



INTERNATIONAL UNION
OF RAILWAYS

CEF PSA UBS WORKSHOP

AMOC & UIC

Hakan Gunel
Senior Freight Advisor

28/04/2022

AMoC (Acceptable Means of Compliance)

Interoperability as foreseen in TSI-OPE is hindered by many national rules
Removal of operational barriers is the key objective

AMOCs should be accepted throughout the EU by Member States and National Safety Authorities as examples of good practice.

As AMOCs are non-binding opinions issued by the Agency to define ways of establishing compliance with the essential requirements, the RUs are free to decide whether to apply the AMOC/part of the AMOC, or not.

Nevertheless, the RUs are responsible for managing their operational risks.

AMoC (Acceptable Means of Compliance)

The basis for the development of AMOC (Acceptable means of compliance) is EU Regulation 2019/773, paragraph 4.4 which requires ERA to produce AMOCs on a number of topics. These are:

- Safety of load
- Checks and tests before departure, including brakes and checks during operation
- Safety of Passengers
- Train departure
- Degraded operation.

AMoC (Acceptable Means of Compliance)

- Technical Opinion concerning the Acceptable Means Of Compliance (AMOC) was sent to the European Commission on 20 December 2021 and today the documents have also been published on the ERA website

ERA/OPI/2021-08 Opinion of the European Union Agency for Railways to the European Commission regarding TSI OPE – RSD (Acceptable means of compliance)

Publication date

20/12/2021








Related TSI

Operation and Traffic Management

AMOC



Related documents :

-  Opinion ERA/OPI/2021-08 (290.77 KB)
-  ERA-OPI-2021-8 AMOC Light Impact Assessment (295.61 KB)
-  AMOC supporting guidance (293.61 KB)
-  TSI OPE AMOC Safety of Load (201.05 KB)
-  TSI OPE AMOC Safety of passengers (238.99 KB)
-  TSI OPE AMOC tests checks braking (349.84 KB)
-  TSI OPE AMOC tests checks braking - Annex I - Appendix A - brake sheet (529.57 KB)

UIC IRSs/Leaflets REFERENCED IN TSIs

LOC&PAS: 2 UIC leaflets

4	End coupling – manual UIC type – lateral location of brake pipe and cocks	4.2.2.2.3	UIC 648:Sept 2001	relevant cl. (1)
5	Rescue coupling – interface with recovery unit	4.2.2.2.4	UIC 648:Sept 2001	relevant cl. (1)
114	Physical interface between units for the signal transmission	6.2.7a	UIC 558, January 1996	Plate 2

WAG TSI: 3 UIC leaflets

Running gear for manual change of wheelsets	4.2.3.6.7	—	—
	6.2.2.5	UIC leaflet 430-1:2012	Annexes B, H, I
UIC 430-3:1995		Annex 7	
Service brake	4.2.4.3.2.1	UIC 544-1:2014	all

Appendix C of the WAG TSI: 6 UIC leaflets

UIC brake	C.9	UIC 540:2014	all
		UIC 544-1:2014	all
		UIC 542:2015	all
		UIC 541-4:2010	all
Tow hooks	C.16	UIC 535-2:2006	1.4
Protective devices on protruding parts	C.17	UIC 535-2:2006	1.3
Label holders and attachment devices for rear end signal	C.18	UIC 575:1995	1

Appendix G of the WAG TSI: 2 UIC documents

9th edition of the UIC “Design rules for composite brake blocks (K)” :2013

10th edition of the UIC “Usage guidelines for composite (LL) brake blocks” :2013



Contents



1.	Part 1	3
1.1.	Introduction	3
1.2.	Legal basis	3
1.3.	Concept	3
1.4.	Liability and responsibility.....	5
1.5.	List of acronyms used in this text.....	6
2.	Part 2	7
2.1.	Introduction to the relevant part of the TSI OPE	7
2.2.	Information on the scope of the AMOC.....	7
2.3.	Links to existing legislation on risk assessment	8
2.4.	Safety requirements.....	9
2.5.	EN Standard 16860	9
2.6.	UIC Loading Guidelines - Code of Practice for Loading and Securing Cargo on Vehicles in Rail Freight Traffic - Volume 1 - Principles and Volume 2 - Goods	9

