

CONTECComissão de
Normalização Técnica**SC-40**Maritime Transportation of
Petroleum, Derivatives and
Bio-Fuels**Vessels on Terminals -
Operations with Barges****1st Amendment**

This is the 1st Amendment to PETROBRAS N-2671 REV. C and it is used to alter the text of the Standard in the parts indicated below:

NOTE 1 The news pages with the performed amendments are placed in its corresponding positions.

NOTE 2 The amended pages, indicated the date of the amendment, are placed at the end of this standard, in chronological order, and shall not be used.

- Section 2: **(1st Amendment)**

To eliminate OCIMF/ISGINTT - International Safety Guide for Inland Navigation Tank-Barges and Terminals

- Subsection 4.1.1: **(1st Amendment)**

Exclusion of OCIMF/ISGINTT, and inclusion of **[Recommended Practice]**.

- Subsection 5.4.17: **(1st Amendment)**

To remove the word "unloading" from the expression loading/unloading.

- Subsection 5.5.8: **(1st Amendment)**

To remove the word "loading" from the expression loading/unloading.

- Annex A: **(1st Amendment)**

Change in the Annex title.

Vessels on Terminals - Operations with Barges

Procedure

This Standard replaces and cancels its previous revision.

The CONTEC - Authoring Subcommittee provides guidance on the interpretation of this Standard when questions arise regarding its contents. The Department of PETROBRAS that uses this Standard is responsible for adopting and applying the sections, subsections and enumerates thereof.

Technical Requirement: A provision established as the most adequate and which shall be used strictly in accordance with this Standard. If a decision is taken not to follow the requirement ("non-conformity" to this Standard) it shall be based on well-founded economic and management reasons, and be approved and registered by the Department of PETROBRAS that uses this Standard. It is characterized by imperative nature.

Recommended Practice: A provision that may be adopted under the conditions of this Standard, but which admits (and draws attention to) the possibility of there being a more adequate alternative (not written in this Standard) to the particular application. The alternative adopted shall be approved and registered by the Department of PETROBRAS that uses this Standard. It is characterized by verbs of a nonmandatory nature. It is indicated by the expression: **[Recommended Practice]**.

Copies of the registered "non-conformities" to this Standard that may contribute to the improvement thereof shall be submitted to the CONTEC - Authoring Subcommittee.

Proposed revisions to this Standard shall be submitted to the CONTEC - Authoring Subcommittee, indicating the alphanumeric identification and revision of the Standard, the section, subsection and enumerate to be revised, the proposed text, and technical/economic justification for revision. The proposals are evaluated during the work for alteration of this Standard.

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CONTEC

Comissão de Normalização
Técnica

SC - 40

Maritime Transpotation of
Petroleum, Derivatives and Bio-
Fuels

Introduction

PETROBRAS Technical Standards are prepared by Working Groups - WG (consisting specialized of Technical Collaborators from Company and its Subsidiaries), are commented by Company Units and its Subsidiaries, are approved by the Authoring Subcommittees - SCs (consisting of technicians from the same specialty, representing the various Company Units and its Subsidiaries), and ratified by the Executive Nucleus (consisting of representatives of the Company Units and its Subsidiaries). A PETROBRAS Technical Standard is subject to revision at any time by its Authoring Subcommittee and shall be reviewed every 5 years to be revalidated, revised or cancelled. PETROBRAS Technical Standards are prepared in accordance with PETROBRAS Technical Standard [N-1](#). For complete information about PETROBRAS Technical Standards see PETROBRAS Technical Standards Catalog.

Foreword

This Standard is the English version (issued in 04/2013) of PETROBRAS N-2671 REV. C 04/2013. In case of doubt, the Portuguese version, which is the valid document for all intents and purposes, shall be used.

1 Scope

1.1 This Standard establishes procedures for the operations of loading/unloading of oil and its derivatives and ethanol to/from barges on the terminals.

1.2 This Standard applies to procedures started as of its issuance date.

1.3 This Standard contains Technical Requirements and Recommended Practices.

2 Normative References

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document applies.

NORMAM-02/DPC - Capítulo 5 - Transportes de Cargas - Seção III - Seção III - Transporte de Álcool, Petróleo e seus Derivados - 0522 - Embarcações Com AB Superior a 20;

PETROBRAS N-2651 - Quality Control For Supply Of Marine Fuel;

PETROBRAS N-2652 - Bunkering - Operational Control;

NOTE For documents referred in this Standard and for which only the Portuguese version is available, the PETROBRAS department that uses this Standard should be consulted for any information required for the specific application.

3 Terms and Definitions

For the purposes of this document, the following terms and definitions apply.

3.1 even keel

situation in which the actual trim equals zero, i.e., stern draft is the same as the forward draft

3.2 barge

vessel for storage, transportation and delivery of marine fuels to ships, also including the tankers used on these operations

3.3 trim

difference between the stern and the forward draft of a vessel

3.4**terminal**

port facilities at sea, bay, lake or river, for operations of loading/unloading of vessels, including operations with anchored ships under its responsibility. It also refers to the person on duty responsible to the tasks in such facilities

4 Pollution Prevention and Safety Conditions**4.1 General**

4.1.1 It is recommended that terminal and barge, in accordance to an imposed maritime authority standard (Ref. NORMAM-02/DPC - Chapter 5), to have pollution fighting emergency plans widely spread among all operation personnel. **[Recommended Practice]**

4.1.2 All involved personnel shall be trained, competent and familiar with dangers which may arise from handling ethanol, oil and its derivatives so as to perform operations and in an emergency.

