.69 Are low spark tools for use in the cargo area in good condition?

ADN 8.3.5
ISGINTT 4.5.2

8.70 Are procedures available to prevent overpressure of the cargo tanks when the full effective vapour pressure at ambient temperature of the cargo is larger than the maximum permitted working pressure?

ADN 9.3.X.24.1

8.71 Is a table available giving the relationship between holding time and filling conditions when the full effective vapour pressure at ambient temperature of the cargo is larger than the maximum permitted working pressure?

Only for LNG (CO2 or Ethylene) without a cooling system on board.
ADN 7.2.4.16.16 and ADN 7.2.4.16.17

8.72 If fitted, can the LNG Bunker Transfer system Emergency Shut Down system be linked to the receiving vessel through a standardised bi-directional link?

ISO 20519-2017 ch 5.4.2

8.73 If fitted, is the LNG Bunker Transfer system equipped with a Emergency Release System, is this equipment checked periodically and are there procedures in place to recover the equipment remaining on the receiving vessel in case of release?

ISO 20519-2017 ch5.4

8.74 Is the cargo tank level gauging system operational?

This question is one of the random equipment tests, at least 10 random questions should be answered during each inspection.

ADN 9.3.X.21.1.b
ADN 9.3.X.21.3

8.75 Are cargo tank level gauging system tests recorded?

Checks must be recorded. The tank level gauging system must be checked by the policy of the technical operator by comparison with the actual level of the tank. Inspector should note the frequency and date of last check.

ADN 9.3.X.21.1.b
ADN 9.3.X.21.3

Mandatory comments are required for this question.

8.76 Is the cargo tank level alarm system operational?

This question is one of the random equipment tests, at least 10 random questions should be answered during each inspection.

ADN 9.3.X.21.1.c. / Cargo tanks shall be provided with the following equipment: c) a level alarm device which is activated at the latest when the degree of filling of 86% is reached.

ADN 9.3.X.21.1.) a high level sensor for actuating the facility against overflowing at the latest when a degree of filling of 97.5% is reached.

ADN 9.3.X.21.4+5+6

8.77 Are cargo tank level alarm system tests recorded?

The registration must be implemented in the monthly check lists.

8.78 Are checks on local cargo tank thermometers recorded?

The fixed cargo tank thermometers as well as the portable cargo thermometers must be checked. Fixed cargo tank thermometers can be compared with each other and with shore temperature read out or cargo surveyor temperature read out. Portable thermometers can be checked with shore temperature read out or cargo surveyor temperature read out. Check records. There should be company procedures which describes the thermometer read out tolerances. Inspector should note the frequency and date of last check.

Mandatory comments are required for this question.

8.79 Are cargo compressors in good working order?

8.80 Are cargo and stripping pumps in good working order?

8.81 If required, are the crew aware of the cargo heating/cooling requirements?

Solidifying and high viscosity cargoes may be temperature critical. Therefore regular checking of product temperature and control is necessary to maintain the product within its temperature tolerance levels. This question can be answered 'NA' if the barge did not transport heated or cooled cargo in the past 12 months or only carries out very short voyages due to which it is not necessary to record temperatures.

8.82 If required, are the temperatures of a heated/cooled cargo regularly recorded during the voyage?

This question can be answered 'NA' if the barge did not transport heated or cooled cargo in the past 12 months or only carries out very short voyages due to which it is not necessary to record temperatures.

8.83 Is the crew familiar with the procedure of authorisation for changing settings and inhibiting alarms?

The procedure of the technical operator should include how the crew receives authorisation of for example overriding the overflow control system, and resetting the system after the operation is completed.

Testing cargo tank overpressure- and vacuum alarm including resetting the system after the testing is completed.

8.99 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 questions in the Chapter, the Inspector should include such additional comments in this section.

This section must not be used to record negative observations.

Mooring

Mooring

9.1 Is the barge effectively moored?

A mooring/unmooring plan and/or procedure should be provided. Generally mooring lines of the same size and type (material) should be used for all leads. Mooring lines should be arranged so that all lines in the same service are about the same length between the ship and the shore bollard. The mooring arrangement in use for the port and its effectiveness should be reviewed. Breast lines provide the bulk of transverse restraint, back springs the longitudinal. Headlines and stern lines contribute much less to the mooring strength than is commonly supposed.

Barge shall be moored securely, but in such a way that electrical power cables and hose assemblies are not subject to tensile strain and the vessels can be released quickly in an emergency.

