



Bulletin

127th year: No. 4/2019

OTIF

Organisation intergouvernementale pour les transports internationaux ferroviaires
Zwischenstaatliche Organisation für den internationalen Eisenbahnverkehr
Intergovernmental Organisation for International Carriage by Rail

Unified railway law to connect Europe, Asia and Africa



SUMMARY

NEWS

OTIF

- 4 High-level meeting at the "Tbilisi Silk Road Forum"
- 5 A happy anniversary for the Vilnius Protocol
- 8 A new 2020-2021 work programme for OTIF
- 8 Global cooperation with the Universal Postal Union

9 DEPOSITORY NOTIFICATIONS FROM 1 JANUARY 2019

COMMUNICATING AND DISSEMINATING

- 10 Why COTIF?
- 10 OTIF and the Digital Transport & Logistics Forum
- 11 OTIF and EUMedRail: a vibrant synergy

DEVELOPMENT OF RAILWAY LAW

RAILWAY TECHNOLOGY

- 12 Responsibilities for vehicle maintenance - the Entity in Charge of Maintenance

DANGEROUS GOODS

- 16 55th Session of the UN Sub-Committee of Experts on the Transport of Dangerous Goods (Geneva, 1 - 5 July 2019)

DIARY OF EVENTS

Photos
Valerio Compagnone OTIF
Aleksandr Kuzmenko OTIF
UN website



Vilnius, the capital of Lithuania, has close connections with OTIF's recent history. Exactly 20 years ago, the "Vilnius Protocol" was adopted there, which put OTIF on a completely new footing.

First and foremost, the Organisation (OTIF) and the Convention (COTIF) had to be adapted to the fundamental changes in the railway structures that had taken place in the countries of the European Communities. In these countries, the railways were no longer considered as part of the state, but as undertakings that had to align themselves with the requirements of the European transport market. Even though these developments had no direct effect on COTIF, the base Convention and its appendices were extensively modified and OTIF was given new tasks, for example in connection with technical interoperability.

This was reason enough to celebrate this event in Vilnius. Together with our partners in Lithuania (Ministry of Transport and Communications, Ministry of Foreign Affairs and Lithuanian Railways), OTIF held a symposium in

Vilnius on 29 October for the 20th anniversary of the Protocol. You can find more information on the symposium in this edition of the Bulletin and in a special edition to be published at the beginning of 2020.

A direct result of the Vilnius Protocol and of the new tasks in the area of technology is the regulation on entities in charge of maintenance. This Bulletin contains an article on this, which provides more information on the conditions necessary to ensure safety on the railways.

The dangerous goods regulations also support railway safety and they were also considerably upgraded as a result of the Vilnius Protocol. This edition contains a report of the most recent work of the UN Committee responsible for the amendment of the UN Model Regulations which will have an impact on the 2023 edition of RID.

I should like to wish you a relaxing end of 2019 and all the best for 2020!

Wolfgang Küpper
Secretary General

HIGH-LEVEL MEETING AT THE "TBILISI SILK ROAD FORUM"

At the invitation of the Prime Minister of Georgia, the Secretary General of OTIF, Mr Wolfgang Küpper, took part in the "Silk Road Forum" in Tbilisi in Georgia on 22 and 23 October 2019.

The 2019 session of this biennial event continued its original aim: to serve as an international platform for high-level multilateral dialogue between the political decision-makers, undertakings and managers in the sector. Issues were examined concerning trade and connectivity and the challenges faced by countries situat-

ed along the new silk route from east to west.

The transport corridors continue to develop in order to adapt to the increasing size and speed of international trade. International rail transport is a major element in the reactivation of the silk routes and the Secretary General of OTIF had the opportunity to discuss this subject with Georgia's Minister of the Economy and Sustainable Development, Ms Natia Turnava.

This useful meeting also enabled Mr Küpper to highlight the importance of

OTIF and the Convention concerning International Carriage by Rail (COTIF).

COTIF and its appendices relating to the carriage of goods by rail (CIM) and dangerous goods (RID) are particularly suitable for the silk routes, especially those that transit Iran, Georgia, Azerbaijan and Turkey.

The Secretary General of OTIF would like to thank Georgia's Minister of the Economy and Sustainable Development, Ms Turnava, for this high quality discussion.



A HAPPY ANNIVERSARY FOR THE VILNIUS PROTOCOL

In 1999, OTIF's 5th General Assembly was held in Vilnius, Lithuania. It adopted a protocol - the Vilnius Protocol - which was to constitute a major milestone for OTIF and the development of international railway law.

Twenty years later, on 28 and 29 October 2019, OTIF, together with the

Lithuanian Ministry of Transport and Communications, the Lithuanian Ministry of Foreign Affairs and Lithuanian Railways, jointly organised a seminar in Vilnius on the "20th Anniversary of the Vilnius Protocol: OTIF's achievements and prospects".

OTIF's Member States and stakeholders took up the call and participated

in the various events.

On 28 October 2019, there was a visit to Kena railway station on the border between Lithuania and Belarus.



The symposium then began on 29 October 2019 with an opening speech by Lithuania's Deputy Minister of Transport and Communications, Mr Gytis Mažeika, who referred to the "Rail Baltica" project and emphasised the importance of a standardised gauge for railway lines in the region of the Baltic States. This standardisation will strengthen the importance of OTIF and COTIF in this part of Europe.



Sessions 1 and 3 looked at the future challenges and aims for the technical regulations, contract law and the provisions concerning dangerous goods in the context of the developing international railway market, so as to achieve the efficient organisation of international traffic.

The first session was moderated by Mr Josef Doppelbauer, Executive Director of the EU Agency for Railways (ERA), and included Mr Christian Chavanel, Rail System Director of the International Union of Railways (UIC), Mr Gilles Peterhans, Secretary General of UIP and Mr Joost Naessens, Director of Transport and Logistics at the European Chemical Industry Council (CEFIC).



The third session was moderated by Mr Ralf-Charley Schultze, President of the International Union of Combined Road-Rail Transport Companies (UIRR), and included Mr Cesare Brand, Secretary General of the International Rail Transport Committee (CIT), Mr Peter Jäggy, Deputy Secretary General of Forum Train Europe (FTE) and Mr Péter Rónai, Vice-President of RailNet Europe.

