

Economic and Social Council

Inland Transport Committee

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Working Party on the Transport of Dangerous Goods

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Joint Meeting of Experts on the Regulations annexed to the European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (ADN) (ADN Safety Committee)

Forty-third session

Geneva, 22-26 January 2024

Item 5 (b) of the provisional agenda

Proposals for amendments to the Regulations annexed to ADN: other proposals

ADN 7.1.3.31, 7.2.3.31.1: Machines, reference to ES-TRIN

Transmitted by the Government of Belgium

Summary

Executive summary: Working document ECE/TRANS/WP.15/AC.2/2024/4, transmitted by the Government of Germany, considers the reference to ES-TRIN, annex 8 from subsections 7.1.3.31 and 7.2.3.31.1.

Part 9 of the Regulations annexed to the ADN provides similar provisions with a reference to ES-TRIN, annex 8, which should also be considered by the ADN Safety Committee.

In order to achieve the environmental and climate protection aims set by the European Union, as well as the sustainable development goals of the United Nations inland navigation will have to switch to alternative propulsion systems and alternative fuels more and more in the near future. The ADN should not be an obstruction in this achievement.

Action to be taken: Subsections 9.1.0.31.1, 9.3.1.31.1, 9.3.2.31.1 and 9.3.3.31.1 are also to be considered

Consider and validate alternative proposal submitted by the Government of Belgium.

Related documents: ECE/TRANS/WP.15/AC.2/84 (report of the 41st session)

ECE/TRANS/WP.15/AC.2/2023/9 and informal document INF.23 of the forty-first session (EBU/ESO)

ECE/TRANS/WP.15/AC.2/2024/4 (Germany).

Introduction

1. The Belgian delegation discussed the proposal of the German delegation in working document ECE/TRANS/WP.15/AC.2/2024/4 with the Belgian industry and representants of the inland waterway transport. The Belgian delegation is of the opinion that not allowing other parts of annex 8 will slow down possible and impede the transition to alternative fuels and therefore also impede climate change actions.

2. Part 9 of the Regulations annexed to the ADN contain the prescriptions for the construction of the vessel. Similar requirements can be found in subsections 9.1.0.31.1, 9.3.1.31.1, 9.3.2.31.1 and 9.3.3.31.1:

"Only internal combustion engines running on fuel having a flashpoint above 55 °C are allowed. This provision does not apply to internal combustion engines which are part of propulsion and auxiliary systems. These systems shall meet the requirements of Chapter 30 and Annex 8, Section 1 of the European Standard laying down Technical Requirements for Inland Navigation vessels (ES-TRIN) as amended."

If these paragraphs are not amended, then the construction of the vessel with fuel cells can be according to Chapter 30, annex 8, but this would not be allowed according to the operational requirements of the ADN.

3. The content of ES-TRIN, annex 8 in the version 2023, is as follows:

Section I Definitions

Section II Fuel storage

Chapter 1 LNG

Chapter 2 Methanol (left void)

Chapter 3 Hydrogen (left void)

Section III Energy converters

Chapter 1 Propulsion or auxiliary systems with fuel cells

Chapter 2 Propulsion or auxiliary systems with internal combustion engines using LNG as primary fuel

Chapter 3 Propulsion or auxiliary systems with internal combustion engines using methanol as fuel (left void)"

The Belgian delegation is of the opinion that at least also Section III, Chapter 1 can be used as a reference in the ADN. It concerns the requirements for the propulsion and auxiliary systems with fuel cells, which are not more hazardous to dangerous goods than Internal Combustion Engines.

4. Currently the requirements for methanol and hydrogen are not in place yet and therefore not ratified, but in September 2023 the Working Group CESNI/PT accepted the final text to be introduced in the version 2025 of ES-TRIN and to be validated in April 2024 by the Committee CESNI. The text contains:

- the requirements for storage and use of methanol (Annex 8, Chapters 2.2 and 3.3, as well as new ESI-III-12),
- the update of general requirements of Chapter 30, notably for the scope of application and the risk assessment,
- the update of definitions of Annex 8 (including a definition of swappable tank),
- the minor revision of existing rules for storage and use of LNG, as well as for fuel cells (to ensure consistency in Annex 8).

