



Ad-hoc safety subgroup – Analyses and conclusions

MANDATE

The subgroup is tasked by WG TECH to act in accordance with the “Terms of reference for the development of safety management and safety certification principles in OTIF regulations”, reference A 93-01/3.2012, version 3.

The main tasks are:

- a) *To analyse the differences between the EU and OTIF legal frameworks with regard to safety management and safety certification and the associated roles and responsibilities.*
- b) *To report on the possible impact of these differences in the application of UTPs and other OTIF regulations. As a detailed ‘case study’, the application of SMS in relation to the safe operation of wagons built according to the revised WAG TSI should be analysed. This should provide a comprehensive understanding of the safety related issues which a rail transport undertaking¹ has to manage in order safely to operate any wagon compliant with only the ‘core TSI’ (level 1) in comparison to an Appendix C compliant (‘RIV’) wagon.*
- c) *To draft a proposal for implementing in OTIF regulations the minimum safety requirements needed for the safe operation of any wagon built according to the revised WAG TSI.*
- d) *To explore the need to amend OTIF regulations ATMF and APTU with a view to establishing full functional safety management equivalence between EU and OTIF regulations in the application of UTPs.*

PROCEEDINGS

The subgroup met twice. The first meeting was held on 7 November 2012 in Košice (SK) and the second meeting was held on 15 January 2013 in Belgrade (RS). During its second meeting the subgroup reached its conclusion as set out in the present document and decided that it was not necessary to hold a third meeting.

The subgroup’s composition and attendance is shown in table 1.

¹ Where in the present document reference is made to rail transport undertakings, this also includes infrastructure managers when they operate trains, e.g. for track inspection or maintenance purposes.

Table 1

<i>GROUP MEMBERS</i>	<i>FIRST MEETING</i>	<i>SECOND MEETING</i>
Pascal Boudet, France	yes	yes
Michael Schmitz, Germany	no	no
Milan Popovic, Serbia	yes	yes
Roland Bacher, Switzerland	yes	yes
Patrizio Grillo, EC	yes	yes
Denis Biasin, ERA	yes	no
Felix Ardiaca, ERA	yes	yes
Jean-Marie Dechamps, ERA	no	yes
Bernard Alibert, SNCF, representing CER	yes	yes
Stefan Franke, VTG, representing UIP	yes	yes
Gustav Kafka, OTIF	no	yes
Bas Leermakers, OTIF	yes	yes
Peter Sorger, OTIF	yes	yes

At both meetings, Mr Grillo was elected chairman by the participants.

The results of the subgroup are set out in this document, which is addressed to WG TECH.

DEFINITION OF TASKS

It was decided that the group would analyse and focus its report on the following five subjects, which implement directly the tasks listed in the mandate:

1. Provisions included in the Convention relating to the subject of safety management (list and summarise).
2. The conditions under which a wagon compliant with only the 'core TSI'², i.e. without harmonised interfaces and characteristics, can be admitted to operation by all Contracting States.
3. Conditions for maintaining the safety level of the rail system when using wagons compliant with only the 'core TSI'.
4. Place for and content of the definition of responsibility for train composition.

² Because the content of the revised UTP WAG is not decided on, reference is made to the TSI. Presuming the UTP and TSI will remain equivalent; where TSI is mentioned, this can also be substituted with UTP.

5. The possibilities for rail transport undertakings to decide on their own responsibility that it is not possible to operate particular wagons that have been legally authorised/admitted for service.

ANALYSES AND RESULTS

This section lists the analyses and results of the tasks.

Task 1

(Provisions included in the Convention relating to the subject of safety management)

1.1 Analysis:

The left-hand column of the following table 2 provides a summarised overview of the subjects covered by the EU Safety Directive (2004/49/EC and its amendments); the right-hand column contains a brief analysis of the equivalence of the subject in the Convention, accompanied by a quote where relevant.

