

CONTECComissão de Normalização
Técnica**SC-16**

Industrial Safety

Safety in Load Handling Operations**1st Amendment**

This is the 1st Amendment to PETROBRAS N-2869 REV. A and it is used to alter the text of the Standard in the part indicated below:

NOTE 1 The new page with the performed amendment is placed in its corresponding position.

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.

CONTENTS OF THE 1st AMENDMENT - 02/2016

- Subsection 4.26.1:

Inclusion of enumeration d).

Safety in Load Handling Operations

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.

"This Standard is exclusive property of Petróleo Brasileiro S. A. - PETROBRAS, internal application and PETROBRAS Subsidiaries and shall be used by its suppliers of goods and services under contracts or similar under the conditions established in Bidding, Contract, Agreement or similar.

The use of this Standard by other companies / organizations / government agencies and individuals is the sole responsibility of the users.."

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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 02/2015) of PETROBRAS N-2869 REV. A 01/2015. 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 minimum safety guidelines for load handling operations in order to maintain the physical integrity of workers, facilities, equipment and loads handled in compliance with Safety, Environment and Health (SMS, with for abbreviature in Portuguese) standards of PETROBRAS units.

1.2 This Standard is not applied for manual handling and transportation of loads.

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

1.4 The application of this Standard in the case of units of the PETROBRAS System headquartered abroad shall be based on respect for local legislation, as well as for the other applicable requirements. It shall be understood that all existing Brazilian legislations or references pointed out in this Standard may serve as input to its adaptation process.

1.5 This Standard contains Technical Requirements only.

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.

Norma Regulamentadora nº 10 ([NR-10](#)) - Segurança em Instalações e Serviços em Eletricidade;

Norma Regulamentadora nº 11 ([NR-11](#)) - Transporte, Movimentação, Armazenagem e Manuseio de Materiais;

Norma Regulamentadora nº 12 ([NR-12](#)) - Segurança no Trabalho em Máquinas e Equipamentos;

Norma Regulamentadora nº 18 ([NR-18](#)) - Condições e Meio Ambiente de Trabalho na Indústria da Construção;

Norma Regulamentadora nº 34 ([NR-34](#)) - Condições e Meio Ambiente de Trabalho na Indústria da Construção e Reparação Naval;

PETROBRAS [N-1930](#) - Movimentação de Carga Inspeção, Manutenção e Operação de Guindastes "Offshore";

PETROBRAS [N-1965](#) - Movimentação de Carga Inspeção, Manutenção e Operação de Equipamentos Terrestres;

PETROBRAS [N-2162](#) - Work Permit;

PETROBRAS [N-2170](#) - Inspeção em Serviços de Acessórios de Movimentação de Carga;

ABNT [NBR 13541-2](#) - Linga de Cabo de Aço - Parte 2: Utilização e Inspeção;

ABNT [NBR 16029](#) - Embalagens - Contentores Intermediários Flexíveis (FIBC) para Produtos Não Perigosos (ISO 21898:2004, MOD);

ABNT [NBR ISO 4309](#) - Equipamentos de Movimentação de Carga - Cabos de Aço - Cuidados, Manutenção, Instalação, Inspeção e Descarte;

ASME [B 30.5](#) - Mobile and Locomotive Cranes.

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 term and definition apply.

load handling

operation involving the load, unloading and displacement of materials and equipment inside PETROBRAS units and in areas under its responsibility

4 General Conditions

4.1 All equipment and accessories for load movement shall:

- a) be certificated as per the criteria established by PETROBRAS [N-1930](#), [N-1965](#) and [N-2170](#);
- b) go through periodic maintenance and inspections, complying with the manufacturer criteria as a minimum;
- c) be used within their operational limits (load limit, maximum slope, maximum height, etc.);
- d) present its maximum load capacity for work on a visible place, clearly visible and indelibly in its both sides whenever possible.

NOTE It is forbidden to change the equipment operational limits, except:

- a) under conditions foreseen by the manufacturer;
- b) to reduce the equipment capacity motivated by the endanger of a component or system, assessed and registered by an expert, in order to ensure the traceability; the implementations of actions indicated by this assessment shall be supervised.

4.2 When planning activities related to load movement, it shall be considered PETROBRAS [N-2162](#) requirements.

4.3 The risk analysis shall be made at least under the following conditions:

- a) when using equipment for load handling that release toxic gas in enclosed areas or with little ventilation;
- b) when load handling near listed areas;
- c) when load handling near to equipment of processes that handle with flammable or toxic gas (e.g. H₂S and CO₂);
- d) when load handling having large dimensions and irregular shape;
- e) when load handling near to electrical grids;
- f) when load handling in flooring under special conditions;
- g) when load handling simultaneously to other services (such as assembly, disassembly and maintenance), taking into account the combined risks.