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Committee of Technical Experts**

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FUTURE TASKS IN RELATION TO THE REVISION OF ATMF

Operational safety: an inventory of available rules and explanatory notes

INTRODUCTION

The aim of this document is to list the observations and requirements related to operational responsibilities within OTIF regulations. This document may help to analyse the question of whether or not additional rules and/or explanations are needed.

This document should be read in combination with the ad-hoc safety subgroup document – analyses and conclusions¹, as validated by the Committee of Technical Experts (CTE) at its 6th session, which lists all the safety-related provisions included in COTIF to that date.

AD-HOC SAFETY SUBGROUP – ANALYSES AND CONCLUSIONS

Point 4 of the conclusions of the ad-hoc safety subgroup document – analyses and conclusions, recommends as follows:

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.*

In accordance with the first bullet point, Appendix I of the UTP WAG includes requirements for the use of wagons with their limits and conditions of use. By analogy, Appendix K was included in the UTP LOC&PAS. Both these appendices transpose the responsibilities of the railway undertaking related to train preparation and the correct use of vehicles as set out in the EU TSI Operations. The aforementioned appendices are given in Annex B of this document.

The second point of the recommendation has been covered by the adoption of the ATMF revision and related Explanatory Notes by the 25th Revision Committee. In particular new ATMF Article 15a sets out the responsibilities related to train composition and operation.

The third point of the recommendation suggests considering the development of a UTP OPE. Work on such UTP has not started and the question arises as to whether a UTP OPE would be the best way to complete the set of specifications relating to operations in COTIF.

STATUS

With the revision of ATMF, and particularly its new Article 15a, some additional operational responsibilities will be harmonised in COTIF. A copy of the new Article 15a is included in Annex A, as well as an important explanatory note which sets out the interaction between EU law with respect to the licensing of Railway Undertakings (RUs) and the provisions of COTIF. It should be noted that COTIF does not set out the provisions or minimum conditions

¹ A92-04/2.2012 version 5 of 18.2.2013

for licensing RUs. The licensing of RUs, i.e. their permission to operate in a Member State, is subject to other provisions applicable in each Member State. In the EU, these provisions are harmonised by EU law.

The table below gives a summarised overview of the rules in ATMF relating to operations and safety management. The new provisions added by the 25th Revision Committee are shown in bold text.

COTIF reference	Summary of responsibility/task	Entities concerned
ATMF Art.6 § 2	The RU must ensure that vehicles are only operated according to their specifications and only on compatible infrastructure.	RU
ATMF Art. 9	The RU and Infrastructure Manager (IM) shall be required to comply with UTP requirements related to operation.	RU, IM
ATMF Art.11 § 8	The Certificate of Operation and technical file are with the keeper.	Keeper
ATMF Art.15 § 1	Vehicles shall be maintained in accordance with the maintenance file. The keeper shall designate an Entity in Charge of Maintenance (ECM).	Keeper, ECM
ATMF Art.15 § 2	All vehicles shall have an ECM assigned to it. ECMs for freight wagons shall be certified.	ECM
ATMF Art. 15 § 3	The keeper makes available to the ECM all information relevant for maintenance. The ECM ensures that the RU is informed of relevant information about maintenance and restrictions. The RU ensures that the ECM is informed of operation of the vehicles.	ECM, Keeper, RU
ATMF Art.15a	Correct use and safe operation of trains by RU. Keeper to provide information to RU about conditions and limits of use, servicing and routine monitoring of the vehicle. IM to provide infrastructure characteristics to RU.	RU, IM, Keeper

In addition to the general ATMF provisions, in particular those of Article 15a, the UTP WAG and UTP LOC&PAS set out more detailed provisions which should be observed by the RU when operating trains. These provisions are equivalent to provisions set out in the EU OPE TSI², but only to those parameters related to the correct use of vehicles.