During loading and unloading operations, the barge may be moored by means of synthetic ropes only when steel cables are used to prevent the vessel from going adrift. Steel cables sheathed in synthetic material or natural fibers are considered as equivalent when the minimum tensile strength is obtained from the steel strands.

Mooring lines should (preferably) all be of the same material and construction. Ropes with low elastic elongation properties are recommended for all tankers, as they limit the tanker's movement at the berth.

MEG 1.5
ADN 7.2.5.3
ADN 7.2.4.76
ISGINTT 23.4.1

9.2 Are records of the inspection and maintenance of mooring ropes, wires and equipment and certificates available?

Records of the inspection and maintenance of mooring ropes, wires and equipment must be available and must be recorded in the vessel's planned maintenance system.

9.3 Are pedestal fairleads, roller fairleads, and other mooring system rollers well greased and free to turn, and are bitts and chocks free of grooving?

Rollers should be free to turn and evidence of rope, wire or corrosion noted. Inspectors should note whether the design of the fairlead is suitable for the vessel and its trade.

Evidence of wasting due to corrosion should be noted. Typical design features of both barges and small bunker vessels are open fairleads. This design can lead to moorings leading upwards and jumping out of the leads. This problem is particularly evident where small vessels may lie alongside larger ships for bunkering and also in areas of a large tidal range. Dumb barges and some small bunker type barges may not be fitted with powered winches or anchoring systems, therefore particular attention should be paid to the effectiveness of moorings and condition of equipment.

ES-TRIN Annex 3 - entry 39

9.4 If fitted, are the winches/capstans that are employed for mooring in a satisfactory condition?

Good condition means well greased, no rust, foundation in good shape, lines correct on winch drum (pay attention to the fastening clamps). Clutch couplings of winches have to be released after mooring operations.

ISGINTT 23

9.5 If fitted, are windlasses, anchors, locking bars and cables in satisfactory condition and operating effectively?

The minimum masses and minimum breaking loads required for the required number of anchors and chains are entered in the inland navigation vessel certificate - items 37 and 38.

On anchors their mass shall be indicated in characters which stand out in relief in a durable manner.

Anchors having a mass in excess of 50 kg shall be equipped with windlasses.

The use of wire cables instead of anchor chains is permitted. The cables shall have the same breaking load as that required for chains, but shall be 20 % longer.

On board vessels and convoys whose wheelhouse has been designed for radar navigation by one person and exceeding 86 m in length or 22,90 m in breadth it shall be possible for the helmsman to drop the stern anchors from his position.

Anchors shall be in the fully raised position unless they are used.

If fitted, condition of the locking bars should be checked to ascertain that they function correctly by locking the chain when the vessel is at anchor to prevent the brake having to take the full load of the cable.

All maintenance and inspection records should be included in the vessel's planned maintenance system

ES-TRIN 13.01
ES-TRIN 7.11
CEVNI Article 1.12.2

9.6 Are mooring lines secured to bitts and turned up correctly?

The recommended method of turning a rope up on bitts is to take one or two full turns around the leading post before 'figure-of-eighting'. The reason for this is to reduce the tendency to pull the two posts together.

Mooring lines must not be secured to winch/capstan warping drums.

MEG 8.2

9.7 If fitted, are all powered mooring lines correctly reeled on drums, secured on brakes and winches out of gear?

A band brake is designed to work in one direction only, so the line must always be reeled correctly onto the drum. Each arrangement should be assessed on a case-by-case basis with reference to the manufacturer's guidance. With lines correctly reeled, tension on the line should be in a direction that causes the free end of the band to be forced towards the fixed end, thereby forcing the two halves of the band together.

Winches should never be left in gear with the mooring winch band brake on. Hydraulic or electric drives can suffer severe damage should the brake render. Mooring drums should always be left disconnected from the winch drive whenever the mooring line is tensioned, and the band brake is fully applied. Once the mooring lines are secured to the shore, the mooring winch clutches should be dis-engaged, in order to permit release of the moorings in an emergency, for example, a fire rendering electrical systems inoperative. Because of design changes by winch manufacturers, previous guidance used to determine the correct reeling direction of mooring lines on winch drums - that the fixed end of the brake band is under tension - is not valid in all cases.

MEG 6.3.4.2
ISGINTT 23.4.2.1

9.8 If fitted, on split drum winches are all the lines made fast with no more than one layer on each tension side of the drum?

More than one layer increases the effective lever and reduces the brake holding capacity.