Table 2

<i>EU Safety Directive</i>	<i>COTIF</i>
To maintain safety and where reasonably practicable improve – measured at system level. Art. 4(1)	No such objective is defined in the Convention.
Mandatory separation of responsibilities of the rail transport undertakings (RU) and the infrastructure manager (IM) and free access to the infrastructure by different RUs. Art. 4(3)	<p>CUI Art.5 § 1 <i>Relations between the manager and the carrier or any other person entitled to enter into such a contract under the laws and prescriptions in force in the State in which the infrastructure is located shall be regulated in a contract of use.</i></p> <p>CUI Art.6 § 1 <i>The carrier must be authorised to undertake the activity of a carrier by rail. The personnel to be employed and the vehicles to be used must satisfy the safety requirements. The manager may require the carrier to prove, by the presentation of a valid licence and safety certificate or certified copies, or in any other manner, that these conditions are fulfilled.</i></p>
<p>Product responsibility for applicant for authorisation of vehicles / manufacturer. Art. 4(4)</p> <p>In the EU the product conformity to the rules is covered by an ‘EC declaration’ by the applicant, where the applicant declares, on his sole responsibility, that the product complies with all regulations, including TSIs. This declaration is based on a Notified Body assessment. The authority supervises the process, but does not directly take responsibility for the product’s conformity with TSIs.</p> <p>Article 17(1) of Interoperability Directive requires Member States to consider as being interoperable and meeting the essential requirements concerning them,</p>	<p>In COTIF approval law the term declaration refers to evidence (ATMF Art.2 f) rather than responsibility and is issued together with certificates to the applicant (ATMF Art.11 § 7).</p> <p>Where in the EU the conformity assessment is checked by a third party (Notified Body); in COTIF the assessing entity can also be the authorising entity.</p> <p>The principle of separation between applicant and authorising entity exists in both EU and COTIF law.</p>

those structural subsystems constituting the rail system which are covered by the EC declaration of verification.	
Harmonised way of defining and measuring safety (Common Safety Indicators). Art.5	No such definition in the Convention.
Harmonised ³ safety goals, described as Common Safety Targets). Art.7	No such target is defined in the Convention.
Common safety methods on risk evaluation and assessment. Art.6 and Regulations 653/2007.	Equivalent UTP GEN-G
Common safety method for monitoring to be applied by railway undertakings, infrastructure managers after receiving a safety certificate or safety authorisation and by entities in charge of maintenance. Art.6 and Regulation 1078/2012.	No such method is defined in the Convention.
Common safety method for supervision by national safety authorities after issuing a safety certificate or safety authorisation. Art.6 and Regulation 1077/2012.	No such method is defined in the Convention.
National safety rules – need for notification. Art.8.	No equivalence in the Convention. Although NTRs may include elements related to safety.
Safety management systems (SMS) for RU and IM. Art.9.	<p>No equivalence in the Convention, however some elements which in the EU fall under the SMS are included in the Convention, such as the rail transport undertakings task to ensure compatibility between network and vehicle. Also the rail transport undertaking is responsible for the safe operation of its trains.</p> <p><i>ATMF Art.6 § 2 An admission to operation allows the rail transport undertakings to operate a vehicle only on infrastructures compatible with the vehicle according to its specifications and other conditions of the admission; it is the responsibility of the rail transport undertaking to ensure this.</i></p> <p><i>ATMF Art.15 § 3 An operating railway undertaking is responsible for the safe operation of its trains and shall ensure that vehicles carried are properly maintained. Therefore, the ECM must ensure that reliable information about maintenance processes and data are available for the operating railway undertaking, and the operating railway undertaking must in due time provide the ECM with information and data concerning its operation of the vehicles and other railway material for which the ECM is in charge. In both cases the information and data in question shall be specified in the Annex indicated in § 2.</i></p> <p>Document A 93-01/3.2012 “Proposal to amplify the Explanatory Notes on Article 15 ATMF” as adopted by the 5th session of the Committee of Technical Experts provides a proposal for inclusion in the explanatory notes.</p>
Safety certification of RU and authorisation of IM by NSA. Art. 10, 11 and 12	No equivalence in the Convention, however the CUI makes reference to safety certification.