Various questions were raised: In your opinion, how does OTIF law make railway transport easier? What are your requirements and expectations to improve the development of railway transport? Is the future of transport multimodal? What does this mean for the development of railway regulations? How should the relationship between domestic, regional and global international railway policy and

regulations be arranged? Should international law go beyond international transport and also harmonise and modernise national law?

The second session was moderated by Mr Vytautas Naudužas, Special Ambassador of the Republic of Lithuania and the Chairman of OTIF's General Assembly. The discussion focused on the fragmentation of international law

in general and railway law in particular, and on the quality of the international regulations and their practical implementation.

The speakers, Mr Ignacio Tirado, Secretary General of the International Institute for the Unification of Private Law (UNIDROIT), Mr Maurizio Castelletti, Head of the Single European Railway Area Unit of the European Commission's Directorate-General for Mobility and Transport (DG MOVE) and Mr Wolfgang Küpper, Secretary General of OTIF, examined the following questions: How can fragmentation of international law be minimised? What kinds of solution might be able to deal with this challenge? What is your experience of cooperation between different international organisations and what is the key of success to cooperation? How can high quality international regulations be ensured? In your view, is monitoring and assessment (evaluation) of international instruments a response to this, and why? How should the global international context influence regional and national developments?

There were meaningful discussions both among the panels and with participants in the conference room. The quality of the debate was very high.



The conclusions of the symposium drawn by Mr Christophe Le Borgne (CH), Chairman of OTIF's Committee of Technical Experts, Ms Caroline Bailleux (BE), Chair of OTIF's RID Committee of Experts and Ms Clio Liégeois (BE), Chair of the ad hoc Committee on Cooperation and OTIF's Revision Committee, highlighted the importance of an active railway sector being the moving force of proposals to legislators. Equality of the sexes, which is necessary in the railway sector and

transport in general, was also mentioned as an impetus for change.

The Secretariat of OTIF welcomes such success. A special edition of the Bulletin focusing on the "20th Anniversary of the Vilnius Protocol: OTIF's achievements and prospects" will be published in 2020



A NEW 2020-2021 WORK PROGRAMME FOR OTIF

OTIF's new work programme is [now available on the website](#). It was proposed by the Secretary General of the Organisation and was adopted by the members of the Administrative Committee on 4 December 2019.

The new work programme spells out the work of OTIF's Secretariat in terms of implementing the Organisation's general policy.

Both in terms of international cooperation, work on harmonisation and compatibility and in budgetary terms, the 2020-2021 work programme follows on from previous years, while proposing improved working methods, strengthening work on monitoring and assessment to achieve better application of COTIF, possible new

provisions in RID concerning digitalisation and strengthening technical interoperability.

This new programme also suggests

concentrating on background work for the Secretariat, without neglecting the awareness of OTIF and the promotion of COTIF.



GLOBAL COOPERATION WITH THE UNIVERSAL POSTAL UNION

On 19 September 2019, the Secretary General of OTIF, Mr Küpper, the head of the administration and finance department, Ms Andriamahatahity and the head of the legal department, Mr Kuzmenko, met the Vice Director General of the Universal Postal Union (UPU), Mr Clivaz, accompanied by Mr Ducrest, UPU's Director of Logistics.













The aim of this meeting was to obtain an update on joint projects and discuss strengthened cooperation in future.

Participants at the meeting on 19 September talked about putting in place broader cooperation in terms of logistical resources, such as meeting room hire, printing services, etc.

In a second phase, Mr Clivaz and Mr Küpper referred to the fact that UPU and OTIF are already working on developing postal package consignments by rail between China and Europe. In the framework of the memorandum of understanding signed on 24 January 2018, the two organisations are continuing to roll out this project.



DEPOSITORY NOTIFICATIONS FROM 1 JANUARY 2019

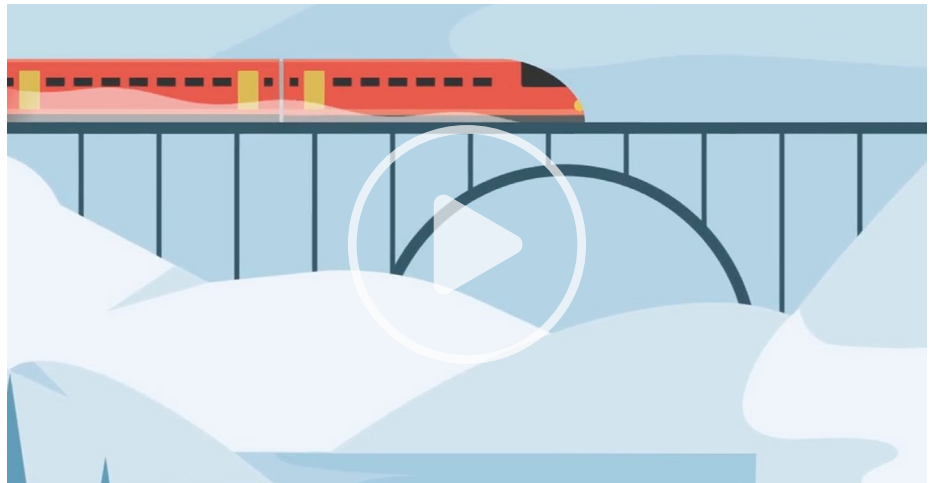
| | | |
|------------------|--|---|
| NOT-19030 |  19.12.2019 | Corrigenda to notification NOT-19028 of 2.10.2019 |
| NOT-19028 |  02.10.2019 | Finland - Acceptance of the amendments to COTIF and Appendices E, F and G adopted by the 13 th General Assembly |
| NOT-19025 |  23.08.2019 | Austria – Acceptance of the amendments to COTIF and Appendices D, F and G adopted by the 12 th General Assembly |
| NOT-19019 |  06.08.2019 | Corrections to the Ukraine’s list of CIM railway lines |
| NOT-19017 |  06.08.2019 | Corrections to the CIM list of maritime and inland waterway services “Sassnitz-Baltijsk” |
| NOT-19016 |  31.07.2019 | Corrections to modifications to Appendices F (APTU) and G (ATMF) to the Convention adopted by the Revision Committee at its 26 th session |
| NOT-19007 |  21.06.2019 | Proposal for corrections to modifications to Appendices F (APTU) and G (ATMF) to the Convention adopted by the Revision Committee at its 26 th session |
| NOT-19013 |  19.06.2019 | CIM list of maritime and inland waterway services |
| NOT-19008 |  27.05.2019 | Entry into force of the modifications to the UTP GEN-B and UTP TAF adopted by the Committee of Technical Experts using the written procedure |
| NOT-19004 |  08.03.2019 | Corrections to the edition of RID in force since 1 January 2019 |
| NOT-19003 |  11.02.2019 | CIV list of maritime and inland waterway services |
| NOT-19001 |  18.02.2019 | Afghanistan – Accession to COTIF from 1 May 2019 |

WHY COTIF?

