UIC Freight – competence centres

- Load Safety
- Wagon Utilisation
- Dangerous Goods
- Train Operation
- Combined Transport
- Data Exchange
- Corridor Development
- Rail Freight Forward
UIC Freight – new website

WAGON UTILISATION
Wagons are a key asset in rail freight transport. UIC works in this area to ensure the interoperability, availability, and easy and safe handling of wagons, which has a direct impact on operational capacity and overall cost. Read more...

ATTI Claim Settlement
Corrective Maintenance / Restoring fitness to run
IGU
Technical Inspection
Wagon Utilisation

CORRIDOR DEVELOPMENT
The development of intercontinental rail freight corridors opens up new promising perspectives to the growth of rail transportation, both long and short distance. As an alternative to other modes, maritime or road transport - or an effective partner in the global logistic chain. Read more...

ECCO Freight Forwarders

DANGEROUS GOODS
The transport of dangerous goods is subject to specific regulatory measures stipulated by the competent international, European or national authorities, as well as certain measures taken by companies themselves. Dangerous goods safety on the railways is based on general railway operations safety. This area is managed by UIC in close consultation with its members and in cooperation with other stakeholders. Read more...

XD oxygen

TRAIN OPERATION
Harmonisation is the basis for a seamless international and border crossing freight traffic. UIC facilitates best practice sharing to ensure interoperability as well as increase commercial speed of train traffic. Key part of this competence centre is corridor development, ensuring that significant traffic flows are being prioritised and investments being put in place. Read more...

Exceptional Consignments
Operations
Quality

DATA EXCHANGE
Digitalisation is a key tool to facilitate business growth; reduce future costs and mitigate errors. UIC manages and develops a broad portfolio of transversal digital solutions, enabling efficient data exchange between supply chain partners. At utmost importance is the development of OP-Rail, an RFF initiative to create an open European Digital Ecosystem to facilitate seamless interoperable information flows between all rail freight parties. Read more...

Border Points
Coding
DIUM
DIUM/NHM
GRI
IT working group
NHM
RailData

LOAD SAFETY
The safety of goods is pivotal in rail freight transport. Hence, UIC has produced Loading Guidelines to clearly outline the key principles and technical recommendations for loading methods, which will ensure that goods reach the intended destination unharmed. Read more...

Loading guidelines
Loading Guidelines - Working group
UIC Pallets

RAIL FREIGHT FORWARD
Rail Freight Forward is a coalition of European rail freight companies that are committed to drastically reduce the negative impact of freight transport on the planet and mobility, through innovation and a more intelligent transport mix. UIC Freight acts as the overall coordinator of the RFF program and related technical projects. Read more...

Border Points
Coding
DIUM
DIUM/NHM
GRI
IT working group
NHM
RailData
DEEP DIVE INTO TRANSPORT OF DANGEROUS GOODS
JOOST OVERDIJKINK, UIC

TDG at UIC
SCOPE OF APPLICATION OF RID
APPENDIX C TO THE COTIF

SITUATION ON
1 MAY 2019

The boundaries and names shown and the
designations used on this map do not imply
the expression of any opinion on the part of OTIF’S
Secretariat concerning any legal status of any country,
territory, or concerning the delimitation of its frontiers

UIC TDG Expert Group
simplified view

**UIC TDG Expert Group**

**Board**
- President: Ralf Redeker, DB Cargo
- vacant
- SBB AG
- UIC

**+40 member companies**
- Meetings 2 x year
- Hosted by inviting member

**Ad hoc working group**
- Waste transport, Online education

**Advice Coordination**
- Translation & Interpretation services

**UIC Groups**
- proposals for amendments representation
- RID/OTIF, UNECE, ad hoc working groups e.g. Tank & Vehicle Technology
The activities of the **TDG Expert Group** are carried out in consultation with other internal UIC committees, in particular those responsible for:

- Load safety rules
- Combined transport
- Railway operations
- NHM codification of goods
- Training of staff
- Safety management
- Emergency plans (safety)
- Rail security
**UIC key assets & achievements**

