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# a joint petroleum / petrochemical barge inspection questionnaire

Prepared by the CONCAWE Safety Management Group's Special Task Force on Barge Vetting (S/STF-7)

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#### **ABSTRACT**

This report provides an agreed checklist to be used when carrying out prechartering checks of barges intended for the transport of petroleum products and similar petrochemicals within Western Europe. It has been produced by representatives of oil and chemicals companies active in this area to provide a consistent basis for such checks and allow easy interchange of information between companies.

#### **KEYWORDS**

barge, inspection, oil, petrochemicals, petroleum, safety, transport

#### NOTE

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#### **SUMMARY**

This document contains the checklist to be used when carrying out checks of barges intended for the transport of petroleum products and similar petrochemicals within Europe. It has been produced by representatives of oil and chemicals companies active in this area to provide a consistent basis for such checks and allow easy interchange of information between companies.

#### 1. INTRODUCTION

Both the petroleum and petrochemical industries in Europe use barges for the transport of products along canals, rivers and estuaries. In general, these barges are not owned by the companies themselves but by independent operators which range in size from a few owning large fleets down to individuals who own (and frequently captain) single barges.

Most CONCAWE member companies have Environment, Health and Safety Policies which are designed not only to improve their own performance in these areas, but also to ensure that those providers of service who operate under contract to them work to comparable standards. The petrochemical companies have similar policies in order to conform to their "Responsible Care" programme. As far as the hire of barges is concerned, these policies mean that the hirer has to reassure himself that the barge to be hired is fit for purpose, conforms to all legislative requirements, and is operated in a safe manner to ensure protection of the environment and safety of both the crew and the general public.

This is normally achieved by carrying out pre-use checks involving both a physical inspection and an audit of the barge and its written procedures. These checks may be conducted by company personnel or by authorised inspectors. They carry out the inspections to the specification of the charterer and the various companies may have differing specifications. This may mean that barges may be frequently inspected by a number of companies.

It was realised that if a common questionnaire specification could be developed, then companies could use a report prepared for another company and hence reduce the number of inspections to the advantage of both the charterers and the barge owners. It must be stressed that the inspection is only a source of information on which the charterer can make his decision on the acceptability of the vessel. It is quite possible that one company could reject a barge which has been accepted by others if they put different weights on the importance of the various elements of the inspection.

The development of such a specification or inspection check-list was the first aim of a special task force set up CONCAWE's Safety Management Group. The task force was composed of representatives of a large number of oil and chemical companies. The outcome of this work forms the basis of the questionnaire contained in this report. It is intended that this questionnaire will be published separately in several languages as a tool to be used during barge inspections. The version in this report is reproduced for reference purposes only.

# 2. INSPECTION REPORT - PETROLEUM AND PETROCHEMICAL CARRIERS

#### 2.1. INTRODUCTION

This inspection report has been developed as part of the "Safety and Quality Assessment of Barge Operations and Management".

The questionnaire is designed to assist inspectors to determine whether a barge complies with the relevant International, National and Local regulations in respect of responsible operation of the barge, safe operational practices and environmental protection.

Where pertinent, checklist items have been referenced to the relevant regulation and industry recommendations for analytical reasons.

#### 2.2. CONDUCTING THE INSPECTION

Inspections must only be carried out in the full knowledge of the Barge Master or his deputy and with his co-operation.

On boarding the barge the inspector must report directly to the Barge Master in order to explain his intentions and objectives. The Inspector shall show proof of his / her authority to carry out the inspection.

During the inspection of the barge, it is recommended that the inspector is accompanied at all times by a responsible person(s) nominated by the Barge Master.

The inspector should be an observer only and must not interfere, interrupt or become involved in the operation of the barge or be a party to any discussion between the barge and terminal, port authorities etc.

On completion of the inspection, the inspector will report to the Barge Master and explain / discuss with him the findings of his inspection. The inspector will discuss, and leave with the Master or his representative, the Inspection Summary together with appropriate references and a full copy of the report. The Master, or his representative, must always be given the opportunity to comment on the list of observations and these comments **must** be recorded on the form.

This will give the opportunity to clarify questions which may have arisen in the course of the inspection (e.g. compliance with ADNR or other applicable regulations before he leaves the barge).

#### 2.3. THE INSPECTION REPORT

Not all items will be applicable to the Type of Barge inspected and should therefore be so indicated.