The holding capacity of a winch brake is in inverse proportion to the number of layers of the mooring wire or rope on the drum. The designed holding capacity is usually calculated with reference to the first layer and there is a reduction in the holding capacity for each additional layer. This can be substantial - as much as an 11% reduction for the second layer.

If the rated brake holding capacity of a split drum winch is not to be reduced only one layer should be permitted on the working drum.

MEG 7.5.1
ISGINTT 23.4.2.3

9.9 Are all mooring ropes/lines stowed neatly to minimise tripping hazards and are mooring areas clear and unobstructed?

The Inspector should pay attention to all mooring lines/ropes whether they are in use or not is use. Spare ropes must be stored in the lockers or in the baskets on deck.

9.10 If fitted, do mooring winch foundations appear to be in a satisfactory condition?

9.11 If fitted do brake linings, drums and pins appear to be in good order?

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.

If there is significant wear on the brake linings, the brake adjustment screw may be at the limit of its travel and further tightening not possible.

9.12 Have snap back zones been identified and are all crewmembers aware of the risks associated with these areas during mooring operations?

Mooring operations are potentially a hazardous operation, and all involved should be aware of the hazards, particularly the hazard of 'snap-back'.

Permanently marking snap-back danger zones on the deck is not recommended. Although there are areas of increased snap-back risk, it is not possible to accurately calculate the whole range of snap-back danger zones needed to ensure personnel are safe. Marking snap-back danger zones creates a false sense of safety for personnel standing outside of a marked danger zone.

Instead it is recommended that the entire area of the mooring deck is considered and area of elevated risk, particularly from snap-back, and that personnel are made aware when they are entering this elevated risk area. It is recommended that mooring decks are marked, e.g. using ropes, barricades and signs, to make sure personnel entering this area are made aware of the risks. (MEG 5.2.5.2)

9.13 Are the operating systems for mooring winches provided with a failsafe system?

This question is one of the random equipment tests, at least 10 random questions should be answered during each inspection.

Winches should fitted with a failsafe mechanism for operating the winch, whereby release of the operating controls will result in the winch stopping. If vessel is not provided with a failsafe system, then an emergency stop should be provided.

9.14 Are mooring ropes and wires in a satisfactory condition?

The ropes used must have satisfactory eyes and splices. They must not be buckled and/or badly worn. Verify if the breaking strength as mentioned in Ship's Certificate or Community Inland Navigation Certificate. Recently Purchased ropes and steel wires should be accompanied by a certificate in which is mentioned among other things the diameter and breaking strength. It's acceptable if a mooring wire has a new eye. Report in the comments if a mooring wire do have a longitudinal splice and the cause/reason of the longitudinal splice.

Wires must be free of any flesh hooks.

All mooring ropes, wires and tails should be received with either individual certificates or, if part of a batch a certificate of conformity. A file showing the locations of the winches should be maintained. Test certificates for mooring lines, Mandel/Tonsberg shackles and synthetic tails should be kept in a file clearly showing to which winch each particular component has been fitted.

It is recommended that on receipt, all ropes, wires and tails be permanently marked so that positive identification with their corresponding certificate can be made. Records should be kept of date placed in use, inspections, and any maintenance.
Vessels shall be equipped with at least 3 mooring cables. Their minimum lengths and breaking loads are described the inland navigation vessel certificate - item 39.

For the required cables a certificate in accordance with European standard EN 10204:1991 2004 , under No 3.1, shall be on board.

These cables may be replaced by ropes having the same length and tensile strength. The minimum tensile strength of these ropes shall be indicated in a certificate.
Standard synthetic fiber ropes will deteriorate more rapidly than steel wires or high modulus synthetic fiber ropes. All ropes and wires should be inspected on a regular basis and replaced when there are signs of damage.

Records of the inspection and maintenance of mooring ropes, wires and equipment must be available and must be recorded in the vessel's planned maintenance system.

MEG 6.1.4
ISGINTT 23.4.1
ES-TRIM 13.02.2 (a)

Mandatory comments are required for this question.

9.15 Is the anchoring equipment in good condition?

This question is one of the random equipment tests, at least 10 random questions should be answered during each inspection.

The minimum masses and minimum breaking loads required for the required number of anchors and chains are entered in the inland navigation vessel certificate - items 37 and 38.

On anchors their mass shall be indicated in characters which stand out in relief in a durable manner.

Anchors having a mass in excess of 50 kg shall be equipped with windlasses.

The use of wire cables instead of anchor chains is permitted. The cables shall have the same breaking load as that required for chains, but shall be 20 % longer.

