



Economic and Social Council

Distr.: General
15 September 2015

Original: English

Economic Commission for Europe

Inland Transport Committee

Working Party on the Transport of Dangerous Goods

Administrative Committee of the European Agreement
concerning the International Carriage of Dangerous
Goods by Inland Waterways (ADN)

Fifteenth session
Geneva, 28 August 2015

Report of the Administrative Committee of the European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways on its fifteenth session*

* Distributed in German by the Central Commission for the Navigation of the Rhine under the symbol CCNR-ZKR/ADN/33.

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I. Attendance

1. The Administrative Committee of the European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (ADN) held its fifteenth session in Geneva on 28 August 2015 under the chairmanship of Mr. H. Rein (Germany) and vice-chairmanship of Mr. B. Birkhuber (Austria). Representatives of the following Contracting Parties took part in the work of the session: Austria, Belgium, Bulgaria, Croatia, France, Germany, Netherlands, Romania, Russian Federation, Slovakia and Switzerland.

2. The Administrative Committee noted that the representatives of Contracting Parties attending the session had been accredited and that the quorum of half the number of Contracting Parties required for taking decisions had been reached.

3. In accordance with article 17, paragraph 2 of ADN, and following a decision by the Committee (ECE/ADN/2, para. 8), a representative of the Central Commission for the Navigation of the Rhine (CCNR) also took part in the session as an observer.

II. Adoption of the agenda (agenda item 1)

Documents: ECE/ADN/32 and Add.1

4. The Administrative Committee adopted the agenda prepared by the secretariat.

III. Status of the European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (ADN) (agenda item 2)

5. The Administrative Committee noted that the number of Contracting Parties remained at 18: Austria, Belgium, Bulgaria, Croatia, Czech Republic, France, Germany, Hungary, Luxembourg, Netherlands, Poland, Republic of Moldova, Romania, Russian Federation, Serbia, Slovakia, Switzerland and Ukraine.

IV. Matters relating to the implementation of ADN (agenda item 3)

A. Classification societies

6. It was underlined that countries that had recognised Germanischer Lloyd should inform the secretariat whether they recognised DNV GL SE which had succeeded Germanischer Lloyd. Germany, Netherlands, Republic of Moldova and Romania had not yet sent notifications to that effect.

7. Germany informed the Administrative Committee that it had recognised RINA Germany GmbH in accordance with 1.15.2.4 of the Regulations annexed to ADN as of 22 June 2015 (Informal document INF.3).

8. The Administrative Committee recalled that all Recommended ADN Classification Societies had to provide evidence, directly to the Administrative Committee, of their certification in accordance with standard EN ISO/IEC 17020: 2012 (except clause 8.1.3).

Satisfactory evidence had so far been provided by RINA Germany GmbH and the Shipping Register of Ukraine.

9. As noted by the ADN Safety Committee (see ECE/TRANS/WP.15/AC.2/56, para. 35), Lloyds Register and the Russian Maritime Register of Shipping had provided information but this information was not sufficient, e.g. because it mainly related to the maritime activities of those classification societies. Bureau Veritas had provided evidence of certification but for its Belgian branch only. This also concerned RINA which had provided evidence for its German branch only. The question arose therefore whether some classification societies such as Bureau Veritas and RINA could be deemed to be Recommended ADN Classification Societies, or only their branches such as RINA Germany and Bureau Veritas Belgium. This should be further discussed and clarified.

10. Det Norske Veritas Germanischer Lloyd (DNV GL SE) and the Russian River Register had not yet provided the requested information. Therefore, with the exception of the Shipping Register of Ukraine, all Recommended ADN Classification Societies were requested to provide evidence of certification that the quality system they apply in relation to ADN related activities conforms to EN ISO/IEC 17020: 2012 (except clause 8.1.3) as required by 1.15.3.8 of the Regulations annexed to ADN. This should be done for the next session of the Safety Committee.

