

**GRE Informal Working Group on
Simplification of the UN Lighting and Light Signalling Regulations (SLR)**

27th meeting

10-12 December 2018

CLEPA Headquarters
Cours Saint-Michel 30g, Brussels

REPORT

		Documents
1.	Welcome and opening remarks Mr. Loccufier, Chairman of the Informal Working Group, opened the session welcoming all the participants.	
2.	Introduction of participants and organisations A list of all participants is available in Annex 1 to this Report.	
3.	Adoption of the agenda The agenda was adopted with the insertion of a new topics under item 15 “AOB”. A revised agenda, reflecting the agreed modifications, was circulated as document SLR-27-09/Rev.1.	SLR-27-09/Rev.1
4.	Approval of the reports of the previous sessions - Report 26 th meeting - Brussels, 24-26 September 2018 The approval of the report was postponed to the next session.	SLR-26-14
5.	Update of SLR Terms of Reference Mr. Puglisi reported that the updated SLR Terms of Reference has been approved by GRE at its 80 th session. A copy of the approved text, as reflected in the official GRE-80 Report (see ECE/TRANS/WP.29/GRE/80, Annex II), was made available as document SLR-27-01.	SLR-27-01
6.	Update on SLR Stage 1 after the 176th WP.29 session Mr. Puglisi informed that, following the AC.2 recommended to consolidate the SLR package and to postpone its adoption to the March 2019 session, the SLR Stage 1 package was not adopted at the 176 th WP.29 session. He explained that no negative comment was raised by any Contracting Party	

	<p>nevertheless, due to the amount of revised and corrected documents in addition to the existing extensive package, some CP were not in a position to vote. The complete package will be consolidated by the Secretariat and put on the agenda for the 177th WP.29 session in March 2019 for final adoption.</p> <p>Mr. Puglisi explained that, assuming the complete SLR Stage 1 package to be adopted by WP.29 in March 2019, presumably it will enter into force around October 2019. If this will be the case, the first opportunity to amend the new UN Regulations will be at the WP.29 session in November 2019, therefore any proposal for amendment should be submitted to GRE-81 in April 2019.</p> <p>Mr. van Laarhoven pointed out that, in case of doubt due to contradictions between the existing UN Regulations and the new simplified Regulations, the old technical provisions should be followed.</p> <p>The SLR agreed that the old technical requirement should prevail in case of differences between the existing UN Regulations and the new simplified Regulations (00 series) because the discrepancies would be due to errors introduced involuntarily during the simplification work.</p> <p>Mr. Puglisi will ask advice to the GRE Secretariat and, according to the feedback received, the SLR may decide to draft a proposal for guidelines for the correct application of technical requirements. If appropriate, this would be submitted to the 81st GRE session as an informal document.</p> <p><i>Note: the complete SLR stage 1 package is available on the WP.29 website. See ECE/TRANS/WP.29/1144 from paragraph 4.11.4. to 4.11.32. and from paragraph 4.12.2. to 4.12.4.</i></p>	
7.	<p>General update on Stage 2 progress for each new UN Regulation and organisation of work</p> <p>➤ LSD Regulation</p> <p>Mr. Bauckhage provided information on the GTB progress of work on the LSD text, on the basis of document WP.29/2018/157. He informed that several improvements have been made to the text, especially in paragraphs 4. and 5. He also reported that, for the time being, the requirements in Annexes 2 and 3 will be kept. If necessary, they may be moved to the main body of the text for consistency with the other Regulation but this shall be carefully considered by the SLR.</p> <p>Mr. Bauckhage informed that a status report and, if possible, a draft LSD text with the proposed modifications will be provided for consideration at the next SLR session in February 2019. An Excel file, used as a tool for working on the LSD text, will be distributed for information as SLR document (<i>now SLR-27-12</i>).</p> <p>Mr. Bailey reported about the safety concerns described in the “<i>Opinion on Potential risks to human health of Light Emitting Diodes (LEDs)</i>” adopted by the European SCHEER (Scientific Committee on Health, Environmental and Emerging Risks). He informed that currently there are no modulation frequency requirements in UN Regulations and commented whether the SLR should consider adding requirements for LED frequency in order to avoid undesired health effects due to flickering.</p>	

The SLR noticed that the SCHEER warned about using frequencies above 100 Hz but it was observed that the frequencies mostly used today are between 200 and 400 Hz and this did not seem to cause any problem.

