Amendment on 26 December 2024
Resolved by Technical Committee on 23 July 2024

Flanged Joints and Expansion Bends of Cargo Oil Piping and Ballast Piping

Object of Amendment

Rules for the Survey and Construction of Steel Ships Part D
Guidance for the Survey and Construction of Steel Ships Part D

Reason for Amendment

IACS Unified Requirement (UR) F15 specifies requirements for cargo piping passing through ballast tanks and ballast piping passing through cargo tanks, as permitted by Regulation 19.3.6 of MARPOL Annex I. These requirements have already been incorporated into the NK Rules.

Recently, IACS clarified the terms used in this UR and adopted UR F15(Rev.7) in September 2023.

Accordingly, relevant requirements are amended based upon UR F15(Rev.7).

Outline of the Amendment

Adds definitions for “flanged joints which have no risk of leakage” and “expansion bends” to Chapter 14, Part D of the Rules for the Survey and Construction of Steel Ships.

Effective Date and Application

This amendment applies to ships for which the date of contract for construction is on or after 1 January 2025.

An asterisk (*) after the title of a requirement indicates that there is also relevant information in the corresponding Guidance.

ID: DD24-09

Amended-Original Requirements Comparison Table
(Flanges Joints and Expansion Bends of Cargo Oil Piping and Ballast Piping)

Amended	Original	Remarks
RULES FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS **Part D MACHINERY INSTALLATIONS** **Chapter 14 PIPING SYSTEMS FOR TANKERS** **14.2 Cargo Oil Pumps, Cargo Oil Piping Systems, Piping in Cargo Oil Tanks, etc.** **14.2.4 Separation of Cargo Oil Pumps and Cargo Oil Pipes*** **6** Notwithstanding the preceding **-5**, in the case of oil tankers other than double hull tankers, cargo oil pipes may pass through ballast tanks provided that the connections of these pipes are of welded joints or flanged joints which have no risk of leakage. Expansion bends only are permitted in these lines within ballast tanks. **14.2.7 Piping in Cargo Oil Tanks*** **5** Notwithstanding the preceding **-4**, in the case of oil tankers other than double hull tankers, ballast pipes of ballast tanks adjacent to cargo oil tanks may pass through cargo oil tanks provided that the connections of these pipes are of welded joints or flanged joints which have no risk of leakage. Expansion bends only are permitted in these lines within cargo oil tanks.	**RULES FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS** **Part D MACHINERY INSTALLATIONS** **Chapter 14 PIPING SYSTEMS FOR TANKERS** **14.2 Cargo Oil Pumps, Cargo Oil Piping Systems, Piping in Cargo Oil Tanks, etc.** **14.2.4 Separation of Cargo Oil Pumps and Cargo Oil Pipes*** **6** Notwithstanding the preceding **-5**, in the case of oil tankers other than double hull tankers, cargo oil pipes may pass through ballast tanks provided that the connections of these pipes are of welded joints or flanged joints which have no risk of leakage. Expansion bends only, not glands, are permitted in these lines within ballast tanks. **14.2.7 Piping in Cargo Oil Tanks*** **5** Notwithstanding the preceding **-4**, in the case of oil tankers other than double hull tankers, ballast pipes of ballast tanks adjacent to cargo oil tanks may pass through cargo oil tanks provided that the connections of these pipes are of welded joints or flanged joints which have no risk of leakage. Expansion bends only, not glands, are permitted in these lines within cargo oil tanks.	UR F15 (Rev.7) F15.1.1 Delete “not gland” UR F15 (Rev.7) F15.1.1 Delete “not gland”

Amended-Original Requirements Comparison Table
(Flanges Joints and Expansion Bends of Cargo Oil Piping and Ballast Piping)

Amended	Original	Remarks

EFFECTIVE DATE AND APPLICATION

1. The effective date of the amendments is 1 January 2025.

2. Notwithstanding the amendments, the current requirements apply to ships for which the date of contract for construction* is before the effective date.

* "contract for construction" is defined in the latest version of IACS Procedural Requirement (PR) No.29.

IACS PR No.29 (Rev.0, July 2009)

1. The date of "contract for construction" of a vessel is the date on which the contract to build the vessel is signed between the prospective owner and the shipbuilder. This date and the construction numbers (i.e. hull numbers) of all the vessels included in the contract are to be declared to the classification society by the party applying for the assignment of class to a newbuilding.

2. The date of "contract for construction" of a series of vessels, including specified optional vessels for which the option is ultimately exercised, is the date on which the contract to build the series is signed between the prospective owner and the shipbuilder.

For the purpose of this Procedural Requirement, vessels built under a single contract for construction are considered a "series of vessels" if they are built to the same approved plans for classification purposes. However, vessels within a series may have design alterations from the original design provided:

(1) such alterations do not affect matters related to classification, or

(2) If the alterations are subject to classification requirements, these alterations are to comply with the classification requirements in effect on the date on which the alterations are contracted between the prospective owner and the shipbuilder or, in the absence of the alteration contract, comply with the classification requirements in effect on the date on which the alterations are submitted to the Society for approval.