The parts of the OPE TSI that describe the distribution of responsibilities between the IM and the RU have not been transposed into any UTP. In the EU, the distribution of responsibilities

² Commission Decision of 14 November 2012 concerning the technical specification for interoperability relating to the 'operation and traffic management' subsystem of the rail system in the European Union and amending Decision 2007/756/EC

between RU and IM is fundamental to the aim of opening the market, i.e. to make sure that each IM can deal with several RUs. The OPE TSI defines the division of responsibilities between the IM and the RU. As COTIF does not require this division of responsibilities, it is probably not a good idea fully to transpose the OPE TSI into a UTP.

FOLLOW-UP

As a follow-up to the ad-hoc safety subgroup, the OTIF Secretariat suggests analysing whether there is a requirement for additional specifications related to operational aspects, which would be of benefit to international traffic.

Such an analysis should cover the practical needs of the sector and identify the different possibilities for integrating these specifications into COTIF and/or into explanatory documents.

ANNEX A

ATMF

(as adopted by the 25th Revision Committee in June 2014)

Article 15a - Train composition and operation

- § 1 *The rail transport undertaking shall control the risks associated with its activities and especially those related to the operation of trains. To that end it shall ensure that these trains comply with the essential requirements and shall in particular:*
- a) *ensure correct and safe train composition and preparation, including pre-departure checks,*
 - b) *take into account information necessary for the safe operation of each vehicle, including possible operating restrictions,*
 - c) *only use vehicles within their limit and conditions of use,*
 - d) *be required to comply with the prescriptions relating to operation in international traffic, such as those specified in the relevant UTPs,*
 - e) *ensure that each vehicle carried has an ECM assigned to it and when required that the ECM has a valid certificate.*
- § 2 *The rules as set out in § 1 shall apply mutatis mutandis to entities other than a rail transport undertaking that operate trains under their own responsibility.*
- § 3 *The keeper shall make available, as far as necessary for operation, to any rail transport undertaking operating the vehicle, the elements relating to the conditions and limits of use and concerning servicing and constant or routine monitoring.*
- § 4 *The infrastructure manager shall make available, as far as necessary for operation, to any rail transport undertaking operating on its network, the elements relating to the infrastructure characteristics.*

Additionally the 25th Revision Committee adopted an important Explanatory Note related to ATMF Art.3a §3:

Explanatory note to Article 15a

- § 3 *Within the European Union (EU) Railway Undertakings (RUs) and Infrastructure Managers (IMs) have to obtain a safety certificate/safety authorisation respectively. The prerequisite for this is that they implement a safety management system (SMS) according to Art. 9 and Annex III of Directive 2004/49/EC and corresponding European implementing Rules, by means of which they ensure that they control all risks that can occur during*

railway operations. The national safety authorities in the EU Member States check whether the SMS complies with the above-mentioned requirements and issue the safety certificate/safety authorisation accordingly.

With the introduction of the new Article 15a of ATMF, the scope of ATMF is extended to cover certain responsibilities for the composition and operation of trains. These operational responsibilities as set out in Article 15a of ATMF are compatible with EU rules. However, the scope and level of detail are not identical to the corresponding EU rules. For example, ATMF does not include a requirement similar to the EU provisions on safety certification/authorisation and SMS. ATMF Art. 15a sets out minimum requirements to ensure the safe operation of trains. They cover only a part of the EU SMS regulations.

In some EU Member States, the ATMF is transposed into national law at a higher level than the law implementing EU rules on similar subjects. For this reason it is important that the application of ATMF is clarified in relation to EU rules.

Article 3a § 3 is derived from Article 2 of the “Agreement between the Europe Union and the Intergovernmental Organisation for International Carriage by Rail on the accession of the European Union to the Convention concerning International Carriage by Rail (COTIF) of 9 May 1980, as amended by the Vilnius Protocol of 3 June 1999”, which reads: "Without prejudice to the object and the purpose of the Convention to promote, improve and facilitate international traffic by rail and without prejudice to its full application with respect to other Parties to the Convention, in their mutual relations, Parties to the Convention which are Member States of the Union shall apply Union rules and shall therefore not apply the rules arising from that Convention except in so far as there is no Union rule governing the particular subject concerned".