When further clarification or additional information is needed to better clarify the inspector's findings, further explanation should be provided under "Remarks" at the end of the each section.

The "Inspection Summary" should reflect the findings and will include:

- A list of Negative and Not applicable answers.
- Remarks
- Observations

It is the object of the inspection report to give an assessment of the Barge and Crew covering its operations at the time of the inspection.

The report does not attempt to pass or fail the barge for any particular purpose, but provide an accurate assessment of the barge's performance at the time of the inspection.

The Summary should also state whether the barge is Loading, Discharging or Waiting.

#### 2.4. THE INSPECTOR

The highest standards of ethical behaviour are expected from Barge Inspectors. This means in practice that the findings presented in an inspection report are to be regarded as strictly confidential and on no account should the Barge Inspector discuss the contents of the report with a third party. It is for the barge inspection organisation to distribute this information to other parties as instructed by the Barge Owner.

It is important that the inspector should not operate any equipment or advise on any operational or constructional matters or given any advice on how a particular deficiency might be dealt with. The Inspector may, however, request equipment to be run or operated under test.

A courteous and considerate approach is expected of inspectors in all their dealings with the Barge Master and his crew.

#### 2.5. SUPPORTING DOCUMENTATION

The information provided in the barge inspection report will supplement and take account of previous inspection reports.

#### 2.6. "NOT APPLICABLE" ITEMS

Any "not applicable" item met while inspecting a barge will be noted.

#### 2.7. INSPECTION PROCEDURES

Should the Owner or Owner's Superintendent be present then the inspector is expected to cooperate with him / her in a helpful way. The Owner / Owner's Superintendent should, however, not interfere with the inspection procedure.

The inspector is expected to set a good example with respect to his own safety procedures for the inspection of the barge since all barge's safety procedures will be carefully assessed. The inspector should wear appropriate clothing including boiler suit, safety hat, safety shoes and, if appropriate, safety gloves and glasses. Notices displayed on board the vessel must be strictly adhered to.

All questions in the inspection report will be answered, but when the barge is in operation some areas may not be accessible for inspection, for example barge's cargo tanks. In any case, the reasons should be clearly stated if areas are not inspected.

The inspector may request the demonstration of a particular piece of equipment. Should the request be refused then the reason should be stated.

Both the Inspection Report and Summary must be signed by the Barge Master or his representative to indicate that he has received the duplicate copy. This signature does not, of course, infer that the Barge Master agrees with the observations in any way, but merely that he has received a copy.

The inspector shall not in any way make recommendations for improvement of observations, nor indicate to the Barge Master, the Barge Owner or his representative the outcome of the inspection. The inspection itself is not a pass or fail inspection and the result of the inspection is for consideration by the potential Charterer.

On completion of the inspection, the inspector should relay the "Inspection Summary" and Inspection Report to the administration organisation without delay.

#### **APPENDIX 1**

## PETROLEUM / CHEMICAL BARGE INSPECTION QUESTIONNAIRE

The following questionnaire is for reference purposes only. It is not intended for use in actual inspections.

#### **INSPECTION SUMMARY**

This Inspection Summary produced by the inspector at the end of the inspection, must itemise the major observations made during the inspection . The Inspection Summary must be discussed with the Barge Master before leaving the barge after the inspection and signed by both the Inspector and the Barge Master.

The Barge Master may add comments to this document.

This form shall be prepared on self-copying paper, which shall be provided to inspectors in the form of pads.

The Inspection Summary shall be prepared in duplicate.

1st copy to administration by fax, then attached to Report and forwarded to Administration

2nd copy to the Barge Master

Safety checklist barges  Types N - C	Owner: Barge:	SPECIMEN ONLY NOT FOR USE
INSPECTION BOOK NUMBER	-	Ver. 30/11/97

INSPECTION	SUMMARY		
LIST OF OBSE	RVATIONS		
No of Pages			
No of Items			
Previous Name	if Changed in Past 12 months		
Euro Number	·		
Port of Inspection	on		
Date of Inspection	on		
Name of Barge	Master		
Name of Inspec	tor		
Operation	LOADING DISCHARGING WAITING		
REMARKS			
REF Question Number	ITEM		
	of Items  vious Name if Changed in Past 12 months  Number  t of Inspection  e of Inspection  ne of Barge Master  eration LOADING DISCHARGING WAITING  MARKS  F Question ITEM		

