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

Sixty-second session
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Item 6 (a) of the provisional agenda
Standardization of Technical and Safety Requirements in Inland Navigation: European Code for Inland Waterways (Resolution No. 24, Revision 6)

Recommendations of the European Committee for Standards in Inland Navigation on Technical Requirements for the Use of Alternative Fuels

Transmitted by the Central Commission for the Navigation of the Rhine

Mandate

1. This document is submitted in line with the Proposed Programme Budget for 2023, part V, Regional cooperation for development, section 20, Economic Development in Europe, Programme 17, Economic Development in Europe (A/77/6 (Sect. 20), table 20.6).

2. At its sixty-sixth session, the Working Party on Inland Water Transport (SC.3) was informed by the secretariat about a letter of Ms. L. Luijten, Secretary General of the Central Commission for the Navigation of the Rhine (CCNR) with a number of proposals on technical requirements for the use of alternative fuels for inland waterway vessels, developed by the European Committee for Standards in Inland Navigation (CESNI). The proposals have been elaborated by the CESNI Temporary working group on technical requirements for fuel cells (CESNI/PT/FC) to amend the European Standard laying down Technical Requirements for Inland Navigation vessels (ES-TRIN) and could entail the development of new provisions to the police regulations. SC.3 asked the secretariat to prepare a working document for the sixty-second session of SC.3/WP.3 (ECE/TRANS/SC.3/217, paragraph 68).

3. The text of the CCNR letter and the recommendations of CESNI/PT/FC are reproduced in the annex to this document.

Annex

Summary of Recommendations

1. In accordance with its work programme, CESNI develops vessel technical requirements to allow the use of alternative fuels. The main objective is to permit the use of methanol and hydrogen (compressed/liquefied), either in fuel cells or combustion engines, as conventional technologies for the propulsion of inland vessels. Other technologies such as compressed natural gas or hydrogen carriers will be addressed in the coming years. By establishing the legal certainty for these new technologies, CESNI wants to contribute to the achievements of the emission reduction targets, as set out in the Mannheim Declaration and the European Green Deal.

2. In practice, the Working Group CESNI/PT/FC prepares proposals to amend the European Standard laying down Technical Requirements for Inland Navigation vessels (ES-TRIN). As the latter is focused on the design and equipment of inland vessels, it does not include operational requirements which are covered by international and national police regulations. Nevertheless, the Working Group CESNI/PT/FC has identified few proposals which could feed in the development of police requirements for the use of alternatives fuels and has asked the CESNI Secretariat to share with the different competent bodies in Europe.

3. The table below contains the summary of the recommendations addressed to regulatory and standardisation bodies involved in charge of the development of the police requirements at the European level. Although these recommendations only relate to the methanol storage, the CESNI Secretariat does not exclude similar inputs for hydrogen at later stage.

No.	*Recommendation*	*Meeting Minutes*
1	The final draft methanol rules include less stringent requirements for parts of the methanol system including the tanks of the vessel which are in permanent contact with water. In case of leakage through these parts, it will lead to rapid dilution in the water and no toxic vapours for the crew. In other words, the final draft rules foresee that the secondary barrier of the tanks can be omitted on those surfaces bound by shell plating below the lowest possible waterline. CESNI/PT/FC approved a definition as follows: “1.1.14 Lowest possible waterline: the waterline corresponding to the displacement of the craft without ballast and without load.” But it also wished to add the following in the explanatory notices of ES-TRIN: “the lowest possible waterline must take into account the different loading conditions of the vessel, notably the impact on the vessel's trim”. The Secretariat was invited to draw the attention of the bodies in charge of police regulations on this topic. Indeed, police regulations might address the need to take into account the different loading conditions of the vessel, notably the impact on the vessel's trim.	June 2022 PT/FC(22) m 23, item 1.1.14
2	The final draft methanol rules include the following “2.2.3.1 Inerted methanol fuel tanks shall be inerted at all times during normal operation”. Although this provision looks like an operational requirement, CESNI/PT/FC decided to keep it in ES-TRIN. The Secretariat was invited to draw the attention of the bodies in charge of police regulations on this topic. Indeed, police regulations might provide for measures to keep the tanks inerted at all times.	June 2022 PT/FC(22) m 23, item 2.2.3.1

No.	*Recommendation*	*Meeting Minutes*
3	The final draft methanol rules include the following "2.2.2.2 Methanol fuel tanks and their piping shall be designed to prevent electrostatic charges. Independent fuel tanks shall be electrically bonded to the craft's structure". The European Inland Waterway Transport Platform has provided the following operational advice. When filling an empty tank too fast, electrostatic charge due to too high flow velocities might occur. Therefore, the bunkering velocity shall be low until the tank bottom is covered. This echoes the ISGINTT[1] provisions. Reference was also made to the provisions of TRBS 2153 (Vermeidung von Zundgefahren infolge elektrostatischer Aufladungen).[2] The Secretariat was invited to draw the attention of the bodies in charge of police regulations on this topic. Indeed, police regulations might address the need to regulate the bunkering velocity.	April 2022 PT/FC(22) m 17, item 2.2.2.2
4	The final draft methanol rules include the following "2.2.9.6 It shall be possible to safely ventilate overboard the spaces where methanol fuel may accumulate to ensure a safe atmosphere when entering the spaces is necessary". In response to a question from Belgium, CESNI/PT/FC examined the compatibility between the ADN[3] rules (notably 7.2.3.1) and the draft provision 2.2.9.6. No contradiction was observed; however, ADN provides very detailed rules for the maintenance. For instance, a measurement with a toximeter shall be performed, and if it complies with mandatory levels, it is possible to enter a cofferdam where vapours of methanol may accumulate. In other words, ADN is going beyond the provisions of 2.2.9.6, but it is also because the quantity of methanol can be significantly higher. The Secretariat was invited to draw the attention of the bodies in charge of police regulations on this topic. Indeed, police regulations might address the issue of safe maintenance, by analogy with ADN.	January 2022 PT/FC(21) m 18 rev.4

[1] *Note by the secretariat:* International Safety Guide for Inland Navigation Tank-barges and Terminals.

[2] *Note by the secretariat:* Avoiding ignition hazards due to electrostatic charges, Technical Rules for Operational Safety (TRBS).

[3] *Note by the secretariat:* European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.