³ In the EU the target values for the Common Safety Methods may vary between Member States.

and Regulations 1158/2010 and 1169/2010.	CUI Art 6 § 1 <i>The carrier must be authorised to undertake the activity of a carrier by rail. The personnel to be employed and the vehicles to be used must satisfy the safety requirements. The manager may require the carrier to prove, by the presentation of a valid licence and safety certificate or certified copies, or in any other manner, that these conditions are fulfilled.</i>
Entity in Charge of Maintenance of vehicles – ECM. Art.14a and Regulation 445/2011.	Equivalent ATMF Annex A, Certification and Auditing of Entities in Charge of Maintenance (ECM).
Accident investigation. Articles 19 to 25.	Some equivalence in ATMF Art.16.

Registers and databases are considered as being relevant for railway safety by some CSs and by CER. In OTIF the NVR regulations are in force, but are not yet implemented in some CSs. Issues of consistency and architecture of all registers and databases are subject to analysis on the EU side.

The following table 3 lists the articles in the Convention that refer to safety management and responsibilities in the operation of trains.

Table 3

PART OF THE CONVENTION	SECTION	TEXT
Appendix E – CUI	Article 3 Definitions	g) “safety certificate” means the document attesting, in accordance with the laws and prescriptions in force in the State in which the infrastructure is located, that so far as concerns the carrier, - the internal organisation of the undertaking as well as - the personnel to be employed and the vehicles to be used on the infrastructure, meet the requirements imposed in respect of safety in order to ensure a service without danger on that infrastructure.
	Article 6 Special obligations of the carrier and the manager	§ 1 <i>The carrier must be authorised to undertake the activity of a carrier by rail. The personnel to be employed and the vehicles to be used must satisfy the safety requirements. The manager may require the carrier to prove, by the presentation of a valid licence and safety certificate or certified copies, or in any other manner, that these conditions are fulfilled.</i> § 2 <i>The carrier must notify the manager of any event which might affect the validity of his licence, his safety certificates or other elements of proof.</i>
Appendix G – ATMF	Article 9 Operation prescriptions	§ 1 <i>The rail transport undertakings which operate railway vehicles admitted to circulation in international traffic shall be required to comply with the prescriptions relating to the operation of a vehicle in international traffic, specified in the UTP.</i>
	Article 15 Maintenance	§ 3 <i>An operating railway undertaking is responsible for the safe operation of its trains and shall ensure that vehicles carried are properly maintained. Therefore, the ECM must ensure that reliable information about maintenance processes and data are available for the operating railway undertaking, and the operating railway undertaking must in due time provide the ECM with information and data concerning its operation of the vehicles and other railway material for which the ECM is in charge. In both cases the information and data in question shall be specified in the Annex indicated</i>

		<i>in § 2.</i>
	Article 17 § 1 Immobilisation and rejection of vehicles	<i>A competent authority, another rail transport undertaking or an infrastructure manager may not reject or immobilise railway vehicles to prevent them from running on compatible railway infrastructures if these Uniform Rules, the prescriptions contained in the UTP, the special conditions, if any, for the admission set out by the admitting authority as well as the construction and operation prescriptions contained in RID, are complied with.</i>

Task 2

(The conditions under which a wagon compliant with only the ‘core TSI’, i.e. without harmonised interfaces and characteristics, can be admitted to operation by other Contracting States.)

2.1 Analysis:

The admission to operation and the ECM responsible ensure that a wagon meets the essential requirements as long as it is operated within its defined conditions and limits of use (see also the text under task 3).

The functionality and compatibility of the interfaces between wagons, such as the coupling system and the brake system, are not mandatorily harmonised in the draft revised UTP/TSI WAG. The UTP/TSI fully covers the safety of these interfaces, in the sense that it is possible to operate the wagon safely when using it in accordance with the conditions and limits of use as defined in the technical file. This does not mean that every wagon can be operated in combination with every other wagon. During train composition and loading, the conditions and limits of use of each individual vehicle must be clear and must be respected and the requirements applicable to the train must be complied with.