- continuously representing the rail sector at OTIF, UNECE and other international organisations
- supporting UIC members experience in handling TDG safely and economically
- aligning 40+ companies to a standardised set of checks in relation to RID
- uniting railway undertakings & infrastructure managers together
- keeping TDG commercially viable
- preventing (long-term) establishment of national rules, for example:
  - securing chlorine transport, safely and economically
  - eliminating limitation on dangerous goods trains in Italy
  - buffer wagons and other national initiatives that deviate from int’l law
- having a permanent eye on new developments, notably in risk-management area (CSM), to ensure viability of railway operations
UIC TDG supporting its members

Seamless border crossings

Delivering smooth exchange of Dangerous Goods between RUs

Safety

Ensuring safe transport through references in RID

Added value to business

Guarding against uneconomical developments and foreseeing new developments
### Quality of load and Contingency Planning Themes

**RID requirements integration into safety & quality management system**

<table>
<thead>
<tr>
<th>UIC documentation</th>
<th>Title</th>
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<th>Status of UIC document referenced (in full or in part)</th>
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<tbody>
<tr>
<td>Leaflet, IRS etc.</td>
<td></td>
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<tr>
<td>40471-3 (Edition 3)</td>
<td>Inspections of dangerous goods consignments</td>
<td>RID 1.4.2.2.1</td>
<td>Best practices Reference to point 5 of the IRS IRS “inspections”, as way of complying to regulation RID 1.4.2.2.1</td>
<td>RID Group of Experts (UIC/Freight) Point 5 of the IRS is published on the UIC website: Freight activity/Dangerous goods. The text is provided in FR, DE and EN (as is the IRS).</td>
</tr>
<tr>
<td>20201 (Edition 1)</td>
<td>Carriage of dangerous goods - Emergency planning guidance for rail marshalling yards</td>
<td>RID 1.11</td>
<td>Best practices Reference to this IRS as way of complying to regulation RID 1.11</td>
<td>RID Group of Experts (UIC/Freight) IRS in FR, DE, EN</td>
</tr>
</tbody>
</table>
## Quality of load and other UIC assets in RID

RID requirements integration into safety & quality management system

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Leaflet, IRS etc.</td>
<td>Braking sheet, consist list for locomotive drivers and requirements for the exchange of data necessary to the operation of freight rail services</td>
<td>1.4.2.2.7</td>
<td>Best practices (which are deemed to comply with RID regulations)</td>
<td>“Operations” group (UIC/freight)? The reference relates to the DG information to be provided to the driver. In principle, the provisions of the UIC IRS are compliant with the OPE TSI and with the appendices to COTIF.</td>
</tr>
<tr>
<td>40472 (Edition 1)</td>
<td>NHM (Harmonised Commodity Code)</td>
<td>3.2 Table B</td>
<td>Table B is informative. It establishes a link between UN coding for dangerous goods and the NHM classification used in the rail sector</td>
<td>NHM Commission (UIC/Freight) Table B was included in the RID in the past at UIC’s request. It is updated by UIC/Freight/TDG in conjunction with OTIF.</td>
</tr>
<tr>
<td>221 (Edition 5)</td>
<td>Containers (Roller units for horizontal transhipment; Intermodal Loading Units (other than semi-trailers) for vertical transhipment and suitable for carriage on wagons)</td>
<td>6.11.4.2 and 7.1.3</td>
<td>Regulatory application</td>
<td>Combined transport. Is handled by UIC in the context of the RID/ADR/ADN Joint Meeting (UNECE)</td>
</tr>
<tr>
<td>50591 (Edition 1) and 50592 (Edition 2)</td>
<td>UIC Loading Guidelines</td>
<td>7.5.7.1</td>
<td>Best practices</td>
<td>“Loads” committee</td>
</tr>
<tr>
<td>Public version of the Loading Guidelines</td>
<td>General Contract of Use for wagons</td>
<td>1.2.1 1.3.2.2.2 5.4.1.4.1</td>
<td>Best practices (Based on the international convention COTIF 1999 and Annex CUV.)</td>
<td>Wagon User Study Group represents UIC in Joint Committee with UIP.</td>
</tr>
</tbody>
</table>
JOCHEN CONRAD, OTIF