B. Special authorizations, derogations and equivalents

11. The Administrative Committee endorsed the recommendation of the Safety Committee (ECE/TRANS/WP.15/AC.2/56, para. 8) authorizing the competent authority of the Netherlands to issue, in accordance with 1.5.3.2, a temporary derogation for the tank vessel Argos GL that would allow it on a trial basis to use liquefied natural gas (LNG) as fuel for the propulsion installation (Informal document INF.4 issued for the twenty-seventh session of the Safety Committee) (see Annex I).

12. The Administrative Committee also endorsed the recommendation of the Safety Committee (ECE/TRANS/WP.15/AC.2/56, paras. 9-12) authorizing the competent authority of the Netherlands to issue, in accordance with 1.5.3.2, a temporary derogation for the tank vessel Argos GL that would allow it to use membrane tanks for the carriage of LNG (Informal documents INF.6 and INF.6/Rev.1 issued for the twenty-seventh session of the Safety Committee) (see Annex II). As noted by the ADN Safety Committee (ECE/TRANS/WP.15/AC.2/56, para. 11), there was an error in step 13 on page 26/27 of the "Damen" report in informal document INF.6 that should be corrected (replace "760 m3" by "935 m3").

13. It was noted that since the last session three multilateral agreements had been initiated on the carriage of containers with electrical equipment on the outside of the container, proof of sufficient intact stability in accordance with 9.3.2.13.3, and furnishing proof of sufficient intact stability in accordance with 9.3.1.13.3 and 9.3.3.13.3 (see <http://www.unece.org/trans/danger/publi/adn/multilateral-agreements.html>).

14. It was recalled that the text of special authorizations, special agreements, derogations and equivalents, as well as their status, and of notifications, was available on the secretariat's website at the following link: <http://www.unece.org/trans/danger/danger.htm>.

C. Miscellaneous notifications

Informal documents: INF.1 and INF.2

15. The Committee noted that the Government of the Czech Republic had provided information on the recognition of an inspection body within the framework of the ADN in accordance with 1.16.4 (Informal document INF.1). The Administrative Committee suggested that the Czech inspection body could be invited to participate at a future meeting of the Recommended ADN Classification Societies. The Committee also noted that the Government of Germany had transmitted an accident report in accordance with 1.8.5.2 (Informal document INF.2).

D. Other matters

16. The Committee invited countries to check the contact information for their competent authority and if necessary to recognise classification societies from the recommended list in accordance with 1.15.2.4 of the annexed Regulations if they had not already done so.

V. Work of the Safety Committee (agenda item 4)

17. The Committee took note of the work of the Safety Committee as reflected in the report on its twenty-seventh session which it approved on the basis of the draft report prepared by the secretariat (ECE/TRANS/WP.15/AC.2/2015/CRP.3 and Adds. 1-7 and ECE/TRANS/WP.15/AC.2/2015/CRP.4 and Add. 1) adopted by the Safety Committee during the report reading (ECE/TRANS/WP.15/AC.2/56).

18. The Committee decided to consider the proposed amendments to the Regulations annexed to ADN for entry into force on 1 January 2017, as contained in annex I of ECE/TRANS/WP.15/AC.2/56, along with all other draft amendments adopted in 2014 and 2015 that had not yet been approved by the Administrative Committee, as a package at its sixteenth session on 29 January 2016.

VI. Programme of work and calendar of meetings (agenda item 5)

19. The Committee noted that its next session was scheduled to take place at 12.00 on 29 January 2016 and that the deadline for submission of documents for that meeting was 30 October 2015.

VII. Any other business (agenda item 6)

20. No other business was discussed.

VIII. Adoption of the report (agenda item 7)

21. The Administrative Committee adopted the report on its fifteenth session on the basis of a draft prepared by the secretariat and circulated to participants for approval after the session.

Annex I

Decision of the ADN Administrative Committee relating to the tank vessel *Argos GL*

Derogation No. 1/2015 of 28 August 2015

The competent authority of the Netherlands is authorized to issue a trial certificate of approval to the motor tank vessel *Argos-GL*, European Number of Identification to be determined, for the use of liquefied natural gas (LNG) as fuel for the propulsion installation.