Until equivalent COTIF rules are in force, all RUs and all IMs are subject to EU rules in order to be permitted to operate in the EU. This would cover, for example, rules relating to safety certification, licensing and safety management. The consequence for RUs and IMs operating in the EU, irrespective of whether they are coming from an EU Member State or a Non-EU Member State, is that they are obliged to implement an SMS and to obtain a safety certificate/safety authorization.

Insofar as COTIF includes operational rules which are equivalent to EU rules, such as operational rules contained in UTPs, operational activities performed outside the EU in accordance with these COTIF rules should also be recognised in the EU. This could for example apply to the activities of the ECM, or train preparation activities and pre-departure checks by the RU.

The following three points illustrate the interaction between COTIF rules and EU rules:

- a. For traffic between Member States of the EU, EU rules take precedence.*
- b. For traffic between EU and non-EU OTIF Contracting States:*

- i. For the part of such traffic which takes place on the territory of the EU Member States, EU rules apply, except insofar as there are equivalent rules arising from COTIF on the particular subject concerned.*
- ii. For the part of such traffic which takes place outside the territory of the EU Member States, COTIF rules apply. The COTIF rules should be complemented by national rules, insofar as there is no COTIF rule governing the subject.*
- c. For traffic between two or more non-EU OTIF Contracting States, COTIF rules apply. The COTIF rules may be complemented by national rules, insofar as there is no COTIF rule governing the subject.*

ANNEX B

UTP LOC&PAS (as adopted by the CTE in June 2014)

Appendix K - Provisions for the safe operation of rolling stock

The provisions in this appendix are related to the correct operation of rolling stock within its conditions and limits of use. This appendix has no equivalence in the LOC&PAS TSI, because in the EU specific provisions are set out in the OPE TSI. This appendix is foreseen to be repealed at the moment that a UTP OPE enters into force.

Documentation for drivers

The railway undertaking operating the train must supply the driver with all the necessary information and documentation required to carry out his duties. This information must take into account the necessary elements for operation in normal, degraded and emergency situations for the routes to be worked over and the rolling stock used on those routes.

Documentation for railway undertaking staff other than drivers

The railway undertaking operating the train must supply all members of its staff (whether on the train or otherwise) who undertake safety-critical tasks with all the rolling stock specific information it deems appropriate to such tasks. Such information shall be applicable in both normal and degraded operation.

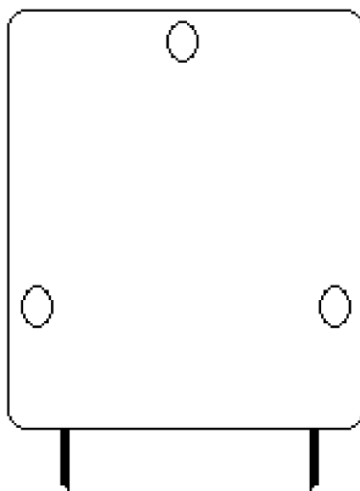
Knowledge of rolling stock

A process must be defined to ensure the acquisition and retention of vehicle knowledge by the train crew.

Front end

Where a coach is used as the front end of a train, the railway undertaking operating the train must provide the means of indicating the front end of a train in compliance with the rules of the network on which the train is operated.

The forward facing front end of the leading vehicle of a train must be fitted with three lights in an isosceles triangle, as shown below. These lights must always be lit when the train is being driven from that end.



The front lights must optimise train detectability (for example, for track workers and those using public crossings) (marker lights), provide sufficient visibility for the train driver (illumination of the line ahead, lineside information markers/boards, etc.) (head lights) by night and during low light conditions and must not dazzle the drivers of oncoming trains.