The optional vessels will be considered part of the same series of vessels if the option is exercised not later than 1 year after the contract to build the series was signed.

3. If a contract for construction is later amended to include additional vessels or additional options, the date of "contract for construction" for such vessels is the date on which the amendment to the contract, is signed between the prospective owner and the shipbuilder. The amendment to the contract is to be considered as a "new contract" to which **1.** and **2.** above apply.

4. If a contract for construction is amended to change the ship type, the date of "contract for construction" of this modified vessel, or vessels, is the date on which revised contract or new contract is signed between the Owner, or Owners, and the shipbuilder.

Note:
This Procedural Requirement applies from 1 July 2009.

Amended-Original Requirements Comparison Table
(Flanges Joints and Expansion Bends of Cargo Oil Piping and Ballast Piping)

Amended	Original	Remarks
GUIDANCE FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS	**GUIDANCE FOR THE SURVEY AND CONSTRUCTION OF STEEL SHIPS**	
Part D MACHINERY INSTALLATIONS	**Part D MACHINERY INSTALLATIONS**	
D14 PIPING SYSTEMS FOR TANKERS	**D14 PIPING SYSTEMS FOR TANKERS**	
D14.2 Cargo Oil Pumps, Cargo Oil Piping Systems, Piping in Cargo Oil Tanks, etc.	**D14.2 Cargo Oil Pumps, Cargo Oil Piping Systems, Piping in Cargo Oil Tanks, etc.**	
D14.2.4 Separation of Cargo Oil Pumps and Cargo Oil Pipes	**D14.2.4 Separation of Cargo Oil Pumps and Cargo Oil Pipes**	
1 (Omitted)	(Omitted)	
2 The wording "flanged joints which have no risk of leakage" in **14.2.4-5** and **-6, Part D of the Rules** means welded flange joints rated at least a nominal pressure of 1.0 *MPa* or a nominal pressure one rank higher than required design pressure, whichever is greater.	(Newly added)	UR F15 (Rev.7) F15.1.1 Definitions of "flanged joints which have no risk of leakage" and " expansion bends"
3 The wording "expansion bends" in **14.2.4-6, Part D of the Rules** means expansion loops such as omega bends in piping systems to counteract excessive stress or displacement caused by thermal expansion or hull deformation which could be fabricated from straight lengths of pipe.	(Newly added)	
D14.2.7 Piping in Cargo Oil Tanks	**D14.2.7 Piping in Cargo Oil Tanks**	
1 (Omitted)	(Omitted)	
2 (Omitted)	(Omitted)	
3 (Omitted)	(Omitted)	
4 (Omitted)	(Omitted)	

Amended-Original Requirements Comparison Table
(Flanges Joints and Expansion Bends of Cargo Oil Piping and Ballast Piping)

Amended	Original	Remarks
5 The wording "flanged joints which have no risk of leakage" in **14.2.7-4** and **-5, Part D of the Rules** means welded flange joints rated at least a nominal pressure of 1.0 *MPa* or a nominal pressure one rank higher than required design pressure, whichever is greater.	(Newly added)	UR F15 (Rev.7) F15.1.1 Definitions of "flanged joints which have no risk of leakage" and "expansion bends"
6 The wording "expansion bends" in **14.2.7-5, Part D of the Rules** means expansion loops such as omega bends in piping systems to counteract excessive stress or displacement caused by thermal expansion or hull deformation which could be fabricated from straight lengths of pipe.	(Newly added)	

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IACS PR No.29 (Rev.0, July 2009)

1. The date of "contract for construction" of a vessel is the date on which the contract to build the vessel is signed between the prospective owner and the shipbuilder. This date and the construction numbers (i.e. hull numbers) of all the vessels included in the contract are to be declared to the classification society by the party applying for the assignment of class to a newbuilding.
2. The date of "contract for construction" of a series of vessels, including specified optional vessels for which the option is ultimately exercised, is the date on which the contract to build the series is signed between the prospective owner and the shipbuilder.
   For the purpose of this Procedural Requirement, vessels built under a single contract for construction are considered a "series of vessels" if they are built to the same approved plans for classification purposes. However, vessels within a series may have design alterations from the original design provided:
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   The optional vessels will be considered part of the same series of vessels if the option is exercised not later than 1 year after the contract to build the series was signed.
3. If a contract for construction is later amended to include additional vessels or additional options, the date of "contract for construction" for such vessels is the date on which the amendment to the contract, is signed between the prospective owner and the shipbuilder. The amendment to the contract is to be considered as a "new contract" to which **1.** and **2.** above apply.
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