On 24 July 2019, the Secretariat of OTIF uploaded a preliminary explanatory video onto the Organisation's website and the Vimeo platform.

This video presents OTIF and the Convention concerning International Carriage by Rail (COTIF). The aim is to highlight the advantages of COTIF and why application of COTIF is essential for the rail sector.

To be disseminated widely! Good viewing!



OTIF AND THE DIGITAL TRANSPORT & LOGISTICS FORUM

The Digital Transport & Logistics Forum was set up by the European Commission. It is a group of transport and logistics experts. It provides a platform where Member States and relevant actors in the transport and logistics sector can exchange knowledge and cooperate in promoting effective electronic exchanges of information in the transport and logistics fields. The forum

aims particularly to accompany the work on the proposed regulation concerning electronic information relating to the carriage of freight (e-FTI).

OTIF took part in this forum as an observer. On 18 September 2019, sub-group 1 "Paperless on Transport" met in Brussels. Ms Maria Price, an expert from OTIF, took part in the meeting. Ms Price had the opportunity of re-

mind the meeting what the existing provisions of COTIF were in relation to digitalisation.

At the meeting and following the proposal made by OTIF, the sub-group concluded in particular that the European Union should also consider the data exchanged for the carriage of dangerous goods.

OTIF AND EUMEDRAIL: A VIBRANT SYNERGY

Since January 2018, the European Union Agency for Railways (ERA) and the Secretariat of OTIF have been developing synergies between the workshops organised under the EU-MedRail project set up by the European Commission and OTIF's activities so that participants can take part in both events.

In 2016, OTIF and the European Commission had already worked together on the joint organisation of two workshops entitled "OTIF-COTIF - Presentation of unified railway law" in Egypt and Israel in the framework of the EuroMed Transport project, which became the EUMedRail project in 2017.

OTIF recently responded to the invitation from the European Union Agency for Railways (ERA). The Secretary General of OTIF, Mr Wolfgang Küpper and Ms Maria Price, an expert, took part in the annual EUMedRail conference on 6 and 7 November 2019. Ms Price gave a presentation on the latest developments in COTIF and those concerning the technical provisions in particular.

OTIF provides a cooperative forum to set up unified railway law to connect Europe, Asia and Africa. In order to

achieve this, COTIF and its technical appendices are harmonised with the European Union's regulations, particularly with regard to the admission of rolling stock for international traffic.

The EUMedRail project is aimed at southern Mediterranean states, some of which are also members of OTIF. Its aim is to develop an integrated, reliable

and efficient rail transport system with the countries of the Mediterranean.

It is therefore logical that the Secretary General and OTIF's experts will regularly present COTIF, its appendices and their complementarity with EU rules at the EUMedRail workshops.

| Mediterranean states | EU Member States | Members of OTIF |
|----------------------|------------------|-----------------|
| ALBANIA | | x |
| ALGERIA | | x |
| CROATIA | x | x |
| CYPRUS | x | |
| EGYPT | | |
| SPAIN | x | x |
| FRANCE | x | x |
| GREECE | x | x |
| ITALY | x | x |
| ISRAEL | | |
| LEBANON | | x (suspended) |
| LIBYA | | |
| MALTA | x | |
| MOROCCO | | x |
| MONTENEGRO | | x |
| PALESTINE | | |
| SLOVENIA | x | x |
| SYRIA | | x (suspended) |
| TUNISIA | | x |
| TURKEY | | x |

RESPONSIBILITIES FOR VEHICLE MAINTENANCE – THE ENTITY IN CHARGE OF MAINTENANCE

Rail vehicles must be well constructed and maintained so as to help minimise the risk of accidents and to uphold the good safety record the railways are known for. This article reviews the existing rules concerning vehicle maintenance responsibilities laid down in Annex A to ATMF and explores the possible future development of these rules.

Introduction

As a general rule, railway undertakings should control the risks related to the operation of trains. Therefore, proper vehicle maintenance is an important element in this context. The operation of railways is such that vehicles, particularly freight wagons, are frequently exchanged between and operated by different railway undertakings. It is not realistic or efficient to require each railway undertaking to assess fully the technical state of each freight wagon they haul. It would make international railway traffic very inefficient and practically impossible.

It is for this reason that harmonised rules for the maintenance of railway vehicles have been introduced into COTIF. The concept of the entity in charge of maintenance (ECM) was created so as to ensure that for each vehicle there is one identifiable entity responsible for making sure it is properly maintained, irrespective of who operates the vehicle. The railway undertaking has to ascertain that each vehicle it uses has an ECM assigned to it.

The current COTIF rules concerning ECMs

ATMF requires each vehicle used in international traffic to have ECM assigned to it, irrespective of whether it is a freight wagon or a locomotive or passenger vehicle.. It is the responsibility of the vehicle keeper to ensure that an ECM is allocated and registered as such in the vehicle register. Once assigned, the ECM must ensure by means of a system of maintenance that the vehicle is in a safe

state of running. The ECM functions may be exercised by any organisation meeting the ECM requirements. For example, this might be a dedicated maintenance company, as well as a railway undertaking or the keeper of the vehicle itself.

The COTIF regulations concerning the carriage of dangerous goods, RID, also make reference to ECMs. ECM certificates must indicate whether or not the ECM is certified to maintain wagons for the transport of dangerous goods. The ECMs must then ensure that maintenance of tanks and their equipment is carried out in such a way that the tank-wagon satisfies the requirements of RID.

