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## Economic Commission for Europe

### Inland Transport Committee

#### Working Party on Inland Water Transport

#### Working Party on the Standardization of Technical and Safety Requirements in Inland Navigation

##### Fifty-second session

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Item 6 (c) of the provisional agenda

**Standardization of technical and safety requirements  
in inland navigation: Recommendations on Harmonized  
Europe-Wide Technical Requirements for Inland  
Navigation Vessels (Resolution No. 61, revised)**

### **Provisions for port, harbour and anchorage and inshore operations vessels**

**Transmitted by the Government of the Russian Federation**

#### **I. Mandate**

1. This document is submitted in line with cluster 5: Inland Waterway Transport, paragraph 5.1 of the programme of work 2018–2019 (ECE/TRANS/SC.3/2017/24) to be adopted by the Inland Transport Committee at its eightieth session (20–23 February 2018).
2. At its sixty-first session, the Working Party on Inland Water Transport asked the secretariat to prepare, in consultation with the Russian Federation, an overview of the classification of port and harbour vessels for the fifty-second session of the Working Party on the Standardization of Technical and Safety Requirements in Inland Navigation (SC.3/WP.3), on the basis of the presentation made by the Russian Federation (ECE/TRANS/SC.3/205, para. 56).
3. The present document sets out the basic definitions and the main provisions of the Russian standards applicable to the classification of vessels for port and harbour, anchorage and inshore operations.
4. SC.3/WP.3 may wish to consider these provisions in the context of chapter 20B, Specific requirements applicable to river-sea navigation vessels, of the annex to resolution No. 61.



## II. Classification of port and harbour vessels

5. Port and harbour vessels are defined as vessels for operation in the following conditions:

(a) Port navigation, i.e., the work of vessels in harbour basins protected from rough water where local conditions do not allow excessive levels of waves or any other situation to arise that may require the vessel to be moved outside the harbour basin to seek shelter from adverse weather conditions;

(b) Harbour navigation, i.e., the work of vessels in the outer areas of ports and other maritime sectors up to 15 miles (up to 10 miles for worksite craft and floating cranes) from places of refuge that would afford them shelter from adverse weather conditions, with wind and waves coming from any direction.

6. Vessels of classes M-SP, M-PR, O-PR, M and O are generally those admitted for operation as port and harbour vessels.<sup>1</sup>

7. The Russian River Register has in its class records over 5,700 inland and mixed (sea-river) navigation vessels, including small vessels (data from October 2017) which, by their type (purpose) and pattern of use, can be used for port and harbour navigation, including:

- 3,228 tugs and pushers (up to 30 m in length); average age: 40 years
- 625 inspection vessels; average age: 32 years
- 282 bunkering vessels; average age: 39 years
- 1,022 floating cranes; average age: 36 years
- 61 icebreakers; average age: 39 years

8. Given the nature of their operation, including the restrictions on distance from the shore and/or places of refuge and the protected nature of the basin/harbour, port and harbour vessels may be granted greater flexibility in respect of a number of requirements for operation compared to the standard class requirements as defined in the Rules and Regulations.<sup>2</sup>

9. To that end, the Requirements for Harbour and Port Vessels (R.015-2006 guidelines) were introduced under the Russian River Register in 2006.<sup>3</sup> That document makes it possible to set conditions for port and harbour navigation, including seasonal restrictions, within the officially established borders of seaports (and their harbours) for vessels whose main class notation does not fully correspond to the category of the proposed navigation zone, subject to the introduction of a number of operational restrictions (see tables 1 and 2). The guidelines do not apply to passenger vessels.

<sup>1</sup> The categories of water basin correspond to the zones set out in the annex to Resolution No. 61:

<i>Category of water basin (inland waterways)</i>	<i>Zone as in Resolution No. 61</i>	<i>Category of water basin (maritime areas)</i>	<i>Zone as in Resolution No. 61</i>
M	Zone 1	M-SP	RS 3,5
O	Zone 2	M-PR	RS 3,0
R	Zone 3	O-PR	RS 2,0
L	Zone 4		

<sup>2</sup> Here and below: Rules and Regulations for the Construction and Classification of Inland Navigation Vessels, approved under Russian River Register Order No. 35-P of 9 September 2015.

<sup>3</sup> [www.rivreg.ru/assets/Uploads/rukovodstva/r-015-2005-1.pdf](http://www.rivreg.ru/assets/Uploads/rukovodstva/r-015-2005-1.pdf).

Table 1  
**Harbour navigation conditions**

<i>Allowable wave height (3% probability) (m)</i>	<i>Main class notation with allowable wave height (m)*</i>
<i>Navigation zones and seasons other than as established in the Rules and Regulations</i>	
3,0	M-SP 3,5
2,0	M-PR 3,0; M-PR 2,5
1,5	O-PR 2,5
<i>Navigation zones and seasons as established in the Rules and Regulations</i>	
3,0	M-PR 3,0
2,5**	M-PR 2,5
1,5**	O-PR 2,0
1,5	O-PR 2,0

\* Allowable wave height specified after main class notation corresponds to 3% probability.  
\*\* Hydrofoils and hovercraft that meet the Rules and Regulations for class O vessels may be used in these conditions, if during the operating season the total recurrence of wave conditions exceeding the allowable wave height is no more than 5%.