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Safety checklist barges	Owner:	SPECIMEN ONLY
Types N - C	Barge:	NOT FOR USE
INSPECTION BOOK NUMBER		Ver. 30/11/97

REMARKS ( cont	inued)
REF Question Number	ITEM
<del></del>	
OWNERS RESPO	ONSE
Signed Inspector	
Signed Barge Ma	ster

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#### SECTION 1. BARGE CERTIFICATES AND STATUTORY RECORDS / DOCUMENTS

During the sighting of the Certificates attention should be paid to any endorsement made, by an Authority, on them ("Subject to" or "Deficiencies").

In the case of such endorsements enquiries should be made with the Barge Master.

Safety checklist barges  Types N - C	Owner: Barge:	SPECIMEN ONLY NOT FOR USE
INSPECTION BOOK NUMBER		Ver. 30/11/97

Section 1	Reference	Barge certificates and statutory	Υ	Ν	N/A
		records/documents			
	<u> </u>		i		
1.1		Ships certificate			
1.2	ADNR 210284	Cargo record book / file is complete and up to date			
1.3	PV 1.11	Règlement de Police pour la navigation			
1.4	ADNR 311250(1)	Electrical installation plan			
	ADNR 321250(1)				
	ADNR 331250(1)				
1.5	ADNR210381(1e)	ADNR (part A/B2 in a valid version)			
1.6	ADNR 210381	Certificates for fire fighting equipment			
	ADNR210381(3a)				
	RhschPV 1.10				
1.7		Valid megatest			
1.8		Valid load line certificate			
1.9		Gas installation (propane) on Board, certificate valid			

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#### SECTION 2. BARGE MANNING CERTIFICATES HELD AND TRAINING

The Inspector must endeavour to establish:-

- (1) Compliance with manning requirements and personnel qualification and training.
- (2) Specific professional experience of personnel.
- 2.1 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 rest periods may be obtained from, for example, overtime sheets.
- 2.3 Personnel's Dangerous Goods Certificates should apply to the type of barge and not to the type of cargo carried.

Safety checklist barges  Types N - C	Owner: Barge:	SPECIMEN ONLY NOT FOR USE
INSPECTION BOOK NUMBER		Ver. 30/11/97

Section 2	Reference	Barge manning certificates held and training	Υ	N	N/A
2.1	RschiUO 23	Does barge master confirm compliance with regulations for working and rest periods			
2.2	RVO1.10(1)B	Barge master holds a valid certificate of navigation and radar certificate			
2.3	ADNR 210315 ADNR 210317 ADNR 210318	Barge master or crew member hold dangerous goods certificate in compliance with ADNR			
2.4	ADNR 210385(3)	Crew have been trained and understand the risks associated with the products carried; no unsafe behaviour detected			
2.5	ADNR 210360	The crew have information and have been trained in use of safety equipment			

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#### SECTION 3. <u>HEALTH AND SAFETY</u>

- 3.2 If the Barge is gas free then tick N/A.
- 3.3 The following shall be considered a minimum:
  - Suitable Gloves
  - Safety Helmet
  - Safety Shoes
  - Protective clothing
  - Protective Goggles
- The following to be checked:
  - Gangplanks
  - Deck and working areas are to painted with anti-slip or anti-slide material, obstacles are made recognisable with means of signal colours.
  - Uneven areas
  - No Smoking signs
  - Containers for rags
  - Insulation mats in front of control panels

#### 3.8 Additional Safety Equipment

Depending upon the risks specific to the products being carried at the time, this can be:

- Two masks/breathing equipment (recirculating air ) ( ADNR 210260)
- Escape filter
- Toximeter/gas detector ( ADNR 210260)
- Spare test tubes
- Test tubes within expiry date for cargoes carried
- Calibrated explosion meter
- Deck spray for decontamination purposes (ADNR 311260 331260)
- Eye bath sprays ( ADNR 311260 )
- Life Jacket