ECM certification and the role of the Certification Body

Certification is the act in which an independent certification body assesses and certifies that an ECM meets the legally applicable requirements. At present, only the ECMs for freight wagons must be certified by an ECM certification body in accordance with Annex A to ATMF. It is not mandatory for the ECMs of any other type of vehicle to be certified. The reason special provisions apply to freight wagons is that, unlike most other types of rail vehicles, freight wagons are often exchanged between railway undertakings and are used internationally. Most other types of vehicle, such as locomotives or passenger train sets, are predominantly used domestically and often only by one railway undertaking. Nevertheless, any ECM, whether certified or not, has identical responsibilities with respect to the vehicles for which they are in charge of maintenance.

The certification of ECMs of locomotives and all other types of rolling stock is being discussed at the moment and proposals for adoption are expected for the 13th session of the Committee of Technical Experts on 16 June 2020, as further explained in this article.

By applying Annex A to ATMF, the ECMs of freight wagons are assessed and certified in a harmonised way. The certification principles in EU law and COTIF are equivalent, so certificates issued under EU law or under COTIF are mutually acceptable in international traffic.

The ECM rules do not go into technical detail as to how or at which intervals the maintenance should be performed. Instead, the rules aim to ensure that a certified ECM has the necessary skills and know-how, as well as the ability to fulfil their responsibilities and perform maintenance in a systematic manner. The rules allow for different approaches to maintenance, as long as they lead to the overall objective: ensuring that vehicles are in a safe state of maintenance. The rules do not therefore hinder innovation. They permit modern maintenance methods, such as, for example, data-driven monitoring for condition-based maintenance.

ECM certification bodies must meet the criteria set out in the Annexes to the OTIF ECM regulation. The ECM certification body may be a governmental entity or a private company. According to OTIF's ECM regulation, Contracting States must ensure that the OTIF Secretary General is notified of certification bodies that have their place of business on their territory. It is not mandatory for Contracting

States to have an ECM certification body on its territory, since applicant ECMs can use the services of ECM certification bodies based in other Contracting States.

Once duly notified to the Secretary General, ECM certification bodies will be provided with access to the ECM register so that they can add, modify and remove certificates issued by them.

A list of certification bodies and certified ECMs with their place of business in the ECM register is accessible via the OTIF website (Reference Texts > Technical Interoperability > Registers).

Criteria and requirements on the basis of which ECMs are assessed

The following functions are distinguished in the ECM regulation

- a) The management function supervises and coordinates the other functions (b), (c) and (d). The entity that fulfils the management function is the actual ECM and bears the related over-all responsibilities.
- b) The maintenance development function is responsible for the management of the maintenance documentation. This includes the configuration management, for example for keeping track of the maintenance information of the relevant parts of each wagon.
- c) The fleet maintenance management function manages the wagon's withdrawal for maintenance and its return to operation after maintenance.
- d) The maintenance delivery function delivers the required maintenance of a wagon, or parts of it.

An ECM may outsource functions, with the exception of the management function. That said, all outsourced functions remain under the

full responsibility of the ECM.

The legally applicable criteria and requirements are laid down in the OTIF ECM Regulation (Annex A to ATMF). The following list provides an overview, with examples of subjects covered for each of the functions (a) to (d):

a) The management function:

Leadership — commitment to the development and implementation of the maintenance system of the organisation and to the continuous improvement of its effectiveness.

Risk assessment — a structured approach to assess risks associated with the maintenance of vehicles, including those directly arising from operational processes and the activities of other organisations or persons, and to identify the appropriate risk control measures.

Monitoring — a structured approach to ensure that risk control measures are in place, working correctly and achieving the organisation's objectives.

Continuous improvement — a structured approach to analyse the information gathered through regular monitoring, auditing, or other relevant sources and to use the results to learn and to adopt preventive or corrective measures in order to maintain or improve the level of safety.

Structure and responsibility — a structured approach to define the responsibilities of individuals and teams for secure delivery of the organisation's safety objectives.

Competence management — a structured approach to ensure that employees have the competences required in order to achieve the organisation's objectives safely, effectively and efficiently in all circumstances.

Information — a structured approach to ensure that important

information is available to those making judgments and decisions at all levels of the organisation.

Documentation — a structured approach to ensure the traceability of all relevant information.

Contracting activities — a structured approach to ensure that sub-contracted activities are managed appropriately in order for the organisation's objectives to be achieved.

b) The maintenance development function:

Identification and management of safety relevant activities and components.

Ensuring regulatory compliance.

Collecting, registering and keeping up-to-date technical documentation and the maintenance file of the vehicle, including feedback.

Configuration management and traceability of safety relevant components.

c) The fleet maintenance management function:

Ascertaining that the maintenance workshops which deliver maintenance are qualified and competent for the maintenance.

Managing logistics of the fleet, including on-time scheduling of maintenance and releasing vehicles back to service after maintenance.

Documenting lists of spare parts and components which are compatible with the vehicle and comply with legal requirements.

Exchanging relevant information with users, such as railway undertakings.

d) The maintenance delivery function:

Ensuring that the actual maintenance is performed in accord-

ance with the specifications.

Ensure that only correct components and materials that are used, that they comply with the applicable rules and are as described in the maintenance documentation.

Ensure that staff are qualified and that the facilities, the equipment and the tools used are suitable (e.g. that tools are calibrated where necessary, registered, and operated only by qualified staff).

The ECM in relation to other actors

The keeper, the ECM, and the railway undertakings which use the vehicle are required to exchange information about the vehicle. These information exchanges are mandatory for all vehicles in international traffic in the