The spacing, the height above rails, the colour and intensity of the lights, the dimensions and shape of the emitted beam are defined in clauses 4.2.7.1.1 and 4.2.7.1.2.

Rear end

The railway undertaking operating the train must provide the required means of indicating the rear of a train in compliance with the rules of the network on which the vehicle is operated. The rear end signal must only be exhibited on the rear of the last vehicle of the train.

The spacing, the height above rails, the colour and intensity of the tail lights, the dimensions and shape of the emitted beam are defined in clause 4.2.7.1.3

Safety of passengers

The railway undertaking operating the train must ensure that passenger transport is undertaken safely at the departure and during the journey.

Train composition

Train composition shall be the responsibility of the railway undertaking. Rules and procedures shall be defined which must be followed by the staff so as to ensure that the train complies with the allocated path.

UTP PRM requirements must be taken into account in train composition.

Train composition requirements must also take into account the following elements:

a) the vehicles

- *all vehicles in the train must comply with all the requirements applicable on the routes over which the train will run;*
- *all vehicles on the train must be fit to run at the maximum speed at which the train is scheduled to run;*
- *all vehicles on the train must currently be within their specified maintenance interval and remain so for the duration (in terms of both time and distance) of the journey being undertaken;*

b) the train

- *the combination of vehicles forming a train must comply with the technical constraints of the route concerned and be within the maximum length permissible for forwarding and receiving terminals.*
- *the railway undertaking is responsible for ensuring that the train is technically fit for the journey to be undertaken and remains so throughout the journey.*

c) the weight and axle load

- *the weight of the train must be within the maximum permissible for the section of route, the strength of the couplings, the traction power and other relevant characteristics of the train. Axle load limitations must be respected.*

d) the maximum speed of the train

- *the maximum speed at which the train can run must take into account any restrictions on the route(s) concerned, braking performance, axle load and vehicle type.*

e) the kinematic envelope

- *the kinematic gauge of each vehicle (inclusive of any load) in the train must be within the maximum permissible for the section of route.*

Minimum requirements of the braking system, braking performance

All vehicles in a train must be connected to the continuous braking system. The first and last vehicles in any train must have the automatic brake operative³. The railway undertaking operating the train must ensure that the train meets the required braking performance.

General requirement that the train is in running order

Processes shall be defined, which must be followed by the railway undertaking, to ensure that all safety-related on-train equipment is in a fully functional state and that the train is safe to run. In case of modification to the characteristics of the train

³ In operation / in working order / functioning

affecting the ability to accommodate the train in its allocated path, procedures for running in degraded mode shall be defined.

The railway undertaking shall inform the infrastructure manager of any change which affects the performance of the train, or which may affect the ability to accommodate the train in its allocated path.

Driver vigilance

A means of onboard monitoring of driver vigilance is necessary. This shall intervene to bring the train to a standstill if the driver does not react within a certain time.

Checks and tests before departure

Checks shall be defined which must be followed by the railway undertaking to ensure that any departure is undertaken safely (e.g. doors, load, brakes).

Degraded operation

Before operating on a network, the railway undertaking shall have procedures in place to be informed of and deal with situations of degraded operation.

These procedures shall enable the railway undertaking to:

- *advise the infrastructure manager so that it can inform other users of the network*
- *process information received from the infrastructure manager to its own train drivers with respect to degraded operations.*

Appropriate contingency measures shall be defined, published and made available.

Managing an emergency situation

Before operating on a network, the railway undertaking shall have procedures in place to act appropriately in an emergency situation.

To this end the railway undertaking shall cooperate with authorities, other railway undertakings and the infrastructure manager to establish appropriate measures to manage emergency situations and restore the line to normal operation.

Such emergency situations shall typically cover:

- *collisions,*
- *fires on train,*
- *evacuation of trains,*
- *accidents in tunnels,*
- *incidents involving dangerous goods,*

— *derailments.*

The railway undertaking must provide the infrastructure manager with any specific information in respect of these circumstances, especially in respect to the recovery or re-railing of their trains.