Safety checklist barges  Types N - C	Owner: Barge:	SPECIMEN ONLY NOT FOR USE
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Section 3	Reference	Health and safety	Υ	N	N/A
					1
3.1		Emergency first aid kits are available			
3.2	ADNR 210385	"Written instructions" (trem cards) are displayed (Loading or cargo on board)			
3.3	ADNR 210260(1a)	Does each crew member have personal protective equipment (PPE)			
3.4		Safety procedures are in force for:			
3.4.1	ADNR ANNEX B2, Part II, Section 3	<ul> <li>working in dangerous areas</li> </ul>			
3.4.2	ADNR ANNEX B2, Part II, Section 4	<ul> <li>loading/unloading/cleaning</li> </ul>			
3.5	ADNR 331221	No visible safety/security deficiency detected on board			
3.6	ADNR 210329	Is the required life saving equipment available and ready for use			
3.7	ADNR 321260	Emergency eye wash points and decontamination showers are available and in good condition			
3.8	ADNR 210260	Additional personnel protection equipment is available for each crew member			

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#### SECTION 4. DRUG AND ALCOHOL POLICY

The Inspector shall verify to the best of his ability that Drugs and or Alcohol are not being abused.

The Inspector shall ask:

- The Barge Master if he and his crew have had an unannounced test for Drugs and Alcohol
- The Barge Master and Crew to confirm regular medical examinations.
- The Barge Master if he and his crew understand the ban on the misuse of permitted drugs and the use, possession, dealing or sale of illegal drugs.

Safety checklist barges  Types N - C	Owner: Barge:	SPECIMEN ONLY NOT FOR USE
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Section 4	Reference	Drug and alcohol policy	Υ	N	N/A
4.1		The drug and alcohol policy is displayed on board the barge in a prominent position			
4.2		There is evidence that the policy is observed			

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SECTION 5. <u>FIREFIGHTING AND LIFESAVING EQUIPMENT</u>

Safety checklist barges  Types N - C	Owner: Barge:	SPECIMEN ONLY NOT FOR USE
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Section 5	Reference	Firefighting and lifesaving equipment	Υ	N	N/A
ļ	<del> </del>				
5.1	ADNR 210240	Fire fighting equipment available and ready for use			
5.2		The following items are operational, tested and the records are maintained up to date			
5.2.1		<ul> <li>general alarm system / emergency lighting</li> </ul>			
5.2.2		<ul> <li>smoke- / fire detection system</li> </ul>			
5.3		The fire alarm plan is posted			
5.4		The condition and the appearance of the life jackets and the life buoys are satisfactory			

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SECTION 6. <u>ENVIRONMENT PROTECTION</u>

Safety checklist barges  Types N - C	Owner: Barge:	SPECIMEN ONLY NOT FOR USE
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Section 6	Reference	Environment protection	Υ	N	N/A
	<del> </del>				1
6.1	PVO15.05(2)	Slop disposal receipts are complete and are retained on board the barge			
6.2	RhschPV 15.5	Oil record book is properly maintained			
6.3		The crew are aware of pollution prevention measures			
6.4		Barge has a solid oil spill rail and, if applicable, scupper plugs are in place			
6.5		Oil absorbent material is available on board			
6.6		There have there been no pollution and/or oil spills originating from the barge within the last 6 months			
6.7		Caps are available on drain vents			

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#### SECTION 7. CARGO TRANSFER OPERATIONS

- 7. Information should be on board, and available to all concerned, giving the necessary data for the safe carriage of the cargo.
- 7.1 the Inspector should confirm, where possible, that the ADNR checklist has been completed by both parties TOGETHER.

Cargo piping references to pipes used for loading / unloading product

- 7.5 Tests to include periodic testing of float or other switch located inside the Cargo Tanks.
- 7.6 The cargo handling manual should give specific guidance on the procedures to be followed during cargo handling operations and on passage and should include:-
  - Preparations for loading.
  - Loading operations.
  - Cargo Measurement Standards and procedures.
  - Care of the cargo on the loaded passage.
  - Preparations for discharge.
  - Discharge operations.
  - Ballast passage.
  - Tank cleaning.
  - Bunkering
- 7.7 All cargoes carried should be listed in the Certificate of Fitness.

A full description of the physical and chemical properties, including actions necessary for the safe containment of the cargo.