The OTIF regulations in force define the following:

- The rail transport undertaking is responsible for the safe operation of its trains (ATMF Art.15 § 3).
- Each vehicle in the train shall have an ECM assigned to it (ATMF Art.15 §2).
- The operating conditions are set out in the certificate of operation (ATMF Art. 11), which includes the technical file with all the elements relating to the conditions and limits of use (UTP GEN-C Technical File, Art.1) and the special operating limitations (ATMF Art.11 § 2).
- The keeper holds the certificate of operation (ATMF Article 11 § 8).
- The rail transport undertaking shall ensure that the use of the wagon corresponds to the scope of the vehicle’s certificate (ATMF Annex A on ECM regulations Art.5.1).

2.2 Conclusion:

The conclusion on task 2 is positive: wagons in accordance with only the ‘core’ revised UTP WAG can be admitted to operation by other Contracting States.

The way that a wagon can be used and whether the wagon is compatible with (a part of) an existing fleet should not be questioned by the competent authority for the purpose of the admission to operation. The competent authority should base the admission to operation on compliance with the technical prescriptions and notified national technical rules.

In order to act in accordance with its duties, the rail transport undertaking should operate wagons within their conditions and limits of use. The keeper of the wagon keeps the certificate of operation to which the technical file, with conditions and limits of use, is attached. The rail transport undertaking should therefore arrange (e.g. by contract or database) that it has all the information necessary to operate the wagon safely.

Task 3

(Conditions for maintaining the safety level of the rail system when using wagons only compliant with the 'core TSI')

3.1 Analysis:

The OTIF regulations contain the following provisions, in addition to the conditions listed under section 2.1:

- The UTPs cover the essential requirements (APTU Art.8). If certain technical aspects corresponding to the essential requirements cannot be explicitly covered in the UTP, they shall be clearly identified in it as “open points” (APTU Art.8).
- Admission to operation of new vehicles is based on UTP compliance (ATMF Art.7), checked by the competent authority or assessment entity (ATMF Art.5).
- Compatibility with infrastructure when using the vehicle is the responsibility of the rail transport undertaking (ATMF Article 6 § 2).

OTIF regulations do not explicitly cover:

- The responsibility for train composition. It should be ensured that a train is composed in such a way that during operation not only each wagon, but also the complete train will meet the essential requirements and that all vehicles are used within their limits and conditions of use. To this end, during train composition compatibility should be ensured between the wagon and the train in which it is integrated.

3.2 Recommendation of the ad-hoc safety subgroup:

The responsibility for train composition and correct use of vehicles in the OTIF system should be defined explicitly and should be attributed to the rail transport undertaking. This responsibility should be irrespective of the type of wagon and apply to the use of any type of wagon, no matter what its technical characteristics are. This recommendation is further detailed in task 4.

In order to maintain the safety level of the rail system, Contracting States should supervise the activities of the rail transport undertaking(s) operating in their territory.

In the EU these supervision activities are already defined in a harmonised way. In some non-EU Contracting States such supervision of activities are also common practice. The ad-hoc safety subgroup does not see the need to harmonise safety supervision activities as a result of the revision of the UTP WAG.

Task 4

(Place for and content of the definition of responsibility for train composition)

4.1 Analysis:

As recommended in section 3.2 of this document, the responsibilities for train composition and the correct use of vehicles should be attributed to rail transport undertakings. This section analyses and recommends where the related rules should be embedded.