Pursuant to paragraph 1.5.3.2 of the Regulations annexed to ADN, the above-mentioned vessel may deviate from the requirements of 7.1.3.31 and 9.1.0.31.1 until 30 June 2019. The Administrative Committee has decided that the use of LNG is sufficiently safe if the following conditions are met at all times:

1. The vessel has a valid ship's certificate according to the Rhine Vessel Inspection Regulations, based on recommendation 19/2014 dated 9 September 2014 of the CCNR.
2. A HAZID study by the recognized classification society* shows that the safety level of the LNG propulsion system is sufficient. This study covered, but was not limited to, the following issues:
 - Interaction between the cargo and LNG;
 - Effect of LNG spillage on the construction;
 - Effect of cargo fire on the LNG installation;
 - Different types of hazard posed by using LNG and diesel as fuel;
 - Adequate safety distance during bunkering operations.
3. The information that LNG is used as fuel is included in the dangerous goods report to traffic management and in emergency notifications;
4. All data related to the use of the LNG propulsion system shall be collected by the carrier. The data shall be sent to the competent authority on request;
5. An annual evaluation report shall be sent to the UNECE secretariat for information of the Administrative Committee. The evaluation report shall contain at least information on the following:
 - (a) system failures;
 - (b) leakages;
 - (c) bunkering data (LNG);
 - (d) pressure data;
 - (e) abnormalities, repairs and modifications of the LNG system including the tank;
 - (f) operational data;
 - (g) inspection report by the classification society which classed the vessel.

* Report 50102448 R01, dated 29 April 2014 by Lloyd's Register Consulting (available in Informal document INF.4 submitted to the twenty-fifth session of the ADN Safety Committee).

Annex II

Decision of the ADN Administrative Committee relating to the use of membrane tanks for the carriage of liquefied natural gas (LNG) on the tank vessel *Argos-GL*

Derogation No. 2/2015 of 28 August 2015

The competent authority of the Netherlands is authorized to issue a trial certificate of approval to the tank vessel *Argos-GL*, yard number to be determined, type G tanker, as referred to in the ADN, for the use of membrane tanks for the carriage of liquefied natural gas (LNG).

Pursuant to paragraph 1.5.3.2 of the Regulations annexed to ADN, the above-mentioned vessel may deviate until 31 August 2020 from the following requirements:

1. *Table C, UN 1972 (LNG), Column 7, cargo tank design: 1 (pressure tank).*

Although the membrane tank is a pressurized tank (70 kPa), it does not comply with the definition of a pressure tank according to ADN (400 kPa).

To manage the pressure in the cargo tanks the vapour is condensed with redundant liquefaction units. As a result, the pressure inside the tank is kept close to atmospheric pressure (see section 4.6 of the GTT Report, Revision: 02*).

2. *Table C, UN 1972 (LNG), Column 8, cargo tank type: 1 (independent tank).* Although the tank is independent from the vessel's structure for temperature, it is not independent from a structural point of view.

The membrane tanks are supported by the inner structure of the vessel. The vessel has a double bottom, double deck, and a crashworthy double hull. There is no cold transfer from the cargo to the vessel's structure. In fact the LNG cargo is protected by four (4) boundaries (outer and inner hull of the vessel, and the first and secondary membrane) (see Appendix 1, General Arrangement in the GTT Report, Revision: 02*).

3. *9.3.1.0.1 Tank materials.* The membrane tanks are made of plywood, polyurethane foam, aluminium foil and stainless steel.

The primary membrane which is in contact with the cryogenic LNG is made of stainless steel. The other materials are for insulation purposes only and are not in contact with the LNG (see section 4.4 of the GTT Report, Revision: 02*).

4. *9.3.1.0.2 Use of wood, aluminium and plastics in the cargo zone.* The membrane tanks are made of plywood, polyurethane foam, aluminium foil and stainless steel.

The risk of ignition and fire in the enclosed LNG containment insulation is eliminated due to the inerting of these parts of the tanks using nitrogen (see section 3.3 of the GTT Report, Revision: 02*).