The SLR pointed out that the SCHEER publication is a valuable paper but it is purely an “opinion document” and not a set of mandatory requirements. In general, it was preferred not to address this topic, however a justification for not considering this shall be found. Mr. Bailey will seek clarifications from the authors of the SCHEER document and Mr. Langhammer will search for some studies from TUD on this matter.

Note: the SCHEER paper was distributed for information and reference purposes as document SLR-27-11.

➤ **RID Regulation**

Mr. Blusseau presented the updated GTB input for Stage 2 about the RID Regulation. The presentation showed was made available as SLR-27-13.

At the request of Mr. Rovers about what will be the next steps, Mr. Blusseau clarified that the GTB group will finalise the remaining open points and then work on the actual text.

The SLR acknowledged that the proposed Basic/“C” passing beam would be a clear improvement from the current RID class “C” (see slide 7) but debated whether the new basic passing beam would be suitable to cover all speed up to 130 km/h. Mr. Langhammer informed that a good passing beam would only allow a visibility distance up to 100 metres.

Mr. Targosinski commented that the Basic/“C” passing beam indicated in slide 15 should not be too long as it would be misleading. He observed that the passing beam cannot be the same for all speeds and suggested to correlate this with the visibility distance.

Mr. Schlager pointed out that from a performance point of view there are some differences between motorcycles and cars.

The SLR agreed to ask IMMA to provide some justifications, for the next SLR session, why requirements for motorcycles are different from cars even if both drive at the same speed and on the same roads and also why the discrimination is based on cm^3 (or kw) and not on the speed.

Mr. Blusseau informed that a status report will be provided for consideration at the next SLR session in February 2019. Mr. Puglisi will make contacts with CEMA to request their input.

➤ **RRD Regulation**

Mr. Ewald reported on the status of work concerning the RRD text. He informed that the main question is about the grouping of reflective devices and, in general, it was preferred to keep the extra text for better clarity. He explained that some research will be necessary to determine what should be the minimum retroreflective level and if different shapes and photometric requirements are necessary.

The SLR advised to proceed as follows:

- Remove the duplicated text
- Group the photometric tables
- Keep specific requirements

	<p>A status report and, if possible, a draft RRD text with the proposed modifications will be provided for consideration at the next SLR session in February 2019.</p> <p>The SLR recognised that for delivering the Stage 2, step 1, package by the end of 2019 it will be necessary to work in-between the SLR meetings and that such a work shall be coordinated properly. To this end the SLR agreed to establish three “homework teams” as follows:</p> <ul style="list-style-type: none"> - Mr. Bauckhage will lead the group on LSD - Mr. Langhammer will lead the group on RID - Mr. Ewald will lead the group on RRD <p>These groups were created to work in-between the meetings as instructed by SLR but not to generate input for the SLR.</p> <p>Moreover, the SLR agreed to submit informal document GRE-79-29 to GRE-81 as an official document from the SLR with the purpose of collecting feedback and advice from the CPs at GRE. According to the input received from GRE, the SLR may decide to establish a dedicated “homework team” also for this subject and identify a group leader accordingly.</p> <p><i>Note: the SLR document submitted to GRE on the basis of GRE-79-29 is now available as document GRE/2019/3.</i></p>	
<p>8.</p>	<p>Polish comments to SLR-24-06: "GTB Approach to Glare & Visibility Issues"</p> <p>Mr. Targosinski explained in details the Polish comments to SLR-24-06 contained in the document SLR-27-06. During the discussion among the participants a list of factors influencing glare was produced and distributed as document SLR-27-10.</p> <p>Mr. Targosinski furthermore thanked GTB for organising an informative “Glare and Visibility Forum” in Geneva on 22 October 2018, prior to the 80th GRE session, and presented a paper showing an excerpt of three presentations, subsequently distributed as document SLR-27-14.</p> <p>SLR members were invited to study document SLR-27-10 (“<i>Factors influencing glare</i>”) and update it as necessary. The discussion will resume at the next SLR session on the basis of the input received.</p>	<p>SLR-27-06</p>
<p>9.</p>	<p>Polish thoughts regarding "Performance based" and "Technology neutral"</p> <p>Mr. Targosinski extensively introduced document SLR-27-07 pointing out that performance based does not necessarily mean technology neutral and that the present requirements are design based. He explained that the compromise between visibility and glare has limits but this depends on the technology. In order to improve safety, the speed should be correlated to the visibility distance.</p> <p>Mr. van Laarhoven reported that the philosophic discussion should stop and the SLR should rather concentrate its efforts on a concrete proposal starting from some basic rules.</p> <p>Mr. Langhammer clarified that the existing UN Regulations are not based on different technologies but on different luminous flux available.</p>	<p>SLR-27-07</p>