OTIF - RID
RID (Appendix C to COTIF)
Regulation concerning the International Carriage of Dangerous Goods by Rail
Jochen Conrad
Head of Dangerous Goods Department
OTIF
Intergovernmental Organisation for International Carriage by Rail
jochen.conrad@otif.org
Tel. +41 31 359 10 17
Agenda

- COTIF
- What are dangerous goods?
- Dangerous goods regulations – worldwide and mode specific
Agenda

- COTIF
  - What are dangerous goods?
  - Dangerous goods regulations – worldwide and mode specific
COTIF 1999
Convention concerning International Carriage by Rail

COTIF: CONVENTION CONCERNING INTERNATIONAL CARRIAGE BY RAIL

APP. A
CIV Uniform Rules
The contract of carriage of passengers

APP. B
CIM Uniform Rules
The contract of carriage of freight

APP. C
RID Regulation
The carriage of dangerous goods

APP. D
CUV Uniform Rules
Contracts of use of vehicles

APP. E
CUI Uniform Rules
The contract of use of infrastructure

APP. F
APTU Uniform Rules
Validation of technical standards and adoption of UTPs

APP. G
ATMF Uniform Rules
Technical admission of railway material

APP. H
EST Uniform Rules
Safe operation of trains
RID

- RID = Regulations Concerning the International Carriage of Dangerous Goods by Rail
- First edition: 1893
- Harmonised structure since 2001
- 47 RID Contracting States
- Revision every two years
- Responsible OTIF Committee: RID Committee of Experts
- Actual version: RID 2023
- Applicable since 01.01.2023
- Transitional period until 30.06.2023
- Mandatory application of RID 2023 from 01.07.2023
Scope of application of RID - Appendix C to COTIF
Situation on 1 May 2023
OTIF – EU Member States
Situation on 1 May 2023
Agenda

• COTIF
• What are dangerous goods?
• Dangerous goods regulations – worldwide and mode specific
• Closer look on RID
What are dangerous goods?

Substances or articles that when carried may pose a risk to people, property or the environment, due to their chemical or physical properties.
Examples of dangerous goods

Explosives substances and articles:
• TNT, dynamite, fireworks

Flammable gases:
• Natural gas compressed (CNG) or liquified (LNG)
• Liquified Petroleum Gases (LPG) – propane, butane
Examples of dangerous goods

Flammable liquids:
• Gasoline (petrol), kerosene, diesel, acetone

Toxic substances:
• Pesticides

Radioactive substances
Examples of dangerous goods

Corrosive substances:
• Acids, alkalis

Miscellaneous dangerous substances and articles:
• Lithium batteries, asbestos, air-bag inflators, dry ice, etc.
Danger Labels
Agenda

- COTIF
- What are dangerous goods?
- Dangerous goods regulations – worldwide and mode specific
Regulations for the Transport of Dangerous Goods
Regulations for the Transport of Dangerous Goods

UN Recommendations on the Transport of Dangerous Goods (Model Regulations)

ICAO Technical Instructions (aviation)

IMDG Code (maritime)

Regulations for the (European) Land Modes

Annex 2 to SMGS (rail OSJD)

RID (rail)

ADR (road)

ADN (inland waterways)

In the scope of Directive 2008/68/EC → applicable for EU domestic traffic
Regulations for the Transport of Dangerous Goods

- **UN Recommendations on the Transport of Dangerous Goods (Model Regulations)**
  - ICAO Technical Instructions (aviation)
  - IMDG Code (maritime)
  - Regulations for the (European) Land Modes
    - RID (rail)
    - ADR (road)
    - ADN (inland waterways)

- **Annex 2 to SMGS (rail OSJD)**

In the scope of Directive 2008/68/EC → applicable for EU domestic traffic
UN Model Regulations

- UN Sub-Committee of experts on the transport of dangerous goods
- Tasks: Common provisions for all modes, in particular classification, packing provisions
Regulations for the Transport of Dangerous Goods
UN Model Regulations
Regulations for the Transport of Dangerous Goods

UN Recommendations on the Transport of Dangerous Goods (Model Regulations)

ICAO Technical Instructions (aviation)

IMDG Code (maritime)

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Annex 2 to SMGS (rail OSJD)

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ADR (road)

ADN (inland waterways)