On board vessels and convoys whose wheelhouse has been designed for radar navigation by one person and exceeding 86 m in length or 22,90 m in breadth it shall be possible for the helmsman to drop the stern anchors from his position.
Anchors shall be in the fully raised position unless they are used.

If fitted, condition of the locking bars should be checked to ascertain that they function correctly by locking the chain when the vessel is at anchor to prevent the brake having to take the full load of the cable.
All maintenance and inspection records should be included in the vessel's planned maintenance system.

ES-TRIN 13.01
ES-TRIN 7.11
CEVNI Article 1.12.2

9.16 If installed, are cranes and/or hose handling booms certified and in good condition?

This question is one of the random equipment tests, at least 10 random questions should be answered during each inspection.

A manufacturer's plate shall be affixed to cranes:

The maximum permissible loadings shall be permanently marked in a clearly legible manner on cranes.
Where a crane's safe working load does not exceed 2 000 kg it will be sufficient if the safe working load at the maximum reach is permanently marked in a clearly legible manner on the crane.
It shall be possible to protect power driven cranes against unauthorised use. It shall only be possible to start these up from the crane's driving position. The control shall be of the automatic-return type (buttons without stops); their operating direction shall be unambiguously clear.

Cranes shall be checked regularly and in any case at least every 12 months, by an expert. During that inspection the safe working condition of the crane shall be determined by a visual check and an operating check. Cranes shall be re-inspected after any major modification or repair. Every 10 years, at the latest, after the acceptance test the crane shall again be inspected by an expert recognised by the inspection body.

The crane's manufacturer operating instructions shall be kept on board.

It should be ensured that all maintenance of cranes and/or hose handling booms are carried out in accordance with manufacturer's guidelines. Routine checks should be included within the tanker's planned maintenance system. All records of tests and inspections should be recorded.

Cranes should only be operated by personnel who are trained and proven to be competent in its operation.

ISGINTT 8.3.2
ES-TRIN 14.12

9.17 Is hoisting equipment approved and in good condition?

Hoisting equipment includes hoisting slings, chain tackle, blocks, wires and other small cargo gear. Hoisting equipment must be inspected visually by the crew each year.

These inspections must be recorded in the barge's PMS.

9.99 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 questions in the Chapter, the Inspector should include such additional comments in this section.

This section must not be used to record negative observations.

Towing and pushing vessels

Towing and pushing vessels

10.1 If required, is the barge provided with a towing/coupling procedure including a plan?

ES-TRIN Chapter 21

10.2 If engaged in towing/pushing operations, is the equipment provided, sufficient to handle the tow/push?

If engaged in towing/pushing operations, the towing/pushing equipment, winches, hawsers and bridles should be in good condition and comparable with the tugs horsepower. Tugs shall be equipped with a number of cables that are suitable for their operation. However, the main cable shall be at least 100 m long and have a tensile strength, in kN, not less than one third of the total power, in kW, of the main engine(s).

Motor tankers and pushers that are also able to tow shall be equipped with a towing cable that is at least 100 m long and whose tensile strength, in kN, is not less than one quarter of the total power, in kW, of the main engine(s). Tugging and towing craft shall be fitted with a tow hook which shall be capable of being released safely from the wheelhouse; this shall not apply if the design or other fittings prevent capsizing. Towing devices shall consist of winches or a tow hook. The towing devices shall be located ahead of the propeller plane. This requirement shall not apply to craft that are steered by their propulsion units such as rudder propellers or cycloidal propellers. Winches shall be fitted with devices that prevent unintentional load release. Winches that do not lock automatically shall be fitted with a brake that is adequate to deal with their tractive force. Hand-operated winches shall be fitted with devices to prevent kickback of the crank. Winches that are both power- and manually driven shall be designed in such a way that the motive-power control cannot actuate the manual control.

ES-TRIN 13.02.3(b)
ES-TRIN 21.05.1 (b)
ES-TRIN 21.05.1 (c)
ES-TRIN 14.11

10.3 Do personnel demonstrate evidence of training in towing/pushing operations and emergency procedures?

Procedures should include the use of emergency wires, stabilising the push/tow in emergency situations.

10.4 If fitted, do personnel demonstrate evidence of effective training and familiarity with the operation of the tow/coupling winch?

10.5 If fitted, does the tow/coupling wire arrangement appear to be in satisfactory condition?

If the craft are joined together with cables the pusher craft shall be equipped with a t least two special winches or equivalent coupling devices for tensioning the cables.