Table 2  
**Harbour navigation conditions**

<i>Maximum dispersal of waves in the protected harbour zone, miles, not more than</i>	<i>Allowable wave height (3% probability) (m)</i>	<i>Main class notation with allowable wave height*</i>
15	3,5	M-SP 3,5
10	3,0	M-3,0 M-PR 3; M-PR 2,5
4	2,0**	O-PR 2,0
3	1,5**	O 2,0
1	1,0***	P 1,2

\* Allowable wave height specified after main class notation corresponds to 3% probability for vessels of classes M-SP, M-PR, M and O-PR and to 1% probability for vessels of classes O and R.  
\*\* In certain circumstances, hydrofoils and hovercraft that meet the requirements of the Rules and Regulations for class O vessels may be used in port navigation.  
\*\*\* In certain circumstances, hydrofoils and hovercraft that meet the requirements of the Rules and Regulations for class R vessels may be used in port navigation.

10. The zones and seasons for the operation of port and harbour vessels are set, in line with the Rules and Regulations, according to the justification provided by an organization with a valid River Register recognition certificate, on the basis of a detailed assessment of the long-term wave regime in the harbour zone concerned and an assessment of the maximum possible wave parameter in the protected zone, with due regard to icing.

11. In accordance with the provisions of the R.015-2006 guidelines, lower requirements may be permitted for the following elements of the vessel:

- Subdivision and damage stability
- Freeboard
- Steering gear

- Standards for collective life-saving appliances for vessels other than vessels for the transport of small groups of passengers, special purpose vessels and vessels designed for the transport of organized groups of people
  - Coupling devices
  - Standards for pyrotechnic signalling devices
  - Emergency equipment
  - Electrical equipment
  - Supply standards for radio and navigation equipment
12. The R.015-2006 guidelines impose additional requirements in respect of:
- Hull strength, including for the possibility of cargo handling operations on rough water
  - Corrosion protection of the propeller shaft, pipelines and hull bottom and side fittings and valves installed on pipelines
  - Towing equipment
13. Currently, there are more than 40 mixed (sea-river) navigation vessels that can operate in year-round (including winter) conditions for port and harbour navigation in the sea ports of the Russian Federation in accordance with the R.015-2006 guidelines.

### **III. Classification of vessels for anchorage and inshore operations**

14. The R.015-2006 guidelines are only one of the ways of establishing navigation conditions for vessels of classes set out in the Russian River Register (including inland vessels) with the introduction of a number of operational restrictions. In 2016, a new class for vessels for anchorage and inshore operations was introduced in the Russian River Register vessel classification system, including the requirements for such vessels.

15. Pursuant to Russian River Register Order No. 100-P amending the Rules and Regulations for the Classification and Construction of Vessels, of 27 December 2016, the introduction of a new “PR” class of coastal vessels is envisaged; a new part XIV is included in the Rules and Regulations, laying out the following requirements for coastal navigation for vessels:

- Between 20 m and 60 m in length
- Of a gross tonnage of up to 600<sup>4</sup>
- Operated only in coastal zones of maritime areas authorized for vessels of classes O-PR, M-PR and M-SP, less than 10 miles from the shore and no more than 25 miles from places of refuge
- Not operated on international routes
- Capable of operating in calm water at a speed of at least 10 knots for self-propelled vessels and at least 5 knots for non-self-propelled vessels under tow on calm water as part of a convoy
- Operated with a maximum allowable wave height at 3% probability of: 1.25 m; 1.5 m; 2.0 m; 2.5 m; 3.0 and 3.5 metres

16. Research and calculations have been used to develop a procedure regulating the main characteristics of maritime coastal navigation vessels, as set out in part XIV of the Rules and Regulations. This procedure makes it possible to differentiate the requirements for coastal navigation based on specific restrictions by zone and by navigation conditions. Thus, for the new class of vessel, a number of the requirements specified in the Rules and Regulations for Mixed (sea-river) Navigation Vessels can be relaxed.

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<sup>4</sup> In accordance with the International Convention on Tonnage Measurement of Ships, 1969.

17. Specifically, for coastal navigation vessels, a reasonable reduction in the number of specifications may be accepted on the basis of the strength calculation for:

- Additional wave bending moment
- Design wave half height used in checking local strength of the scantlings and to set the minimum section modulus of the framing
- The design pressure on open sections of the freeboard deck, the deck and wall of the superstructures and deckhouses
- Allowable residual and minimum hull scantlings
- Minimum section modulus of the web frame

18. A distinctive feature and advantage of the new coastal navigation class is the possibility of using it to classify passenger vessels operating in coastal sea areas on local suburban routes.

19. The applicability of the new requirements of the Rules and Regulations for Coastal Navigation Vessels is not restricted to specific geographical areas. The calculation procedure introduced makes it possible to set out navigation conditions in virtually all O-PR, M-PR or M-SP class coastal areas, in accordance with Ministry of Transport Order No. 138 of 30 May 2016 approving lists of water basins, according to category.

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