In the scope of Directive 2008/68/EC → applicable for EU domestic traffic
Organisation of RID/ADR/ADN Joint Meeting

• Working group of UNECE and OTIF for common provisions in RID, ADR and ADN
• No final decision-making power
• Sessions twice a year (March and September)
Tasks of the RID/ADR/ADN Joint Meeting

- Harmonisation with UN Model Regulations
- Common provisions for RID, ADR and ADN
  - RID/ADR tanks
  - References to European standards
  - Integration of European Union Directives
  - Transport conditions for inland transport
- Permanent working groups of the Joint Meeting
  - on tanks
  - on standards
- Other current working groups of the Joint Meeting
  - on the transport of wastes containing dangerous goods
  - on the improvement of transport of dangerous goods occurrence reporting
Regulations for the Transport of Dangerous Goods

UN Recommendations on the Transport of Dangerous Goods (Model Regulations)

ICAO Technical Instructions (aviation)
IMDG Code (maritime)
Regulations for the (European) Land Modes

Annex 2 to SMGS (rail OSJD)

RID (rail)
ADR (road)
ADN (inland waterways)

In the scope of Directive 2008/68/EC → applicable for EU domestic traffic
Organisation RID Committee of Experts

- Once a year (November) standing working group of the RID Committee of Experts (preparatory working group)
- Every two years just before the notification of the new amendments RID Committee of Experts meeting
- Every two years, notification of the new amendments to RID at least 5 months before entry into force
Tasks of the RID Committee of Experts

- Prepared by the RID Committee of Experts’ standing working group (one one-week meeting per year (November))
- Endorsement of the decision of the RID/ADR/ADN Joint Meeting
- Interpretation of RID
- Consideration of the general European Union railway law
- Limited provisions on the construction of wagons
- Training provisions
- Operational provisions
- Provisions for hand luggage and registered luggage
- Accident analysis
- Working group on tank and vehicle technology
Languages

- **UN Model Regulations:**
  - English, French, Russian, Spanish, Arabic, Chinese

- **ADR, ADN:**
  - English, French, Russian (in addition available in all official languages of the EU Member States)

- **RID:**
  - English, French, German, (Russian), (in addition available in all official languages of the EU Member States)
Thank you very much for your attention!
Unified railway law to connect Europe, Asia and Africa
JOOST OVERDIJKINK, UIC

LOAD SAFETY - QUALITY OF SHIPMENTS
Recap: UIC in the TDG landscape
rail and intermodal

51 Signatory Member States + EU

COTIF

OTIF

EU

UNECE

ADR/ADN

UN

RID

ERA

EU transposition
for national carriage

*Red box = referenced in RID a MoC
*Dark-red box = referenced in RID as regulatory application

CER

UIC

UIP

SSMG

TDG

IRS 40471-3 Inspections of dangerous goods consignments in RID 1.4.2.2.1

IRS 202001 emergency planning marshalling yards in RID 1.11

AEF (Adressatenkreis)

RJ limitations Italy

Ad-hoc issues dealt with by TDG Expert Group
- Topics Chlorine transports
- Italian Border checks and RID restrictions
- Hump shunting ELTC and their wagons
- Holding time empty uncleaned tank wagons
- Issues from EU Safety Directive

CT RAIL SYSTEM

GCU (joint UIC ERFA-UIP)

LGG

ITSG

OSG

CTG

IRS 50591 containers IRS 50592 ILU for wagons in RID&ADR 6.11.4.2 & 7.1.3

Leaflet 221 harmonised commodity code (NHM) in RID 3.2 Table B

IRS 40472 braking sheet & wagon list in RID 1.4.2.2.7

Loading Guidelines in RID 7.5.7.1
RID Chapter 1.4 on participants’ safety obligations requires the carrier (RID 1.4.2.2) to verify the conformity of the consignment before accepting them for transport. This obligation is specific, but it is part of the regulatory obligation of load safety of freight in general, for which the UIC proposes recommendations:

**Load safety | UIC - International union of railways**

In this regard, it is also important to note the checks to be carried out by the railway undertakings provided for in the General Contract of Use for Wagons (GCU) during exchanges of wagons:

[https://gcubureau.org/?lang=en](https://gcubureau.org/?lang=en)

This contract is multilateral. It is based on the International Convention COTIF 1999 and its Appendix CUV. The GCU sets out the mutual rights and obligations of wagon keepers (K) and railway undertakings (RU) when using railway wagons as a means of transport in Europe and beyond. The GCU refers to the RID when the wagon is loaded with dangerous goods.
RID 1.4.2.1 assigns the obligation of load compliance to the shipper.