ES-TRIN 21.01.2

10.6 If fitted, does are the tow/coupling connections between tugs to barges and between barges being maintained in a satisfactory condition?

The coupling devices shall enable a rigid assembly to be formed with the pushed craft.
Where convoys consist of a pusher craft and a single pushed craft the coupling devices may permit controlled articulation.
The necessary drive units shall easily absorb the forces to be transmitted and shall be capable of being controlled easily and safely.

ES-TRIN 6.02 to 6.04 shall apply mutatis mutandis to such drive units. (Steering apparatus drive unit; Hydraulic steering apparatus drive unit; Power source)
ES-TRIN 21.01.3

10.7 If fitted, does is a manufacturer's certificate provided for the towing wire(s)/coupling wire(s) on board?

Certificates will be provided for towing wires carried on tugs.

10.8 If fitted, does is a spare towing wire/coupling wire or hawser on board?

10.9 If fitted, does is the towing/coupling winch in a satisfactory condition and does it show evidence of proper maintenance?

Evidence of maintenance and inspection should be recorded in the vessel's maintenance system

10.10 If fitted, does is a record of inspection of the towing/coupling wire maintained?

Evidence of maintenance and inspection should be recorded in the vessel's maintenance system

10.11 If fitted, does is the towing/coupling arrangement protected from chafing at the deck edge?

10.12 If fitted, does the operator have a policy/procedure regarding retirement criteria for towing/coupling wires?

The Inspector shall note the retirement criteria in the Inspector comments.
Mandatory comments are required for this question.

10.13 If fitted, are electrical/communication connections between tug and barge in good order?

There could be connections between the pushed craft and the pusher craft for:

- Electricity
- Navigational equipment (e.g. lighting, radar, CCTV)
- Bow thruster and/or other steering aid systems
- Potable water systems
- Fire fighting and/or deck wash system
- Hydraulic connections

Special attention should be given to electrical plugs and sockets, cables, hoses, drip trays underneath connections.
Each connection point must be labeled for his purpose

10.99 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 questions in the Chapter, the Inspector should include such additional comments in this section.

This section must not be used to record negative observations.

Machinery Spaces

Machinery Spaces

11.1 Is a planned maintenance system being followed, and is it up to date?

The planning for the technical maintenance should also include the critical equipment, with maintenance tasks and frequencies.

11.2 Is all loose gear in the machinery spaces, stores and steering compartment properly secured?

Pay extra attention to material which is stored above 1.5 m this must be secured to prevent from falling.

11.3 Is all machinery provided with effective guards?

All rotating machinery should be fitted with adequate guards. Any hot/cold surface should be provided with adequate insulation.

11.4 Are the entrances to the engine room(s) and emergency escape exits clearly marked, unobstructed and adequately lit?

This question is one of the random equipment tests, at least 10 random questions should be answered during each inspection.

Spot check that escape hatches work properly. Lighting includes emergency lighting. Photoluminescence signage is optional on non -SOLAS class vessel.

1. The number, arrangement and dimensions of exits, including emergency exits, shall be in keeping with the purpose and dimensions of the relevant space (Machinery spaces smaller than 35 m2 need only one entrance which also is the emergency exit). Where one of the exits is an emergency exit, it shall be clearly marked as such.
2. Emergency exits or windows or the covers of skylights to be used as emergency exits shall have a clear opening of not less than 0.36 m2, and the smallest dimension shall be not less than 0.50 m.

ES-TRIN Art. 14.06
SOLAS Reg. II-2/13.1
ES-TRIN article 3.04 item 5 & 6 and article 14.06

11.5 Are all tanks and drums associated with the machinery space clearly labelled?

Filling connections should also be clearly labelled.

11.6 Are bunker tanks provided with an overfill protection system and is the system fully operational?

An overfill protection system should be provided and operational for loading bunkers and also for internal transfers. (Bunkers are defined as fuel used in main and auxiliary engines).

(a) Fuel tanks shall be safeguarded against fuel spills during bunkering by means of appropriate on-board technical devices which shall be entered in item 52 of the Community certificate.
(b) If fuel is taken on from bunkering stations with their own technical devices to prevent fuel spills on board during bunkering, the equipment requirements in (a) no longer apply.

If fuel tanks are fitted with an automatic shut-off device, the sensors shall stop fueling when the tank is 97 % full; this equipment shall meet the 'failsafe' requirements.