There are several options for embedding provisions relating to the definition of responsibility for train composition into the OTIF regulations. Table 4 below summarises these options:

Table 4

OPTION	WHERE	HOW	STRENGTHS / WEAKNESSES
1	UTP WAG	<p>Section 4.3 sets out the functional and technical specifications of the interfaces. With regard to operational provisions, in the draft revised WAG TSI a straight reference is made to the OPE TSI. Because there is no UTP for operations, the operational interfaces could be described here in more detail, e.g. what to observe when composing a train and using a wagon in the train.</p> <p>In section 4.4 of the WAG TSI the operating rules are set out. The draft revised WAG TSI refers to the safety management system of the railway undertaking. The draft UTP WAG could also refer to the safety management system, however outside the EU, the responsibilities of the rail transport undertakings are not harmonised.</p>	<p>Strength: Defining both the technical requirements for wagons as well as the conditions for using them in one document limits the number of documents.</p> <p>Weakness: Structural UTP, such as the UTP WAG should primarily describe the conditions for admission to operation. Even though it should describe interfaces with other (functional) subsystems, the UTP WAG may not be the best place to define responsibilities and operational conditions for the use of wagons.</p> <p>There is however no legal obstacle to including e.g. operational aspects in the UTP WAG since ‘one UTP may cover several subsystems’ (APTU Art.8 § 2).</p>
2	UTP OPE	Transposing the relevant elements from the OPE TSI into a UTP OPE.	<p>Strength: A dedicated document would allow a full description of the requirements and the interfaces with the UTP WAG.</p> <p>Weakness: In OTIF there is no obligation to separate the responsibilities between RU and IM. Therefore, a UTP OPE would not be a 1 to 1 transposition of the OPE TSI and therefore would not be fully equivalent, for example because the latter defines the interfaces between IM and RU and the</p>

			UTP OPE would be limited to defining some of the responsibilities for the RU.
3	Other	Adding to the Convention responsibilities for train composition and the use of vehicles within their conditions and limits of use, e.g. by revising the ATMF.	<p>Strength: would be coherent with the responsibilities for maintenance (ECM) which are embedded in the ATMF.</p> <p>Weakness: procedure, through the Revision Committee, which would not be finalised before the foreseen entry into force of the revised UTP WAG. Difficulty of any further amendment (e.g. for synchronisation with any future revision of the OPE TSI).</p>

Rail transport undertakings, and/or keepers may agree, on a voluntary basis, on standards which harmonise technical features for freight wagons, in order to manage their responsibilities efficiently. One example is the voluntary application of Appendix C of the draft revised UTP/TSI WAG, whose objective is to facilitate the interchangeability of wagons in a regime similar to the RIV regime, like the GCU.

For each vehicle it operates, the rail transport undertaking should be in a position to understand the limits and conditions of use and be able to determine if it can operate the vehicle accordingly. The rail transport undertaking should make sure it has all the necessary information concerning the limits and conditions of use of each vehicle.

In the EU, the main responsibilities and operational requirements are set out in the Safety Directive 2004/49/EC and OPE TSI. The OTIF rules should be compatible with these EU rules. The main relevant principle is that the rail transport undertaking controls the risks associated with its activities to ensure the safe management of its operations.

By analogy with the above, the rail transport undertaking may be, permitted to reject vehicles which it cannot operate within the vehicle's conditions and limits of use, even if these vehicles are compliant with the regulations and are admitted for operation by the authorities (see also 'Task 5' further on in this document).

4.2 Recommendation:

The subgroup proposes to use Option 1. Option 1 would not rule out the subsequent adoption of provisions in accordance with other options.

The requirements in the following list should be transposed into the revised UTP WAG in an equivalent manner, with adaptations where necessary.

The list contains requirements which are taken from the OPE TSI (2012/757/EU) and which relate directly to the use and loading of wagons and the composition of trains:

- Train staff must be provided with documentation related to the vehicle (4.2.1.3)
- The RU must ensure that the train displays a correct train rear end signal (4.2.2.1.3)

- The RU must make sure that the vehicles are safely and securely loaded and remain so throughout the journey (4.2.2.4.1),
- Train composition is the responsibility of the RU, including ensuring compatibility with the network and technical fitness of the composition (4.2.2.5)
- The RU must ensure brake performance to be sufficient to meet the performance requirements set by the IM (4.2.2.6)
- Ensuring that the train is in running order, i.e. all safety-related equipment is fully functional. Procedure for degraded mode must be in place. (4.2.2.7)
- RU checks train safety before departure and informs IM thereof. (4.2.3.3)
- Train crew must have knowledge of the rolling stock, ensured by training (4.6.3.2.3.2)

This list is tentative; the details of the requirements to be included in the revised UTP WAG will be addressed within the framework of the UTP WAG development.