For the present voyage a stowage plan should be kept in an accessible place, indicating all cargo on board, including each dangerous chemical carried and the plan should show:-

- Final cargo distribution.
- Signal and means of communication to be used during the operation.
- Pumping or loading rates.
- Pumping or loading sequence and operational procedures/checks.
- Action to be taken in the event of an emergency.
- Emergency shut down procedures.
- Ballast sequence.
- Access to Barge.
- 7.8 The correct volume of product to be loaded to allow for changes in temperature.
- 7.9.1 The Inspector to satisfy himself that the crew are fully aware of the importance of the PV valves.
- 7.9.2 For the operation of tank pressure and vacuum devices

Safety checklist barges  Types N - C	Owner: Barge:	SPECIMEN ONLY NOT FOR USE
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Section 7	Reference	Cargo transfer operations	Υ	N	N/A
7.1	ADNR 210410	The ADNR ship shore check list has been completed when loading or discharging.			
7.2		The cargo piping system is not fitted with expansion joints and / or bellows			
7.3		ESD system available and ready for use			
7.4		Barge ESD system can be linked to shore shut down system			
7.5	ADNR: 311221(1d) 321221(1d) 331221(1d)	Over-fill protection is fitted, has been tested and is fully operational.			
7.6		Procedures for cargo loading, discharging bunkering and tank cleaning are available and understood by the crew			
7.7	ADNR 210411 (2)	Written loading plan is available			
7.8	ADNR 210315	The barge crew understand the relationship between tank filling limits and cargo temperature			
7.9.1	ADNR: 321221(7) 331221(7)	High cargo tank pressure and vacuum devices are fitted and are fully operational			
7.9.2		Records are maintained and available for inspection			
7.10	ADNR: 311221(2) 321221(2) 331221(2)	Tank lid fittings are in good condition			
7.11	ADNR: 311221(1g) 321221(1g) 331221(1g)	The vessel is fully equipped with closed sampling points which are in good working order			

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SECTION 7	<u>CARGO TRANSFER OPERATIONS</u> ( continued )
7.13	Each cargo Manifold not in use is to be blanked and bolted. Drains should also be plugged.
7.15	The Inspector, to the best of his ability, to check that Cargo cannot be transferred to bunker tanks.
7.17	This refers to efficient stripping systems required to avoid expensive cargo "Losses" and reduced tank cleaning.

Safety checklist barges  Types N - C	Owner: Barge:	SPECIMEN ONLY NOT FOR USE
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Section 7 continued	Reference	Cargo transfer operations			N/A
			-		
7.12	ADNR: 311225(2,4)	Cargo pipework appears to be in good order, the pipework electrical bonding arrangements intact			
7.13		Cargo pipeline blanks are fully bolted			
7.14	ADNR: 331221(1e) 321221(1e) 311221(1e)	On line pressure gauges are fitted and are fully operational			
7.15.1	ADNR 210325(1a,b)	Confirm there are no connections between the bunker and cargo systems			
7.15.2		Confirm there are no connections between the ballast and cargo systems			
7.16		There are records indicating the regular inspection and testing of:			
7.16.1		<ul><li>tank coatings</li></ul>			
7.16.2	ADNR 210280(2)	<ul><li>cargo hoses</li></ul>			
7.17		The barge has an efficient cargo stripping system			

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SECTION 8 WHEELHOUSE AND NAVIGATION

Safety checklist barges  Types N - C	Owner: Barge:	SPECIMEN ONLY NOT FOR USE
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Section 8	Reference	Wheelhouse and navigation		N	N/A
8.1		Radiotelephone (VHF) is operational			
8.2		Radar(s) installation certificate is valid			
8.3		Navigation lights and signals are tested and work properly			
8.4	RschiUO 7.11	Stern anchor is fully operational			

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## SECTION 9. MOORING

- 9.1 A visual check should be made to verify the condition of:
  - Eyes
  - Splices
  - Wires not kinked
  - Ropes / Wires not badly worn.

Safety checklist barges  Types N - C	Owner: Barge:	SPECIMEN ONLY NOT FOR USE
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Section 9	Reference	Mooring		N	N/A
9.1		Ropes and wires are in a satisfactory condition and barge is properly moored.			
9.2		Spare Wires and ropes are carried			

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#### SECTION 10 ENGINE ROOM

The Barge Operator must demonstrate a positive attitude towards Safety. Clear relevant signs can be an outward sign of management attitude.