The carrier is required to perform checks. They contribute to the quality of shipments and thus to the safety of transportation (quality and safety go hand in hand in TDG). These audits are also intended to reduce the risk of anomalies being remarked during transit and thus disrupting railway operations (including “passengers”).

The checks to be carried out by the carrier (RID 1.4.2.2.1) are deemed to be satisfied if point 5 of IRS 40471-3 “Inspections of dangerous goods consignments” is applied. Since point 5 is referenced in RID 1.4.2.2.1, it is the subject of a public document (in FR, DE or EN) which can be consulted on the UIC website:


Point 5 of IRS 40471-3 is sometimes used by the national competent authorities when carrying out checks in accordance with RID 1.8.
In addition to point 5 on the checklist, IRS 40471-3 deals more broadly with the management of anomalies and non-conformances found during the movement of dangerous goods, including the tracking of defects found. A typology of defects is proposed according to their nature, their severity...

The application of IRS 40471-3 is a central and systematic agenda item for the semi-annual meetings of the RID Expert Group.

Since its introduction in 2000, this document has been the subject of 13 versions, including 10 in its former UIC 471-3 status. Its evolution is justified by the needs of businesses and the lessons learned from operations. Point 5 of this document must be in accordance with RID 1.4.2.2.1 and therefore also evolves accordingly with RID. Any new version is subject to prior examination by the intergovernmental RID Committee of Experts (and through preparation in the Standing Working Group).
Divergences in the assessment of anomalies or non-conformities may exist when applying point 5 of IRS 40471-3 in the same company. This creates difficulties in ensuring the quality of shipments and the movement of goods. These difficulties may arise when goods (a wagon loaded with..) are transported by several successive companies, whether domestic or international. Finally, undertakings must be able to explain themselves when differences of interpretation arise during checks carried out by the administrative authorities (RID 1.8).

An in-depth internal discussion to mitigate these difficulties based on concrete case studies was conducted by the RID Expert Group. The quality of the checks depends in particular on the quality of staff training (RID 1.3) to which each company is obliged (RID 1.3).

The work of the RID Expert Group has resulted in a work document at this stage called the GUIDELINES FOR INSPECTIONS AS PER IRS 40471-3 SECTION 5. This document is explicitly reserved for members of the RID Expert Group in order to assist them in fulfilling their duties as security advisors (RID 1.8.3). It can be consulted by TDG Experts of UIC members via the UIC extranet.

Excerpts from this guide will be shown later by the Chairman of the group, Mr Redeker.
Comments on the establishment and use of UIC guides

- The decision to draw up recommendations or create a UIC guide is taken in plenary session of the group of experts. A proposal to produce a guide may not be accepted. This was the case in the past for a proposal to establish a UIC guide for the implementation of safety plans (RID 1.10).

- The design and use of a guide presupposes a thorough examination of the situations to be controlled. The guide must be able to meet the regulatory requirements and the interests of the company, under acceptable technical and economic conditions, on the understanding that the user cannot oppose them to the applicable regulations.

- Companies develop quite different activities while using all or part of the same railway infrastructure. The management of the quality of the shipments or the emergency dispositions must therefore be proportionate to the interests of safety and quality.

- Example: A company which transports only liquid petroleum fuels in whole trains must be able to organize itself different from a company which transports all goods authorized by the RID. The guide must be able to respond to such a situation. And what if the company is limited to a “domestic activity” (national network), without providing international transport or contributing to international transport? Of course, RID is applicable to EU internal transport.
In 2003, the UIC published a "Carriage of dangerous goods – Emergency planning guidance for rail marshalling yards". The detailed synopsis of the guide identified IRS 20201 is presented in Appendix 2.

This guide is the result of many years of reflection and exchange between the railways and the competent authorities for transport, environmental protection and civil safety. While rail freight traffic was in sharp decline in the early 1990s, issues related to the safety of the transport of dangerous goods had been at the heart of the concerns of certain national public authorities responsible for civil safety and environmental protection.