Task 5

(The possibilities for rail transport undertakings to decide on their own responsibility that it is not possible to operate particular wagons that have been legally authorised/admitted for service.)

5.1 Analysis:

By revising the UTP WAG, part of the detailed technical prescriptions will be replaced by functional requirements. On the one hand, this will allow the rail sector to start using up-to-date technologies such as disk brakes and automatic couplers. On the other hand, it may no longer be assumed that all freight wagons can be coupled and operated together in one train.

It is (or at least should be) the responsibility of the rail transport undertaking to ensure that the freight wagons it operates in one train are compatible with the train into which they are integrated and are used in accordance with their conditions and limits of use as defined in the technical file associated with the wagon and/or other restrictions that may apply.

By assigning the responsibility for the correct use of vehicles to the railway transport undertaking, it should also have the possibility not to operate incompatible vehicles. Rail transport undertakings can only operate vehicles having characteristics that are compatible with its operational environment and technical interfaces. This means that it may be impossible for a rail transport undertaking to operate certain types of wagons.

The impossibility for a rail transport undertaking to operate a wagon should be in conformity with ATMF Article 17§ 1 - Immobilisation and rejection of vehicles:

A competent authority, another rail transport undertaking or an infrastructure manager may not reject or immobilise railway vehicles to prevent them from running on compatible railway infrastructures if these Uniform Rules, the prescriptions contained in the UTP, the special conditions, if any, for the admission set out by the admitting authority as well as the construction and operation prescriptions contained in RID, are complied with.

5.2 Recommendation:

ATMF Article 17 § 1 does not mean that every rail transport undertaking must be capable of using every type of vehicle. An admitted vehicle incompatible with the operational environment or fleet of a rail transport undertaking is not *prevented from running*, but as it does simply not fulfil the technical or operational prerequisites for this rail transport undertaking to operate it, this rail transport undertaking is *not in a position to operate* it. This means that a rail transport undertaking may decide under the conditions set out above that it is not able to operate a particular type of wagon that has been legally authorised/admitted for service.

Article 17 should be subject to review by the Revision Committee.

CONCLUSIONS REACHED BY THE AD-HOC SAFETY SUBGROUP

With regard to the tasks it defined within its mandate, the ad-hoc safety subgroup reports to the WG TECH that:

1. The provisions included in the Convention relating to the subject of safety management are listed in section 1.1.
2. A wagon compliant with only the 'core TSI' can be admitted to operation by other Contracting States without analysing or questioning the compatibility of this wagon with (part of) the existing fleet. It is the task of the rail transport undertaking to use the wagon only within its conditions and limits of use.
3. In order to maintain the safety level of the rail system:
 - All wagons, irrespective of their design, must meet the essential requirements in their design operating state.
 - It is the task of the rail transport undertaking to use each vehicle correctly, in accordance with its limits and conditions of use.
 - Contracting States should supervise the activities of rail transport undertaking(s) operating in their territory.
4. When introducing safety management provisions into OTIF regulations, a step by step approach was considered to be preferable. The ad-hoc safety subgroup recommends:
 - As a first step to revise the UTP WAG including provisions relating to train composition and the use of wagons in line with section 4.2 of the present document.
 - Secondly to consider any necessary amendments to ATMF and its explanatory notes.
 - Thirdly to consider the development of a UTP OPE.
5. If a type of wagon which has been legally authorised/admitted for service is not compatible with a rail transport undertaking's fleet or operational environment, it may be not possible for this rail transport undertaking to operate this type of wagon. Regard-

ing this conclusion, ATMF Article 17 should be subject to review by the Revision Committee.