Additionally, the railway undertaking must have processes to inform passengers about on-board emergency and safety procedures.

Aid to train crew in the event of an incident or of a major rolling stock malfunction

Appropriate procedures shall be defined to assist the train crew in degraded situations in order to avoid or decrease delays caused by technical or other failures of the rolling stock (for example, lines of communication, measures to be taken in case of evacuation of a train).

UTP WAG Appendix I Safety management provisions

- *The rail transport undertaking operating the train must supply the driver with all the necessary information and documentation required to carry out his duties. This information must take into account the necessary elements for operation in normal, degraded and emergency situations for the routes to be worked over and the rolling stock used on those routes.*
- *The rail transport undertaking operating the train must supply all members of his staff (whether on train or otherwise) who undertake safety-critical tasks with all the rolling stock specific information it deems appropriate to such tasks. Such information shall be applicable in both normal and degraded operation.*
- *A process must be defined to ensure the acquisition and retention of vehicle knowledge by the train crew.*
- *The rail transport undertaking operating the train must provide the required means⁴ of indicating the rear of a train in compliance with the rules of the network on which the vehicle is operated. The rear end signal must only be exhibited on the rear of the last vehicle of the train.*
- *Where a freight wagon is used as the front-end of a train, the rail transport undertaking operating the train must provide the means of indicating the front-end of a train in compliance with the rules of the network on which the train is operated.*
- *The rail transport undertaking operating the train must make sure that freight vehicles are safely and securely loaded and remain so throughout the journey.*
- *Train composition shall be the responsibility of the rail transport undertaking. Rules and procedures shall be defined which must be followed by the staff so as to ensure that the train is in compliance with the allocated path.*
- *Train composition requirements must take into account the following elements:*

⁴ "required means" are lamps and/or plates as specified in Appendix E

a) *the vehicles*

- *all vehicles in the train must be in compliance with all the requirements applicable on the routes over which the train will run;*
- *all vehicles on the train must be fit to run at the maximum speed at which the train is scheduled to run;*
- *all vehicles on the train must be currently within their specified maintenance interval and remain so for the duration (in terms of both time and distance) of the journey being undertaken;*

b) *the train*

- *the combination of vehicles forming a train must comply with the technical constraints of the route concerned and be within the maximum length permissible for forwarding and receiving terminals.*
- *the railway undertaking is responsible for ensuring that the train is technically fit for the journey to be undertaken and remains so throughout the journey*

c) *the weight and axle load*

- *the weight of the train must be within the maximum permissible for the section of route, the strength of the couplings, the traction power and other relevant characteristics of the train. Axle load limitations must be respected.*

d) *the maximum speed of the train*

- *the maximum speed at which the train can run must take into account any restrictions on the route(s) concerned, braking performance, axle load and vehicle type.*

e) *the kinematic envelope*

- *the kinematic gauge of each vehicle (inclusive of any load) in the train must be within the maximum permissible for the section of route.*

Additional constraints may be required or imposed due to the type of braking regime or traction type on a particular train

- *All vehicles in a train must be connected to the continuous automatic braking system. The first and last vehicles (including any traction units) in any train must have the automatic brake operative⁵. The rail transport undertaking operating the train must ensure that the train meets the required braking performance.*
- *Processes shall be defined, which must be followed by the rail transport undertaking to ensure that all safety-related on-train equipment is in a fully functional state and that the train is safe to run. In case of modification to the characteristics of the train affecting the ability to accommodate the train in its allocated path, procedures for running in degraded mode shall be defined.*
- *The rail transport undertaking shall inform the infrastructure manager of any change which affects the performance of the train, or which may affect the ability to accommodate the train in its allocated path.*
- *Checks shall be defined which must be followed by the rail transport undertaking to ensure that any departure is undertaken safely (e.g. doors, load, brakes).*

⁵ In operation / in working order / functioning.