The varying concerns from one State to another stemmed mainly from the simultaneous presence of a large number of dangerous goods cars in the marshalling yards. These stations were similar to industrial sites with major risks. A consensus gradually emerged to provide a specific response to security issues. Thus, RID 1.11 prescribes the establishment of emergency plans for these stations. The management of disturbed situations was seen as an essential part of TDG safety, in addition to the measures taken upstream to prevent incidents and accidents.
Rail marshalling yards are an integral part of the rail system.

Emergency provisions for dangerous goods in yards must be consistent with those for the entire railway system, including those for railway operations in general. (This requirement has various reasons, including management of internal and external resources to the railway system.)

The guide refers to the general principles applied in emergency management in industry and at seaports. It incorporates requirements related to railway specificities.

Emergency situations (TDG or non-TDG) can occur at any point in the rail network and are generally responded to by public emergency services (external). The infrastructure manager is involved and the safety of other trains may be concerned. The organization of the emergency system is determined by many factors specific to the transport activity, but also by the national (but also local) regulatory and institutional framework, particularly in terms of civil safety or environmental protection.

The approach proposed by the IRS 20201 is based on internationally proven principles. Its objective is to be compatible with the existence of national and local particularities.
Explanatory notes and liability disclaimer

**General**
This guideline is intended to ensure uniform implementation of the provisions of Point 5 of IRS 40471-3. It was adopted at the meeting of the Dangerous Goods Expert Group on 07 March 2023.

**Content**
The guideline contains decisions taken by the expert group based on examples from transport practice as well as further recommendations for dealing with findings/situations during the transport of dangerous goods. In this context, it also serves - in the sense of the general safety provision in accordance with subsection 1.4.1.1 RID - to comply with the provisions of paragraphs 1.4.2.2.1, 1.4.2.2.3 and 1.4.2.2.4 RID.

**Aim**
The aim of the document is to provide the Railway Undertakings (RU) and Infrastructure Managers (IM) with directions that enables them to comply with the provisions of dangerous goods law, considering safety (including security) in accordance with the requirements of daily transport practice, and in particular to minimize delays during transport.

The examples are neither intended to call into question the provisions of Dangerous Goods law, nor to undermine them. Rather, the legal regulations always remain the highest measure for all involved parties. This also applies to the criteria for the creation of RID reports and to the performance of quality inspections according to the appendices of IRS 40471-3.

**Target group**
The guideline is particularly suitable for dangerous goods safety advisors and employees of the RU/IM involved in the transport of dangerous goods with tasks in the field of

- Creation of internal regulations and instructions for the operational staff
- Preparation of documents for training and further education of staff
- Supervision of the execution of work by the operational staff
- Planning

**Feedback**
Please send feedback on the application of the document or requests / recommendations for further regulatory matters to the secretariat of the UIC Expert Group “Transport of Dangerous Goods”: tdg@uic.org.

**Liability disclaimer**
The International Union of Railways UIC does not guarantee the correctness of the guide. Any liability for damage caused by its application is fully excluded.

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Guidelines for inspections as per Section 5

Goals:
- To achieve a uniform understanding regarding all inspections performed as per IRS 40471-3 Section 5 and 1.4.2.2.1 RID
- To avoid misinterpretations
- To give all parties involved certainty in how to conduct inspections
- To ensure a uniform approach to inspections

References:
- Minutes of UIC Group of Experts and QAS Working Group meetings
- Results of the internal survey conducted among Working Group members on 5 February 2020
- Outcomes of discussions held at UIC Group of Experts meetings
These were examples of international cooperation promoted within the TDG working group, which have the potential for long-lasting success and increased significance as we continue to improve based on our experiences.

UIC, as the coordinator for railway undertakings on the TDG, has been dedicated to serving the interests of its members.

For questions after the webinar:

Joost OVERDIJKINK, UIC Senior Advisor Freight - ECCO coordinator
overdijkink@uic.org
Fit for Freight – Dangerous goods podcast
Stay in touch with UIC!

www.uic.org

#UICrail

Thank you for your kind attention.