Explanation of CLEPA proposal for a new supplement to the 01 Series of Amendments to Regulation No. 141

1. Annex 3, par. 1.5.1: Test Weight

- In § 1.5.7 requires that lifted axles have to be fully lowered, but on unladen trailers a lift axle might be lifted automatically. Some TPM systems are without reset option, so they wouldn't be tested on all wheels then.

➡️Proposal: R141 should clarify that in case of TPMS systems without Set/Reset option lift axles shall not be automatically lifted during the test.

1. Annex 3, par. 1.5.1: Test Weight

- 1.5.1Test weight.

- The vehicle may be tested at any condition of load, the distribution of the mass among the axles being that stated by the vehicle manufacturer without exceeding any of the maximum permissible mass for each axle.

- However, in the case where there is no possibility to set or reset the system, the vehicle shall be unladen, **but for systems which will automatically raise the lift axle when no load is detected the vehicle shall be laden enough to avoid lifting of those axles**. For vehicles of category M1 up to a maximum mass of 3,500 kg, M2, M3, N1, N2, and N3 there may be, in addition to the driver, a second person on the front seat (if fitted) who is responsible for noting the results of the tests.

2. Annex 3, par. 2.2: Lamp test

- In § 2.2 it is demanded that the TPM System shall perform lamp test. The direct control of lamp function usually is not under control of the TPMS/TPRS/CTIS. Therefore this shall be delegated to the responsible ECU of the vehicle.

➔With the vehicle stationary and the ignition locking system in the "Lock" or "Off" position, activate the ignition locking system to the "On" or "Run" position. The ~~tyre pressure monitoring system~~ **ECU controlling the tell-tale** shall perform a check of lamp function for the low tyre pressure tell-tale as specified in paragraph 5.5.2. of this Regulation. This last requirement does not apply to tell-tales shown in a common space

3. Annex 5 A, par. 2.1.4:

The expression

- *Signals, other than Tyre Pressure Status (EBS23 Byte 1 Bit 1-2), within messages EBS23 and RGE23 shall be transmitted with the indication "not available" in case the ECU ECU(s) providing TPMS/ TPRS/ CTIS functionality does not provide such data*.

is excluding valid information in the EBS23 like Brake-line-wear information which might be generated by the Gateway ECU itself.

➔ Proposal: Rephrase to :

- Signals, other than Tyre Pressure Status (EBS23 Byte 1 Bit 1-2), within messages EBS23 and RGE23 shall be transmitted with the indication "not available" in case ~~the ECU providing TPMS/ TPRS/ CTIS functionality does not provide such data~~ **such data is not available**

4. Annex 5 B: ECE-R141 is referring to "Low Tyre Pressure Warning", ISO11992-2 is referring to " Tyre pressure insufficent"

- ECE-R141 is referring to "Low Tyre Pressure Warning", ISO11992-2 is referring to " Tyre pressure insufficent". In the ECE R141 "Low Tyre Pressure Warning" is indicating an underinflated tyre only. Tyre pressure insufficient acc. to ISO11992-2 is stating in chap. 6.5.4.26:
    - "An insufficient tyre pressure shall be indicated, if the pressure is **outside** of a pressure range recommended by the tyre or vehicle manufacturer, to ensure an optimized operation with regard to the fuel consumption of the vehicle and life time of the tyre."
- This includes overpressure also! ECE R121 is defining tell-tale for "Low Tyre Pressure" and malfunction warning but not overpressure
- The optional Tyre pressure threshold detection in RGE23, Byte 6, Bit 1-3, gives additional information to separate these cases!

➔Proposal: Add new footnote to the table in par. 2.2. of Annex 5 A:

Note that within the definition of EBS 23 "Tyre Pressure Status" ISO 11992-2 qualifies that "An insufficient tyre pressure shall be indicated, if the pressure is outside of a pressure range recommended by the tyre or vehicle manufacturer, to ensure an optimized operation with regard to the fuel consumption of the vehicle and life time of the tyre.". Therefore, it should be noted that a value of "00_2" could signify other tyre pressure conditions such as "over-pressure" which are not covered by this regulation.

Justification

Actual Pressure	SAE J1939 Tire Pressure Threshold Detection SPN 2587	ISO11992-2:2014: Tyre Pressure Status (§ 6.5.4.26) **mandatory**	ISO11992-2:2014: Tyre Pressure Threshold Detection (§ 6.5.5.38) **optional**	R121 TPMS tell-tale
Overpressure	Overpressure or Extreme Overpressure	Insufficient	Overpressure or Extreme Overpressure	Not defined
Nominal	No Warning Pressure	Sufficient	No Warning Pressure	Off
Underpressure	Underpressure or Extreme Underpressure	Insufficient	Underpressure or Extreme Underpressure	Low Tyre Pressure

Tell-tale cannot differ between 2 variants of "Insufficient"

5. Annex 5 A, par. 2.1.3: Identification data shall be gated

Identification data (VIN) in the TPMS/CTIS/TPRS might be hacked or corrupted. This could be crucial if it overrides the information from the Gateway ECU which as a brake ECU has high confidence level, especially if VIN comes from a telematics unit

The content from gateway ECU shall be prioritized over content from TPMS/TRPS/CTIS: add a remark to the VIN entry:

➡ Proposal to add a new footnote in the table of par. 2.1.3:

Identification data index [1]	RGE23 Byte 7	Paragraph 5.6.1.2.
Identification data content [1]	RGE23 Byte 8	Paragraph 5.6.1.2.

[1] **Content of the Gateway ECU shall be prioritized**

6. Annex 5 B, par. 4: Source Address in road train of TPMS/TPRS/CTIS is not defined by the ECU

- In road train application the Source Address of the gateway ECU is acc. to ISO11992-2, Table B2, and the message EBS23 to the towing vehicle is sent with the corresponding road train position Source Address. Connected sub-system ECUs do not know the road train position they are and are not adapting their Source Address – this must be covered by the Gateway ECU. Each connected TPMS/TPRS/CTIS shall use the fix Source Address 207_d.

➔Rephrase to : "4   The towed vehicle ECU providing TPMS**/** TPRS/ CTIS functionality shall use the source address **207** of "Other Trailer Devices" ~~with respect to its position in the road train~~ as per SAE J1939-71 standard **for forwarding TPMS/TPRS/CTIS information with respect to trailer position in a road train like defined in ISO11992-2.** ~~i.e. TPMS/ TPRS/ CTIS of the first towed vehicle shall use source address 207 for "Other Trailer #1 Devices.~~ "