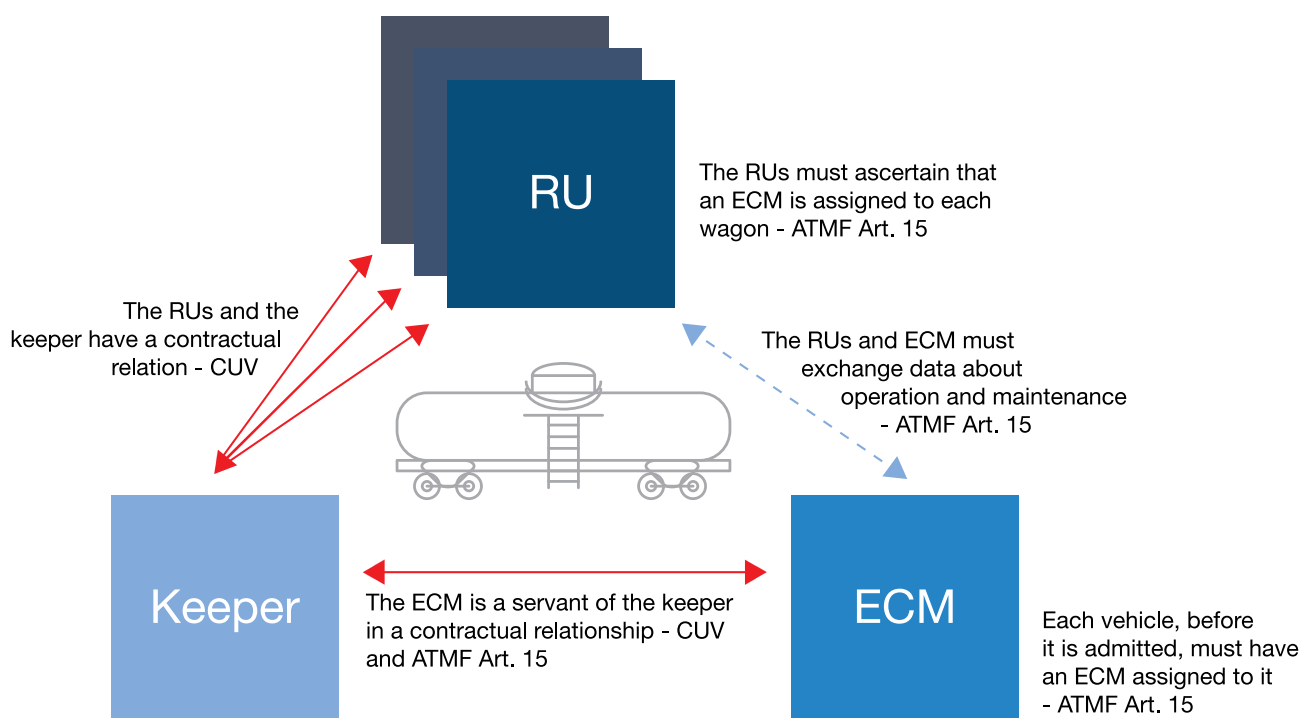
scope of ATMF, irrespective of whether or not the ECM for the vehicle concerned must be certified.

As the keeper of a vehicle assigns the ECM, he is also responsible for supplying the relevant information to the ECM. ATMF Article 15 § 3 requires the keeper to *make available to the ECM, as far as necessary for maintenance, the elements relating to the instructions concerning servicing, constant or routine monitoring, adjustment and maintenance of the vehicle.* This would include the maintenance files as required in the Uniform Technical Prescriptions applicable to the vehicle. In cases where the keeper and ECM are the same entity, the supply of information may remain an internal matter.

The ECM has to ensure, either directly or via the keeper, that *reliable information about maintenance and restric-*

tions affecting operations, necessary and sufficient to support safe operations are available for the operating railway undertaking. In practice, the keeper will often provide groups of user-railway undertakings with such information by electronic means.

The operating railway undertaking should in due time, either directly or via the keeper, *provide the ECM with information on operation of the vehicles (including mileage, type and extent of activities, incidents/accidents) for which the ECM is in charge.* Such information is increasingly being generated electronically and in real-time by means of sensors, location trackers, etc. The availability of such information may help the ECM to optimise and specifically tailor the maintenance of each vehicle.



Draft proposed changes to the COTIF rules concerning ECMs

In June 2019, the Committee of Technical Experts requested the Working Group Technology to review the existing OTIF ECM certification rules with a view to discussing how the certification scheme which is currently applicable to ECMs of freight wagons could be extended to ECMs of other types of vehicles. This request follows the introduction of new EU rules which, from 16 June 2020, will extend ECM certification to include all types of vehicles.

The draft proposals to modify Annex A to ATMF do not substantially change the requirements to be met by ECMs, but mainly extend the scope of certification beyond its current scope. The draft proposal takes as a general rule that all ECMs of all types of vehicles should be certified, and provides for some exceptions to this general rule. The rationale for exceptions is that railway undertakings that carry out the maintenance of their rolling stock in-house and that are the sole operators of this rolling stock, are in a position to take efficient and effective control of maintenance. Requiring independ-

ent certification in cases where the railway undertaking maintains its own vehicles used exclusively for its own operations may lead to duplication of checks and procedures and would therefore be disproportionate.

As a consequence, the draft proposals set out that:

- Any ECM, whether certified or not, would be required to comply with the general requirements and criteria set out in Annex 1 to the ECM rules, applicable to the four functions as listed in this article, and
- ECM certification would remain mandatory for any ECM for freight wagons, and
- ECM certification would be extended to include certification of ECMs of other types of vehicles, and
- As a general rule, such certification would be mandatory, except for railway undertakings which maintain vehicles that only they operate. ECM certification would not be mandatory for such railway undertakings, provided that the Competent Authority of the state concerned ascertains that the general requirements and crite-

ria set out in Annex 1 to the ECM rules would be complied with

The exception in the last bullet point would be limited to ECMs of vehicles other than freight wagons, such as, for example, locomotives and passenger rolling stock.

Next steps in the decision-making process

The standing Working Group Technology already discussed the draft proposal, in the form of working documents, in September and November 2019. These documents are publicly available on the OTIF website under *Activities > Technical Interoperability > Working Group Tech > Working Documents > 2019*

Proposals for decision are expected to be dealt with at the 13th session of the Committee of Technical Experts on 16 and 17 June 2020. The proposals will be published on the OTIF website around the end of February 2020. Member States and sector organisations will be informed of the meeting and the documents in a circular letter.

Bas Leermakers

55th SESSION OF THE UN SUB-COMMITTEE OF EXPERTS ON THE TRANSPORT OF DANGEROUS GOODS (GENEVA, 1 - 5 JULY 2019)

The 55th session of the UN Sub-Committee of Experts was the first session in the 2019/2020 bienni-um. Its decisions form the common basis for all the mode-specific dangerous goods regulations. In the context of harmonising RID/ADR/ADN with the UN Recommendations on the Transport of Dangerous Goods, these decisions will also be carried over into the 2023 editions of RID, ADR and ADN.