ES-TRIN Article 8.05.11

11.7 Are monthly tests and checks carried out and recorded for fuel emergency stop(s)?

Generally the answer is only "YES" if the tests have been carried out and have been documented. Directly at tank outlets the pipework for the distribution of fuels shall be fitted with a quick-closing valve that can be operated from the deck, even when the rooms in question are closed.

If the operating device is concealed, the lid or cover shall not be lockable.

The operating device shall be marked in red. If the device is concealed it shall be marked with a symbol for the 'quick-closing valve on the tank' in accordance with Figure 9 of Annex 4 with a side length of at least 10 cm.
The first subparagraph shall not apply to fuel tanks mounted directly on the engine.

ES-TRIN Art. 8.05.7

11.8 Are monthly tests and checks carried out and recorded for cargo boiler fuel emergency stops?

Generally the answer is only 'YES' if the tests have been carried out and have been documented.

Emergency stop cargo heating boiler, records must be present and must be in accordance with the SMS of the operator

11.9 Are monthly tests and checks carried out and recorded for 24 V batteries?

Generally the answer is only 'YES' if the tests have been carried out and have been documented.

Records must be available and must be in accordance with the SMS system of the operator

11.10 Are monthly tests and checks carried out and recorded for pump for fire-fighting/washing?

This question is one of the random equipment tests, at least 10 random questions should be answered during each inspection.

Generally the answer is only 'YES' if the tests have been carried out and have been documented. The following points of attention must be assessed:
- crew well aware of position or location of start/stop switches
- crew well aware of which fire-fighting pump is fully lined up (during cargo operations).

11.11 Are monthly tests and checks carried out and recorded for safety devices and alarms?

This question is one of the random equipment tests, at least 10 random questions should be answered during each inspection.

Generally the answer is only 'YES if the tests have been carried out and have been documented.

Records must be available and must be in accordance with the SMS system of the operator.

11.12 Are monthly tests and checks carried out and recorded for bilge alarms?

This question is one of the random equipment tests, at least 10 random questions should be answered during each inspection.

Generally the answer is only 'YES' if the tests have been carried out and have been documented. The following points of attention must be assessed:
- crew well aware of the location of the bilge alarm sensors/float(control).
- crew well aware of how to test the bilge alarm.

11.13 Are monthly tests and checks carried out and recorded for emergency steering gear?

This question is one of the random equipment tests, at least 10 random questions should be answered during each inspection.

Generally the answer is only 'YES' if the tests have been carried out and have been documented. Checked by every voyage and according SMS system of operator.

11.14 Are monthly tests and checks carried out and recorded for engine room alarm?

This question is one of the random equipment tests, at least 10 random questions should be answered during each inspection.

Generally the answer is only 'YES' if the tests have been carried out and have been documented. Records must be available and must be in accordance with the SMS system of the operator.

11.15 Are monthly tests and checks carried out and recorded for engine room instrumentation?

Generally the answer is only 'YES' if the tests have been carried out and have been documented. Records must be available and must be in accordance with the SMS system of the operator

11.16 Are fuel emergency stop(s) clearly indicated and in good condition?

This question is one of the random equipment tests, at least 10 random questions should be answered during each inspection.

The operating device shall be marked in red. If the device is concealed it shall be marked with a symbol for the 'quick-closing valve on the tank' in accordance with Figure 9 of Annex 4 with a side length of at least 10 cm.

ES-TRIN Art. 8.05.7

11.17 Are cargo boiler emergency stops clearly indicated and in good condition?

This question is one of the random equipment tests, at least 10 random questions should be answered during each inspection.

Must be marked by a placard or any other means of identification.

11.18 Are engine room(s) and machinery space(s) in good condition?

The following points of attention must be assessed:
- all main- and auxiliary engines are operational
- all main- and auxiliary engines are free of leakages
- 24 Volt batteries in good condition (screws tied and with petroleum jelly), battery sea tight and in a box with ventilation)
- electrical sockets water tight and in good condition
- save oils (drip trays) under gasoil- and lube oil filters empty and clean
- bilges clean and free of excessive oil and sludge
- the location of the start-stop switch of the fire-fighting pumps are clearly marked
- all floor plates are in good condition and all secured
- the (emergency) steering gear is free of leakages
- the operating cabinets of the fixed gas extinguishing system(s) are clearly indicated and in good condition
- the operating instructions of the fixed gas extinguishing system(s) are clearly displayed in the, for the barge, applicable languages
- the spring relieve valve on the bottom of the level gauges of the bunker- and lube oil tanks are operational and in good condition. (for example not blocked in an open position
- the flame arrestors of the vent pipes of the bunker- and lube oil tanks are in good condition and free of paint
- the filling pipes of the bunker- and lube oil tanks are clearly indicated in and understandable language for the crew
- the purpose of switches on the electrical switchboards are clearly indicated and understandable language for the crew
- in and on the electrical cabinets no materials are stored (electrical switch diagrams on the inside of the cabinet door acceptable)
- electrical insulation mats in front of control panels
- dirty oil tank closed correctly