Safety checklist barges  Types N - C	Owner: Barge:	SPECIMEN ONLY NOT FOR USE
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Section 10	Reference	Engine room	Υ	N	N/A
10.1		Regular tests and checks are carried out on the following and records are maintained			
10.1.1		Main fuel emergency stops			
10.1.2		<ul> <li>Boiler fuel emergency stops</li> </ul>			
10.1.3		<ul> <li>Emergency batteries</li> </ul>			
10.1.4		<ul> <li>Pump for fire fighting/washing</li> </ul>			
10.1.5		<ul> <li>Safety devices and alarms</li> </ul>			
10.1.6		<ul> <li>Bilge alarms</li> </ul>			
10.1.7		<ul> <li>Machinery instrumentation</li> </ul>			
10.1.8		<ul> <li>Forced draft fan shut down (pumproom)</li> </ul>			
10.1.9		<ul><li>Steering gear</li></ul>			
10.1.10		<ul> <li>Emergency steering gear</li> </ul>			
10.2		Hazard/warning notices are posted and emergency escape exits are clearly marked			

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SECTION 11.	OPERATIONAL SAFETY
11.1	There should be an Emergency Plan on Board giving detailed instructions to the barge crew as to what actions to take in the event of incidents listed.
11.4	ADNR 331217 Contains regulations for barges fitted with a Pump Room. The Inspector is to ensure ADNR 331217 is complied with and instructions displayed at the entrance to the pump room.

Safety checklist barges  Types N - C	Owner: Barge:	SPECIMEN ONLY NOT FOR USE
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Section 11	Reference	Operational safety	Υ	N	N/A
11.1		Are safety instructions and owners emergency plan displayed in the wheel house			
11.2		The barge has procedures to deal with the following:			
11.2.1		<ul> <li>Breakaway from the jetty during cargo operations</li> </ul>			
11.2.2		<ul> <li>Hose burst/pipework fracture</li> </ul>			
11.2.3		<ul><li>Overflow</li></ul>			
11.2.4		<ul> <li>Cargo leakage onto adjoining space</li> </ul>			
11.2.5		Collision/grounding/pollution emergency			
11.3	ADNR 210374	Non smoking regulations are clearly identified			
11.4		The pumproom - if installed - meets the common ADNR regulations			
11.5	ADNR 331217 ADNR 321217	Pump drive shaft seals are gastight and in good condition			
11.6		Is the crew familiar with QS procedures			

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#### SECTION 12. HOUSE KEEPING

In assessing the general appearance and standard of housekeeping in the machinery spaces the following should be considered:-

- General paint work in poor or dirty condition.
- Waste oil on plates, stairs or handrails.
- Oil savealls not cleaned out.
- Plates or gratings not secure or even.
- Stairs, handrails or walkways damaged.
- Tools not in use 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.
- Bilges full or containing large amounts of oil or sludge.
- General level of lighting poor.
- Spare parts or general stores encroaching on walkways or obstructing emergency routes or access points.

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 top sides damaged.
- Areas of hull and decks showing signs of excessive rusting.
- Areas of accommodation and funnel showing signs of 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.

Safety checklist barges	Owner:	SPECIMEN ONLY
Types N - C	Barge:	NOT FOR USE
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Section 12	Reference	Barge appearance/housekeeping	Υ	N	N/A
12.1		Appearance and condition of the barge is satisfactory			

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SECTION 13.	CARGO MEASUREMENT AND CARGO CUSTODY
SECTION 13.	CARGO MEASUREMENT AND CARGO COSTODT

The Inspector should satisfy himself that the Barge Master has received instructions from the Charterer and is following those instructions. 13.6

Safety checklist barges  Types N - C	Owner: Barge:	SPECIMEN ONLY NOT FOR USE
INSPECTION BOOK NUMBER		Ver. 30/11/97

Section 13	Reference	Cargo measurement and cargo custody	Υ	N	N/A
13.1		Certified tank calibration tables are available			
13.2		Cargo measuring devices ( such as float gauges Enraf type ) are operational, and regularly calibrated.			
13.3		The remote multipoint temperature recorder indicator is regularly calibrated			
13.4		Reference thermometer is carried and thermometers certificate is valid			
13.5		Local thermometer calibrations are checked at regular intervals and records are kept			
13.6		The Barge crew strictly apply cargo measurement procedures			
13.7	ADNR 210422	Open/restricted/closed loading requirements are understood and cargo samples are taken following the correct procedure			

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