4.1.3 Access to the area of operations which is bound by the terminal shall only be allowed to those who are directly involved.

4.1.4 A suitable number of persons shall be kept on board the barge and on duty at the terminal in order to fight any emergency.

4.1.5 Prior to start any given loading operation, the barge's deck shall be free of residue such as rags and sawdust besides all drains and scuppers shall be effectively plugged. Rainwater eventually accumulated on deck of the vessel shall be periodically drained but only under strict supervision of the person on duty on the barge.

4.1.6 The barges shall have trays to collect minor leaks at the time of connection/disconnection, which shall remain always drained and dry after all.

4.1.7 All lines, hoses and loading arms which are not being used shall be safely flanged and fitted with fully screwed bolts.

4.1.8 Firefighting hoses, both on the barge and terminal, must be positioned and kept next to the barge's manifold. The terminal's firefighting fixed system shall be available during operation and be able to reach the entire area of the barge.

4.1.9 The fire line at the terminal and on the barge/supply vessel set shall be kept pressurized, but in case it is impossible, the firefighting pump shall be in perfect usage conditions, ready to operate in case of emergency.

4.1.10 The barges shall remain with the manholes, measuring and all other opening fully closed during operation.

4.1.11 In case of stormy weather, the operations shall be paralyzed, mainly if there are electric discharges.

4.1.12 When operating products with flash point lower than 60 °C, no other vessels maneuvering nearest shall be allowed.

4.1.13 Hoses and loading arms shall have an insulating flange or a non-conductive hose section in order to avoid an electrostatic discharge between barge and the terminal.

4.2 Mooring Requirements

4.2.1 Synthetic fiber wires such as polypropylene or polyamide ("nylon"), compliant with the size of the barge and in good mooring conditions, shall be used.

4.2.2 During the stay of the barge alongside, the wires shall be frequently inspected in order to actions to keep them tight.

4.2.3 There shall be procedures which allow a safe and quick unberthing of the barge in an emergency.

4.3 Powered Accessories and Equipment

Only intrinsically safe equipment and accessories for use in flammable atmospheres and approved by competent authority must be used. The use of portable radios, tape recorders, calculators, cameras, mobile phones, pagers, notebooks and others are not allowed on deck or where explosive mixtures can be found.

4.4 Communications

The terminal shall have an effective specific communication procedure with the barge, including:

- a) testing prior to initiating operation;
- b) a secondary communication system;
- c) an exclusive UHF/VHF radio channel.

4.5 Forced Ventilation

The barges provided with an engine room and/or pump-room below main deck must have in use a forced ventilation into these compartments.

4.6 Inspection for Hire

Barges shall only be hired depending on prior approval by the vetting, adhering to the items on the checklist in Annex A.

5 Operational Conditions

5.1 Berthing and Mooring

5.1.1 Berthing shall only be initiated with the presence and consent of the terminal representative, so he can guide the vessel, with operational safety and time optimization in mind, except on public terminals where there are specific procedures.

5.1.2 Pier approach maneuvers shall be conducted under the terminal's special conditions, which shall be known by the carrier.

5.1.3 Mooring shall meet the terminal's own procedures.

5.2 Inspection and Initial Release

5.2.1 After berthing, terminal and barge shall inspect together operational safety conditions and take measure of the cargo tanks.

5.2.2 The barge's checklist on Annex A shall be totally completed (only the applicable items for the barge and terminal) and for the items which are not met, a written note and/or recommendation shall be issued.

5.2.2.1 For non-conformities, there shall be a written note/recommendation in the check-list and communication to the pier supervisor must be made.

5.2.2.2 If operating conditions of the barge do not comply with whichever item from the Annex A, operations shall be halted until countermeasures be implemented and authorized by the supervisor.

5.3 Connection

5.3.1 Hoses or loading arms shall only be connected after barge finishes berthing procedures in full compliance with 4.2.

5.3.2 During connection, flanges and gaskets shall be clean and in perfect usage conditions.

5.3.3 For bolted flanges, all bolts shall be screwed and tightened in the "X" sequence.

5.3.4 All load intakes not in use must be fitted with a blind flange and care must be taken so that the section between the last valve and the blind flange can be found free of pressure or any traces of product.

5.3.5 Hoses shall be carefully handled in order to prevent damage to them.

5.3.6 Hoses must be annually inspected and hydrostatically tested with their respective inspection certificates issued and ready on board for inspector's verification.

5.3.7 Loading arms shall be safely handled so that integrity of equipment and of the people involved are preserved.

5.4 Loading

5.4.1 The alignment of the terminal/barge pipe network shall be checked up before the operation start, and also the piping fill-up status.