The 55th session of the UN Sub-Committee of Experts on the Transport of Dangerous Goods was held from 1 to 5 July 2019 under the chairmanship of Mr Duane Pfund (United States of America). 19 states entitled to vote, 6 observer states, 6 governmental organisations and 32 non-governmental organisations were represented at the session. As all the decisions of the UN Sub-Committee of Experts have repercussions for the dangerous goods provisions of the various modes, the Intergovernmental Organisation for International Carriage by Rail (OTIF) was represented as a modal organisation.

Decisions concerning packagings

Use of a ring for marking pressure receptacles

RID/ADR 6.2.3.9.6 contains a provision which allows the marks for refillable cylinders or pressure drums to be engraved on a ring of an appropriate material, which is fixed in place by the valve. For UN pressure receptacles, this is currently only possible for acet-ylene cylinders.

The use of rings has advantages for gas cylinders made of composite materials where the marks cannot be affixed directly to the cylinder. For pressure drums, there is also the possibility that it is technically infeasible to affix marks directly to the drum or that this would cause damage. As the ring is in the vicinity of the valve, the data for the user and all others who need this information are clearly visible.

Although some experts expressed concern with regard to the ring being lost or the possibility of fraud, the UN Sub-Committee of Experts adopted a proposal from the gas industry to allow the marks for refillable cylinders and pressure drums to be engraved on rings.

Alternative construction requirements and test methods for IBCs

Germany had established that the provisions for the approval of IBCs that do not fully meet the construction and testing requirements of Chapter 6.5 differ from the approval provisions for packagings and large packagings respectively. While most aspects of the provisions for IBCs correspond to the provisions for packagings and large packagings, they differ considerably in this respect. In particular, the requirement for the same resistance to fire for IBCs other than metal IBCs did not seem appropriate. In addition, there is currently no requirement for alternative design types of IBCs to be able to withstand the tests prescribed for IBCs.

The UN Sub-Committee of Experts adopted the proposal from Germany to align the provisions for alternative design types and test methods for IBCs with the corresponding provisions for packagings and large packagings.

Period of use for composite IBCs with plastics inner receptacle

4.1.1.15 prescribes that the permitted period of use of plastics drums and jerricans, rigid plastics IBCs and

composite IBCs with plastics inner receptacles is five years from the date of manufacture.

With regard to the use of composite IBCs with a plastics inner receptacle, the provision is interpreted differently:

- the permitted period of use applies to the whole composite IBC, i.e. the outer casing and the plastics inner receptacle, or
- the permitted period of use only applies to the plastics inner receptacle.

In the first interpretation, there might also be a different period of use for the outer casing, depending on whether replacement of the inner receptacle is considered as reconditioning or repair. In the case of reconditioning, the newly composed IBC is considered to be a new type and is given new marks. In the case of repair, the original mark is retained; all that is added is additional information, such as the name of the body and state where the tests were carried out and the date of the tests. In the latter case, the five year period would apply to the whole composite IBC and the inner receptacle could only be used for the remaining life of the outer casing.

The UN Sub-Committee of Experts decided to exclude these different possible interpretations by including a Note clarifying that the permitted period of use for composite IBCs only applies to the plastics inner receptacle.

Other subjects discussed by the UN Sub-Committee of Experts

As expected, only a few final decisions were taken at this first session of the biennium. There were preliminary discussions on various topics, the results of which will be taken into account when each of the documents is updated. Some of these topics are briefly introduced below. More details will be provided at a later date once the discussion on each topic has been concluded.

Packagings

Scope of 4.1.2.2

According to 4.1.2.2, metal, rigid plastics and composite IBCs may be carried for a period not to exceed six months beyond the date of expiry of the last periodic test or inspection in order to allow the return of dangerous goods or residues for proper disposal or recycling.

As 4.1.1.15 prescribes a permitted period of use of no more than five years for rigid plastics IBCs and composite IBCs from the date of manufacture, the question arises as to whether the relaxation allowed in 4.1.2.2 also applies to carriage beyond the date of expiry of the period of use.

Packaging performance testing for articles with the potential to produce excessive heat

Packaging performance testing is one of the fundamental provisions of the UN Model Regulations. The testing of the packagings should demonstrate performance for the known hazards associated with the physical characteristics of the goods being transported.

The inclusion of new dangerous articles in the dangerous goods provisions has also introduced new hazards. For example, the malfunction of certain articles can lead to the development of excessive heat.

These hazards have been taken into account piecemeal in certain packing instructions, such as P 500, which applies to UN 3356 OXYGEN GENERATOR, CHEMICAL, or in packing instruction P 911, which applies to lithium batteries.

The representative of the United Kingdom suggested a future discussion on the following points:

- Moving the packaging test provisions from the packing instructions to new sections in chapters 6.1 and 6.6,
- Including, where necessary, pass/fail criteria for the tests,
- Taking account of the additional test in the packaging code.

Use of recycled plastics to manufacture packagings

In the 1990s, requirements were included in the dangerous goods provisions for the first time for recycled plastics. Firstly, a definition of recycled plastics was included in 1.2.1, and then the use of recycled plastics was specifically permitted for plastics drums and jerricans (1H1, 1H2, 3H1 and 3H2). For certain types of packagings, there are no explicit restrictions with regard to the use of recycled plastics. These include plastics boxes (4H1, 4H2), woven plastics bags and film (5H1, 5H2, 5H3 and 5H4) and large rigid plastics packagings (50H).

When these provisions were adopted, the UN Sub-Committee of Experts was of the view that the use of recycled plastics should initially be strictly controlled, but that the need for these strict conditions could be re-assessed on the basis of experience gained.

The use of recycled plastics is explicitly prohibited for flexible woven plastics or plastics film IBCs, rigid plastics IBCs or composite IBCs with a plastics inner receptacle.

On the basis of the positive experi-

ence with using recycled plastics, the International Confederation of Plastics Packagings Manufacturers called for various amendments to the UN Model Regulations:

- Expand the use of recycled plastic materials to rigid plastics IBCs, and composite IBCs with plastics inner receptacles,
- Clarify the definition in 1.2.1 so that testing of batches of recycled resins ensures consistency with that of the design type manufactured from such recycled material as required under the quality assurance programme under 6.1.1.4 or 6.5.4.1,
- Amend the definition in 1.2.1 to align required testing of packagings manufactured using recycled plastic materials with that for packagings made from resin materials not previously used.