More important is the agreement of the delegations **to use these requirements as guidelines for further projects** until ES-TRIN 2025 comes in force. The Working Group CESNI/PT also asked the Secretariat of the CCNR to inform the ADN Safety Committee. Given the short notice, we believe the ADN Safety Committee could be informed during its forty forth session in August 2024.

5. The Belgian delegation is still of the opinion that the technical requirements provided by ES-TRIN for the alternative fuels are safe enough for vessels carrying dangerous goods. The only danger which may occur is the combined load of the alternative fuel and the cargo consisting of dangerous goods. If a sufficient separation can be secured between the alternative fuel and the cargo then there should be no obstacle to accept the

alternative fuel on board the vessel. This separation is already available in the ADN or IMDG Code.

Proposal

6. Taken the previous considerations into account, the Belgian delegation therefore proposes to consider four options for an amendment of the ADN:

Option 1: This option allows the inspection body and classification societies to use the requirements as much as available in the ES-TRIN. If no requirements are available then a recommendation according to the regulations referring to ES-TRIN would be required.

Amend “Chapter 30 and Annex 8, Section 1 of the European Standard laying down Technical Requirements for Inland Navigation vessels (ES-TRIN)” to read as **“Chapter 30 and Annex 8 of the European Standard laying down Technical Requirements for Inland Navigation vessels (ES-TRIN)”** in paragraphs 7.1.3.31, 7.2.3.31.1, 9.1.0.31.1, 9.3.1.31.1, 9.3.2.31.1 and 9.3.3.31.1.

Note that no additional amendments concerning ES-TRIN would be necessary for the next ADN, while the other options require a new amendment for the version 2027 of the ADN. The separation requirements as mentioned in option 4 can also be added to this option 1.

Option 2: German proposal as provided by document ECE/TRANS/WP.15/AC.2/2024/4 only allows LNG as alternative fuel. Note that also paragraphs 9.1.0.31.1, 9.3.1.31.1, 9.3.2.31.1 and 9.3.3.31.1 should be amended.

Option 3: This option allows current technology in annex 8 of the ADN, including the fuel cells.

Amend “Chapter 30 and Annex 8, Section 1 of the European Standard laying down Technical Requirements for Inland Navigation vessels (ES-TRIN)” to read as **“Chapter 30 and Annex 8, Section II, Fuel storage, Chapter 1 LNG; and Section III, Chapter 1, Propulsion or auxiliary systems with fuel cells and Chapter 2, Propulsion or auxiliary systems comprising internal combustion engines using LNG as primary fuel of the European Standard laying down Technical Requirements for Inland Navigation vessels (ES-TRIN)”** in paragraphs 7.1.3.31, 7.2.3.31.1, 9.1.0.31.1, 9.3.1.31.1, 9.3.2.31.1 and 9.3.3.31.1.

Option 4: This option is the same as option 3, but includes also the separation requirements as set out in paragraph 5 of this informal document.

Amend “Chapter 30 and Annex 8, Section 1 of the European Standard laying down Technical Requirements for Inland Navigation vessels (ES-TRIN)” to read as **“Chapter 30 and Annex 8, Section II, Fuel storage, Chapter 1 LNG; and Section III, Chapter 1, Propulsion or auxiliary systems with fuel cells and Chapter 2, Propulsion or auxiliary systems comprising internal combustion engines using LNG as primary fuel of the European Standard laying down Technical Requirements for Inland Navigation vessels (ES-TRIN)”** in paragraphs 7.1.3.31, 7.2.3.31.1, 9.1.0.31.1, 9.3.1.31.1, 9.3.2.31.1 and 9.3.3.31.1.

At the end of the paragraphs 7.1.3.31, 7.2.3.31.1, 9.1.0.31.1, 9.3.1.31.1, 9.3.2.31.1 and 9.3.3.31.1, add the following sentences: **“Separation between fuel tanks, fuel system and propulsion system shall be ascertained according to section 7.1.4 or subsection 7.2.4.13. Special attention shall be given to tank vessels carrying substances where special requirement 12 is indicated in column 20 of Table C of Chapter 3.2. The risk assessment as required by ES-TRIN, Chapter 30, article 30.04 shall be extended with the hazards concerning the transport of dangerous goods.”**