	<p>Mr. Blusseau observed that the natural behaviour of the driver should adapt to the visibility distance and suggested to be pragmatic when writing the provisions to be put in the text of the Regulations.</p> <p>Mr. van Laarhoven informed that the performance should be the same for all the vehicles and, for the sake of clarity, he suggested to define what should not be considered as performance oriented.</p> <p>The SLR agreed that visibility (i.e. visibility distance), speed (i.e. stopping distance) and the width of the illumination are performance-oriented parameters while the light source choice and the luminous flux of light source are not.</p> <p>A working document with the main conclusions on this topic will be distributed on the SLR website for quick reference and further discussion.</p> <p><i>Note: this document is now available as SLR-28-03.</i></p>	
10.	<p>Mr. Targosinski's paper for IFAL 2015 explaining mathematical model of headlighting</p> <p>Mr. Targosinski informed that document SLR-27-08 was submitted only for information purposes.</p>	SLR-27-08
11.	<p>RID Regulation; Comments on lamp aiming and cut-off requirements</p> <p>Mr. Grigorescu introduced document SLR-27-03 pointing out that a number of inconsistencies have been found in the Annexes 5 and 6 of the RID Regulations concerning the lamp aiming definitions and cut-off requirements.</p> <p>The SLR appreciated the work initiated by Mr. Grigorescu who volunteered to continue working on this proposal to produce a revised document for consideration at the next SLR session.</p>	SLR-27-03
12.	<p>LSD Regulation; Proposal on vertical arrow for mounting below 750mm</p> <p>Mr. Schwenkschuster briefly introduced document SLR-27-04 pointing out that devices with a reduced inboard visibility of 20° shall be installed only lower than 750 mm, however no marking is indicating this restriction. The proposed vertical arrow for mounting below 750mm is intended to prevent unsafe situations.</p> <p>The discussion on light distribution will continue during the Stage 2 simplification (e.g. why 20° and not 10° or 30°). The proposal was adopted in principle by the SLR but will be kept on hold and combined, if still relevant, with the Stage 2 amendments to the LSD.</p>	SLR-27-04
13.	<p>LSD Regulation; Light Source questions to SLR stage 2</p> <p>Mr. Schlager presented, on the basis of SLR-27-05, two general questions concerning light source topics for the LSD Regulation. He explained that during the stage 2 simplification it would be worth trying to make the requirements technology neutral and the testing procedures technology specific. Moreover, the testing should be function dependent (e.g. LEDs for stop or for DRL applications should have different testing).</p> <p>The document was well received by the SLR since it would lead the discussion towards technology neutral direction.</p>	SLR-27-05