11.19 Are staff holding an LNG certificate not older than five years on board at all times?

1. The boatmaster and crew members involved in the bunkering procedure of vessels using liquefied natural gas (LNG) as a fuel must have expertise in the use of liquefied natural gas as a fuel.
2. A crew member shall only be permitted to commence his duties on board once he has been instructed by the boatmaster in the use of liquefied natural gas (LNG) as a fuel aboard the vessel
in question, in particular as to the bunker procedure. Inspector should note the amount of certificates on board including the expiry date.

RPR art 4.a1

Mandatory comments are required for this question.

11.20 Does the Technical Operator Risk management system include LNG bunkering, operation, maintenance and emergency procedures?

A risk assessment shall be conducted on all concepts and configurations which are new or have been significantly modified. The risks arising from the use of liquefied natural gas (LNG) affecting people on board including passengers, the environment, the structural strength and the integrity of the craft shall be addressed. Reasonable consideration shall be given to the hazards associated with physical layout, operation, and maintenance, following a failure. The risks are to be determined and assessed using a risk analysis technique recognised by the inspection body, such as International Standards ISO 31000 : 2018 and ISO 31010 : 2019. Loss of function, component damage, fire, explosion, tank room flooding, vessel sinking and electric overvoltage shall as a minimum be considered. The analysis must help to ensure that risks are eliminated wherever possible. Risks which cannot be eliminated entirely are to be mitigated to an acceptable level. The major scenarios and measures for eliminating or mitigating risks shall be described.

ES-TRIN ANNEX 8 Art.1.3

11.21 Do operational procedures include guidance on how to handle low temperature (-161 degrees Celsius) LNG?

A detailed operating manual of the LNG system shall be provided on board craft using liquefied natural gas (LNG) as fuel and which as minimum:

a) contains practical explanations about LNG bunkering system, LNG containment system, LNG piping system, Gas supply system, engine room, ventilation system, leakage prevention and control, monitoring and safety system,
b) describes the bunkering operations, especially valves operation, purging, inerting and gas freeing,
c) describes the relevant method of electrical insulation during bunkering operations,
d) describes the details of risks identified in the risk assessment as referred to in (1.3) and the means by which they are mitigated.

ES-TRIN art. 30.03
ES-TRIN ANNEX 8 Art.1.4.9

11.22 Do the emergency procedures include overpressure/overfilling of LNG storage tank?

ES-TRIN ANNEX 8 Art. 2.1.11 & Art. 5.2.1

11.23 Do the emergency procedures include leakage of the LNG supply system?

If the gas supply system is shut off due to a gas leak, it shall not be opened until the leak has been found and the necessary actions have been taken. Instructions to this effect shall be placed at a prominent position in the engine room. The gas supply system shall be arranged for manual remote emergency stop from the following locations as applicable:

a) wheelhouse,
b) control station of the bunkering station,
c) any permanently manned location.

ES-TRIN ANNEX 8 Art. 5.5

11.24 Do the emergency procedures include uncontrolled venting?

This must be stated in the emergency procedure of the operator.

11.25 Are the high liquid level alarm and high pressure alarm systems operational, set correctly, and operate as required?

c) a high liquid level alarm operating independently of other liquid level indicators which shall give an acoustic and optical alarm when activated,
d) an additional sensor operating independently of the high liquid level alarm which shall automatically actuate the master LNG bunkering valve in a manner that will both avoid excessive liquid pressure in the bunkering piping and prevent the tank from becoming liquid full.

A high-pressure alarm shall be provided at the LNG containment system and at the pump. Where vacuum protection is required, a low-pressure alarm shall be provided.

ES-TRIN ANNEX 8 Art. 5.2.3
ES-TRIN ANNEX 8 Art. 5.2.1

11.26 Are all Control, Monitoring and Safety Systems of the LNG-installation checked and tested and is it determined that they are operating as required?