Transport of transformers with gas cylinders

For operational reasons, transformers are pressurised with nitrogen or with synthetic or dried air or also with a mixture of these gases. However, as the transformers are not gas-tight, low quantities of gas are constantly supplied through a pressure regulator from a gas cylinder connected to the transformer. So far, such transformers have been transported under UN 3363, DANGEROUS GOODS IN MACHINERY or DANGEROUS GOODS IN APPARATUS. However, as the gas contained in the gas cylinder usually exceeds the quantity limit for limited quantities, these transformers must in future be carried under UN 3538 ARTICLES CONTAINING NON-FLAMMABLE, NON-TOXIC GAS, N.O.S.

Packing instruction P 006 applies to this UN number, which for the gas receptacles contained in the articles, prescribes that the provisions of 4.1.6 must be complied with. Among other things, these provisions require that the shut-off valves on the gas cylinders must remain closed during transport.

The problem of how to deal with the lack of gas-tightness of transformers therefore needs to be clarified. In terms of safety, it does not usually present a problem if small quantities of gases which are not flammable, toxic, corrosive or oxidising are released into the environment, provided that an asphyxiant gas accumulation in confined spaces is prevented.

Harmonisation of the requirement "structurally serviceable"

According to 7.1.3.3.1 of the UN Model Regulations, freight containers, road vehicles and rail wagons for the transport of explosives and articles of Class 1 must be structurally serviceable.

The term "structurally serviceable" is defined in 7.1.3.3.1 (b): "Structurally serviceable" means that the freight container, road vehicle or rail wagon is free from major defects in its structural components, e.g. top and bottom side rails, top and bottom end rails, door sill and header, floor cross members, corner posts and corner fittings in a freight container." There then follows quantitative specification of what constitutes major defects. For example, dents or bends may not be greater than 19 mm in depth and the number of splices resulting from a repair may not be more than one or two, depending on the construction component.

These provisions have been carried over into the IMDG Code accordingly. However, they do not apply to explosives of Division 1.4. In European land transport, the requirements apply to all large containers, irrespective of the Class of dangerous goods being carried.

For bulk containers and flexible bulk containers, 4.3.1.15 and 4.3.1.16 of the UN Model Regulations contain corresponding provisions for all dangerous goods that can be carried in bulk. These have also been carried over unchanged into the IMDG Code and RID/ADR/ADN (7.3.1.13 and 7.3.2.10.1).



The UN Sub-Committee of Experts was asked to examine the following questions:

- Why do the requirements of 7.1.3.3.1 only apply to substances and articles of Class 1?
- What is the technical reasoning behind the 19 mm limit for dents and bends?
- What is the technical reasoning behind limiting the number of splices in the event of repair?

Classification

Classification of pyrotechnic articles "Aquaflame"

Such pyrotechnic articles contain a special composition of sodium hydroxide, aluminium powder, sodium

nitrate, sulphur and sucrose. They are used to light a fire, e.g. for a barbecue, a fireplace or a bonfire.

The article contains two components, where sodium hydroxide is first activated with water. This produces an exothermic reaction which activates the combustion of the second component (a mixture of aluminium powder, sodium nitrate, sulphur and sucrose).

Because of the water activation, it is not clear how these articles should be classified.

Exemptions for certain polymerizing substances

Polymerizing substances are substances which, without stabilization, are liable to undergo a strongly exo-

thermic reaction resulting in the formation of larger molecules or the formation of polymers under conditions normally encountered in transport.

The European Chemical Industry Association was of the view that for small packages with a net weight of no more than 50 kg, exemptions should be allowed on the basis of the maximum temperature on the surface, the heat of polymerisation and criteria for minor damage to the packaging.

Cobalt dihydroxide

Cobalt is a mineral that is used globally in various medical and technical applications. It is obtained from cobalt dihydroxide, which is carried in various forms: crude in mixtures together with cobalt sulphate, copper and nickel sulphates, partly refined with very high moisture content and as a refined product in powder form.

Around 200,000 tonnes of cobalt dihydroxide are transported annually as UN 3077 ENVIRONMENTALLY HAZARDOUS SOLID, N.O.S., packing group III.

Recent testing required for compliance with the REACH Regulation in the European Union, and subsequent evaluation against the hazard classification criteria of the EU CLP Regulation (GHS) resulted in classification as a substance of Class 6.1, packing group I (acute toxicity by inhalation). This change in the classification means that the flexible plastics IBCs used up to now can no longer be used, as flexible IBCs are not permitted for toxic substances of packing group I.

The industry concerned proposed that a new UN number be included and that flexible woven plastics IBCs with liner or flexible woven plastics IBCs, coated and with liner (13H3 and 13H4) also be permitted for toxic substances of packing group I.

Sodium-ion batteries

The United Kingdom had submitted

various documents to previous sessions of the UN Sub-Committee of Experts providing information about how sodium-ion batteries function, explaining the differences compared with lithium-ion batteries, presenting the similarities between a shorted sodium-ion battery and a super-capacitor and proposing several options as to how such batteries could be taken into account in the UN Model Regulations (see Bulletin 1/2018, p. 19-20). The UN Sub-Committee of Experts was of the view that further information on the following points was necessary before a decision could be taken on how these batteries should be dealt with in the UN Model Regulations:

- Size of the batteries,
- Composition (e.g. quantity of electrolyte) and similarities with lithium-ion ultra-capacitors,
- Behaviour when discharged (e.g. total exclusion of an electrical risk under normal conditions of carriage),
- Possible measures to prevent unintended activation,
- Possible problems in the event of damage or deactivation.

In a document for this meeting, the United Kingdom examined all these issues and proposed the inclusion of a special provision for UN Number 3292 BATTERIES, CONTAINING SODIUM or CELLS CONTAINING SODIUM to exempt the carriage of sodium-ion batteries from the provisions when the batteries are shorted or discharged.

The representative of France referred to several points and pointed out that the state of charge of batteries could not readily be determined. In addition, not all types of battery currently available could be shorted without a loss of capacitance, for example. Even with shorted batteries, the risk of thermal instability as a result of excessive heat exposure could not be ruled out. A simple thermal test similar to the one prescribed for lithium batteries in the Manual of Tests and Criteria might therefore be useful.

Using the same UN number for sodium-ion and sodium metal batteries (UN 3292) could give the emergency services false information. As sodium metal is water reactive, in case of fire, the fire brigade would avoid the use of water, whereas it would be the best extinction agent to use in the case of a fire involving sodium-ion batteries.