The UIC Guidelines are published every year in April – ISBN identification

IRSs AND TECHNICAL DOCUMENTS as AMoCs

UIC DOCUMENTS TO BE “STAMPED” AS AMoCs (by the end 2021) “safety of loads” and “tests and checks before departure”

- UIC Loading Guidelines - Code of Practice for Loading and Securing Cargo on Vehicles in Rail Freight Traffic :
Volume 1 – Principles
Volume 2 – Goods
- IRS 40471-3 : Inspection of dangerous goods consignments (inspection before train movement)
- IRS 40453 : Procedures for air brake tests effected with a traction unit : Brake tests for conventional freight train (wagons)
- IRS 40421 : Rules for the consist of and braking of international freight trains : rules for freight train brake settings as well as the content and format of the brake sheet and wagon list for use in freight traffic
- IRS 40472 : Braking sheet, consist list for locomotive drivers and requirements for the exchange of data necessary to the operations of freight rail services
- ATTI-GCU appendixes 9 et 11 for:
 - Inspections before train movement
 - Quality assurance procedure,
 - Managing defects and irregularities

UIC PRIMARY IDEAS FOR FUTURE “AMoCs”

IRS 40421 (future edition): Rules for the consist of and braking of international freight trains - Brake settings - Content and format of the unified brake sheet in freight traffic

Leaflet 474 : Catalogue of harmonised train procedures for cross-border freight operations

IRS 40454: Operating rules for securing trains and train components to prevent rolling away on open track with due consideration of holding force

* IRS 40474 catalog of harmonised procedures for cross-border freight operations (Incl. IRS 40476)

New IRS 40472

TrainDy study for articulated wagons

International Brake Sheet / Wagon List

Train number: Departure date:

International brake sheet and wagon list

1. Issuing RU			2. Train number		3. Departure date		5. Country code			
4a. Valid from station			4b. Valid to station			6. Train profile:				
						7. v _{max} , km/h:				

Train parameters

8. Remarks during the journey						9. Special features of the train					
-------------------------------	--	--	--	--	--	----------------------------------	--	--	--	--	--

<input type="checkbox"/> 10. Dangerous goods in train	16a. Valid from station		16b. Valid to station		16c. Valid from station		16d. Valid to station					
<input type="checkbox"/> 11. Exceptional consignment in train	17a. # of first wagon		17b. # of last wagon		17c. # of first wagon		17d. # of last wagon					
<input type="checkbox"/> 12. Additional documents about restrictions added	a		b		a+b		c		d		c+d	
	Active locomotives		Wagons and inactive locomotives		Total		Active locomotives		Wagons and inactive locomotives		Total	
<input type="checkbox"/> 13. Waste shipments in train												
19. Count, pcs												
20. Length, m												
21. Hand brake holding force, t / kN												
22. Braked weight after deduction, t												
23. Gross weight, t												
14. Required line classification		15. Brake setting		24. Available brake %:				24. Available brake %:				
		<input type="radio"/> G <input type="radio"/> P <input type="radio"/> GP <input type="radio"/> P+LL <input checked="" type="radio"/> R		25. Required brake %:				25. Required brake %:				
				26. Missing brake %:				26. Missing brake %:				
				27. % of braked weight braked by cast iron blocks:				27. % of braked weight braked by cast iron blocks:				

Active locomotives in train

28. Seq.	29. Number	30. Class	31. # of axles	32. Length over buffers, m	33. Gross weight, kg	34. Brake block type	35. Brake position	36. Braked weight, t	37. Remarks
1									
2									
3									
4									
5									

38. Date of issue		39. Time of issue		40. Issued by	
41. Date of review		42. Time of review		43. Reviewed by	
44. Remark					

SPECIFICATION / STANDARDISATION HOW UIC WORKS WITH THE SECTOR

- UIC continues to cooperate with all relevant stakeholders, developing documents with a focus on:
 - **Functional concepts and operational principles**
 - **Functional Requirements and Specifications**
 - **Integration in the railway system architecture**
 - **Tests**
 - **Operations**

- On the basis of the above, the UBS alignment process was proposed as an AMOC (Acceptable Means of Compliance)



INTERNATIONAL UNION
OF RAILWAYS

Stay in touch with UIC!

www.uic.org



#UICrail

Thank you for your kind attention.