ES-TRIN ANNEX 8 Art.5

11.27 Are the emergency stop provisions tested and is it determined that they are operating as required?

The gas supply system shall be fitted with its own set of independent gas control, gas monitoring and gas safety systems. All elements of these systems shall be capable of being functionally tested.

The gas supply system shall be arranged for manual remote emergency stop from the following locations as applicable:

a) wheelhouse,
b) control station of the bunkering station,
c) any permanently manned location.

ES-TRIN ANNEX 8 Art. 5.1.2
ES-TRIN ANNEX 8 Art. 5.5.3

11.28 Are LNG suitable stainless steel drip trays available under all LNG bunker connections?

LNG fit for purpose stainless steel drip trays are required under LNG bunker connections.

ES-TRIN annex 8 Art.2

11.29 Is an LNG bunkering checklist (including ship/shore communication plan) in place?

Latest version must be used, RPR art 2.06 Bunkering of LNG The provisions of article 10.07, paragraphs 2 (b), 2 (c), 3 (a) and 3 (e), do not apply during bunkering with LNG Bunkering with LNG is not permitted when the vessel is under way, during trans-shipment of goods or during embarkation and disembarkation of passengers.

Only crew members of the bunkered vessel, bunker station staff and persons having obtained authorization from the competent authority may be present in the bunkering area A checklist for LNG bunkering operations for vessels displaying the identification marking prescribed in article 2.06 has been completed and signed by the boatmaster or by a person mandated by him or her and by the person responsible for the bunker station and that there is a positive response to all the questions contained therein. Irrelevant questions should be struck out. If a positive response to all the questions is not possible, bunkering is only permitted with the consent of the competent authority.

CEVNI article 10,07
CEVNI 5 Annex 11

11.30 Are additional LNG emergency exercises regularly carried out?

LNG emergency exercise training kept on board must be recorded in writing. Inspector should mention the date of the last exercise, and the frequency of these exercises as required by the Operator, if last exercise is over the prescribed period this question must be marked as a 'no'.

ADN 1.3.2.2.2

11.99 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 questions in the Chapter, the Inspector should include such additional comments in this section.

This section must not be used to record negative observations.

General Appearance

General Appearance

12.1 Is the general impression and housekeeping of the barge satisfactory?

In assessing the general appearance and standard of housekeeping on board the following should be considered:
• General paint work in poor or dirty condition.
• Are all vents and air pipes clearly marked to indicate the spaces they serve.
• Waste oil on plates, stairs or handrails.
• Oil savers not cleaned out.
• Plates or gratings not secure or even. in pump room/engine room(s).
• Stairs, handrails or walkways damaged.
• Tools or objects left lying about.
• General rubbish for disposal not stored safely in one location.
• (Oily) rags not stored in metal containers with lids.
• Store rooms giving the impression of being untidy and disorganised.
• Notices illegible.
• Bilge full or containing large amounts of oil or sludge. Are all vents and air pipes clearly marked to indicate the spaces they serve.
• General level of lighting poor.
• Spare parts or general stores encroaching on walkways or obstructing emergency routes or access points.
** Hatches and entrances not in good condition, not watertight, not gastight, not closing well (Gaskets, seals, hinges and swing-bolts.)*

12.99 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 questions in the Chapter, the Inspector should include such additional comments in this section.

This section must not be used to record negative observations.

Cargo Handling

Cargo Handling

13.1 If drums and packages are carried as deck cargo, are they in satisfactory condition, free of leaks and clearly marked showing the cargo they contain, and are they stowed and lashed securely?

Unless provided otherwise in ADN, the UN number corresponding to the dangerous goods contained, preceded by the letters 'UN' shall be clearly and durably marked on each package.

All package markings required;
(a) shall be readily visible and legible;
(b) Shall be able to withstand open weather exposure without a substantial reduction in effectiveness.

The consignor shall provide in the transport documents a statement regarding actions, if any that are required to be taken by the carrier. The statement shall be in the languages deemed necessary by the carrier concerned, and shall include at least the following information;
(a) supplementary requirements for loading, stowage, carriage, handling and unloading of the package, over pack or container including any special stowage provisions for the safe dissipation of heat, or a statement that no such requirements are necessary;
(b) Restrictions on the mode of carriage or vehicle or wagon and any necessary routeing instructions;
(c) Emergency arrangements appropriate to the consignment.

ADN 5.2.1.1
ADN 5.4.1.2.5.2

13.99 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 questions in the Chapter, the Inspector should include such additional comments in this section.

This section must not be used to record negative observations.