* "GTT report to ADN – Membrane containment system for LNG", Revision: 02, 12/06/2015, as contained in Annex 2 to informal document INF.6 presented at the twenty-seventh session of the ADN Safety Committee at the following link:
<http://www.unece.org/fileadmin/DAM/trans/doc/2015/dgwp15ac2/WP15-AC2-27-inf06e.pdf>

5. 9.3.1.23.1 *Cargo tanks need to comply with the requirements of a classification society for pressure vessels.* As the tanks are not considered as a pressure vessel, these requirements are not applicable. But the membrane tanks are type approved by the classification society which classes the vessel (Lloyd's Register) and other recognized classification societies (see section 3 of the GTT Report, Revision: 02*).

Apart from the above-mentioned issues related to the membrane tanks, the vessel may also deviate from the following requirements:

6. 1.2.1 *Tanks installed in type G tankers.* Type G tankers are defined as vessels with independent tanks. Apart from the membrane tanks this vessel also has 4 tanks for the carriage of oil products. These tanks are integrated in the vessel's construction and separated from other parts of the vessel by transverse cofferdams (see Appendix 1, General Arrangement in the GTT Report, Revision: 02*).

Conditions

The Administrative Committee has decided that the use of membrane tanks is sufficiently safe if the following conditions are met at all times:

1. The vessel is to operate only in the Amsterdam-Rotterdam-Antwerp area.
2. The LNG cargo tanks of the vessel shall only be loaded in the Port of Rotterdam where this is allowed by the port authority. The recognised loading procedures of the International Association of Ports and Harbours (IAPH) shall be used.
3. The vessel shall also comply with the Rules and Regulations for the Classification of Inland Waterway Vessels of Lloyd's Register.
4. On top of these statutory and class requirements, the vessel shall be designed with additional safety features as described in the GTT Report, Revision: 02*. These are:
 - (a) Cofferdams in between every cargo tank,
 - (b) The possibility to inert the oil tanks,
 - (c) All safety devices are redundant,
 - (d) The pressure relief valves shall be sized based on the possible case of a fire in the adjacent spaces.
5. The use of the low pressure (70 kPa) containment system implies:
 - (a) No possibility of BLEVE (see section 3.2 of the GTT Report, Revision: 02*),
 - (b) Limited gas cloud which will be diluted by air quickly to below the lower explosion limit (5%)
6. The vessel shall be certified and classed as a Type G tanker. In the ADN the requirements for Type G tankers assume cylindrical tanks to be used as cargo tanks. Also the stability requirements and calculations involved are based on a vessel with cylindrical tanks. This vessel however has rectangular cargo tanks, and therefore the calculations of the ADN for Type G tankers cannot be used. Due to the tank shape the stability calculations must be made assuming the vessel as being a Type C tanker. As the stability requirements for Type G tankers are less stringent than for Type C tankers this assumption does not lead to a lower standard on stability.
7. Also the crashworthiness calculations according to ADN 9.3.4 shall be made assuming the vessel is a Type C tanker due to the shape of the cargo tanks. This assumption leads to more extensive crash calculations than would be the case if calculating the vessel as a Type G tanker (see section 4.4 of the GTT Report, Revision: 02*).

8. An evaluation report shall be sent to the UNECE secretariat each year for information of the Administrative Committee. The evaluation report shall contain at least information on the following:

- (a) Operational data (e.g. temperature and pressure inside the tank),
- (b) Abnormalities, repairs and modifications to the tank,
- (c) Inspection report by the classification society which classed the vessel,
- (d) The data shall be sent to the competent authority on request.

9. After completion of the vessel a final approved stability calculation shall be sent to the UNECE secretariat. This shall be confirmed before the vessel comes into service.

10. The vessel's substance list according to paragraph 1.16.1.2.5 of the ADN shall be limited to the carriage of LNG (UN No. 1972) and gas oil (UN No. 1202).

Annex 2 of informal document INF.6 presented at the twenty-seventh session of the ADN Safety Committee is an integral part of this derogation.**

** Available at the following link:
<http://www.unece.org/fileadmin/DAM/trans/doc/2015/dgwp15ac2/WP15-AC2-27-inf06e.pdf>.