Lastly, the representative of France expressed his concern regarding the transport of used sodium-ion batteries, as it did not seem likely that end-users would short their batteries before disposing of them. Old batteries transported for recycling would then be considered as sodium-metal batteries and would have to be transported in compliance with the current restrictive provisions.

In view of these points and the fact that sodium-ion batteries are a product which might potentially be carried in large quantities in future, France was in favour of creating a dedicated UN number for sodium-ion batteries and of developing the provisions applicable in terms of classification and packing on the basis of the provisions applicable to lithium-ion batteries.

The UN Sub-Committee of Experts will continue work on this on the basis of a joint proposal from the United Kingdom and France.

Fire suppression devices that are initiated by an explosive

For many applications (e.g. in vehicles, power generation plants, data storage facilities), innovative fire suppression devices are used that disperse fine particles using an explosive initiator of Class 1, Division 1.4. These particles consist of alkali metal salts, such as potassium carbonate or potassium bicarbonate, which disrupt the combustion process and hence extinguish the fire. These devices are also described as aerosol fire suppressants.

The USA's Department of Transportation (DOT) has approved these articles for carriage under UN Number 3268

(SAFETY DEVICES, electrically initiated). However, there were concerns as to whether this classification would be recognised in worldwide transport using several modes, because the requirements of the special provision that applies to UN Number 3268 are not fully met. For example, the particle cloud emitted when the article is initiated could be considered as a significant hindrance to "fire-fighting or emergency response efforts in the immediate vicinity".

As these devices are carried in large quantities, it was suggested that a new UN number be included.

Documentation

Removing the net explosives mass documentation requirement for explosives of Division 1.4

Net explosive mass (NEM) is defined in the dangerous goods regulations as "the total mass of the explosive substances, without the packagings, casings, etc.". The NEM must be shown in the transport document.

The NEM is used in risk management to control the magnitude of a mass explosion, fragments, or fire/over-pressure hazard by limiting the aggregate quantity of explosives in multiple shipments in a given vicinity.

There are no limits or requirements linked to the NEM in the UN Model Regulations. The mode-specific regulations contain NEM criteria in various provisions, but these are related to high hazard explosives outside of Division 1.4.

As Division 1.4 explosives present no significant hazard and cannot contribute to a mass explosion, it was proposed that for Division 1.4 explosives, information on the net explosive mass should no longer be required in the transport document.

Consignment

Limited and excepted quantities

Chapters 3.4 and 3.5 of the dangerous goods regulations for all transport modes contain different systems for the carriage of small quantities of dangerous goods.

Chapter 3.4 allows the carriage of small quantities of dangerous goods without having to meet all the requirements of the dangerous goods regulations. However, for carriage by air, additional restrictions in the ICAO Technical Instructions have to be observed.

Chapter 3.5 contains provisions for the simplified carriage of minute quantities of dangerous goods, which are harmonised between all the transport modes.

Among other things, the provisions of Chapters 3.4 and 3.5 contain various requirements for the packagings and total quantity per package.

When comparing the possibilities available for individual substances for carriage in limited quantities and for carriage in exempted quantities, some inconsistencies had been noted, the reasons for which were not clear.

Inclusion of provisions concerning the state of charge of lithium batteries

The safety of lithium-ion cells and batteries during transport is mainly related to their thermal stability. The main factors affecting the thermal stability of lithium-ion cells and batteries are the chemical system and state of charge. A lot of research results show that for lithium-ion cells and batteries, thermal stability becomes worse as the state of charge increases. This means that with the increase in the

state of charge, the safety risks during transport also increase.

The ICAO Technical Instructions already stipulate that the state of charge of UN 3480 LITHIUM-ION BATTERIES during transport should not exceed 30%. As none of the other modes specify any re-restrictions with regard to the state of charge, batteries are consigned in land or maritime transport with different states of charge.

China therefore proposed to include a special provision in the UN Model Regulations with the aim of limiting the state of charge, as well as a definition of state of charge.

The UN Sub-Committee of Experts decided to deal further with this aspect in the informal working group on the hazard-based classification of lithium batteries and cells.

Next session

The 56th session will be held from 2 to 11 December 2019 in Geneva and will continue work on the 22nd revised edition of the UN Model Regulations.

CALENDAR OF OTIF MEETINGS IN 2020

| DATE | EVENT | ORG | LOCATION |
|---------------|---|-------|---------------------|
| 16 - 20 March | RID/ADR/ADN Joint Meeting | UNECE | Berne - Switzerland |
| 21 - 22 April | Working Group of Legal Experts; 3 rd session | | Berne - Switzerland |
| 22 April | Ad hoc Committee on Cooperation; 3 rd session | | Berne - Switzerland |

EVENTS WITH OTIF PARTICIPATION IN 2020

| DATE | EVENT | ORG | LOCATION |
|------------------|---|------------------------|-------------------------|
| 28 January | ITF Annual Consultation on Transport Innovation for Sustainable Development | ITF | Paris - France |
| 4 - 5 February | Railway Interoperability and Safety Committee (RISC) | European Commission | Brussels - Belgium |
| 10 - 12 February | Working group "risk and danger" | UIC | The Hague - Netherlands |
| 13 - 14 February | Berner Tage | CIT | Berne - Switzerland |
| 24 - 27 February | Inland Transport Committee | UNECE | Geneva - Switzerland |
| 25 - 28 February | Working Group on Annex 2 to SMGS "Provisions for the Carriage of Dangerous Goods" | OSJD | Warsaw - Poland |
| 26 March | CIM Committee | CIT | Berne - Switzerland |
| 26 - 27 March | 7 th Annual Meeting of International Organisations | OECD | London - UK |
| 7 - 9 April | ADN Editorial and translation conference | CCNR | Strasbourg - France |

Dear readers

If you would like to subscribe to OTIF's publication, the Bulletin of International Carriage by Rail, please send an e-mail to the following address: media@otif.org

You can also read the Bulletin on OTIF's website (www.otif.org) under the tab headed "Media".

Thank you for your continued interest.

The Bulletin editor

Gryphenhübeliweg 30 CH - 3006 Berne

Tél. : + 41 (0)31 359 10 10 | Fax : + 41 (0)31 359 10 11 | info@otif.org | www.otif.org