	<p>Mr. Bailey commented that the minimum size of light emitted area is linked to luminance and, to this end, the SCHEER expressed some concerns about the high luminance exterior sources used on some vehicles that appear to be blue-rich, which increases glare and scattering, particularly for older observers.</p> <p>Mr. Schlager informed that a proposal, based on SLR-27-05, will be provided by IEC to the next SLR session in February 2019.</p>	
<p>14.</p>	<p>List of potential candidate functions for GTRs</p> <p>Mr. Grigorescu introduced document SLR-27-02 pointing out that it was intended as an initial contribution to the discussion, as agreed at the last SLR session. He explained that the potential candidate functions for GTRs should be those with the highest compatibility values, especially those not legislated in FMVSS 108, and added that the document should not be restricted to UN Regulation No. 48 only.</p> <p>Ms. Berthel informed that, in general, there is a good compatibility between UN Regulations and the Chinese GB Standards as the requirements are in most of the cases very similar or identical. She offered to provide, for the next SLR session, a comparison table between the UN Regulation No. 48-06 and the latest Chinese GB 4785 installation standard.</p> <p>The SLR observed that Front Fog Lamps, Rear Fog Lamps, Cornering Lamps, AFS and Cargo Lamps could all be good candidate for a GTR.</p> <p>Mr. Draper pointed out that the today the lighting device is becoming a part of a system made up of several other aspects such as sensors, control system and software. In this context, instead of referring to ADB (i.e. driving beam) and AFS (i.e. passing beam) it would be more appropriate to refer to an all-inclusive “Adaptive Lighting System”.</p> <p>Mr. Pernkopf expressed some doubts about the possibility that the US may decide to work on a GTR. Mr. Draper clarified that the final decision will be politically driven, because of trade facilitation, and not based on technical ground. Furthermore, he observed that the US and China will neither change their national systems nor access the 1958 Agreement; only the UN system is able to react quickly. Harmonisation with China will hardly be achieved since it seems that the GB standards will be finalised soon.</p> <p>The SLR expressed that there is no intention to lose momentum, but recognised that more time may be necessary to address all the “performance based” aspects, especially including the input from IMMA and CEMA.</p> <p>The SLR also acknowledged that new ways to regulate adaptive systems could be the right approach for the future.</p> <p>Mr. Pernkopf questioned the advantages for a GTR on ADB/AFS and observed that the only possibility to succeed would be in case of new functions or not FMVSS regulated functions.</p> <p>Mr. Langhammer shared the same opinion pointing out that there would be hardly any chance to achieve any harmonisation with the US on regulated functions as FMVSS 108 will not be amended for a long time.</p>	<p>SLR-27-02/Rev.1</p>

	<p>SLR members were invited to study document SLR-27-02/Rev.1 and to provide additional potential candidate functions to be considered for becoming GTRs, along with a short explanation why such functions would be appropriate for a GTR. The discussion will resume at the next SLR session on the basis of the input received.</p>	
15.	<p>Any Other Business</p> <p>- ETRTO comments on the "Guidelines on the application of the UI"</p> <p>Mr. Draper informed about the questions and comments raised by ETRTO at the last DETA meeting with regards to the "Guidelines on the application of the UI" (DETA-33-08). He reported that a joint meeting between DETA, ETRTO and SLR experts will be organised in February 2019 by ETRTO.</p> <p>For optimisation of travelling, the SLR experts recommended to hold this meeting, if possible, at the end of SLR-28 (for example in the afternoon of 27 February 2019). If this will not be possible, a separate meeting will be held either on 21 or 22 February in Brussels.</p> <p>Mr. Draper undertook to study the questions and to gather all the necessary information to provide ETRTO with an initial response.</p> <p><i>Note: the questions from ETRTO were distributed for information as document SLR-27-15.</i></p>	
16.	<p>Next meeting(s)</p> <p>The SLR agreed the following meeting schedule:</p> <ul style="list-style-type: none"> ➤ 28th SLR meeting – Brussels (BE) on 25-27 February 2019 ➤ 29th SLR meeting – Brussels (BE) on 27-29 March 2019 ➤ 30th SLR meeting – Brussels (BE) on 22-24 May 2019 ➤ 31st SLR meeting – Brussels (BE) on 3-5 July 2019 ➤ 32nd SLR meeting – Tokyo (JP) on 3-5 September 2019 <p>Unless otherwise specified, the meetings in Brussels are held at the CLEPA Headquarters in Cours Saint-Michel 30g and WebEx connection is always provided. The starting time on the first day is 13:00 hrs and the finish time is 12:30 hrs on the last day of meeting.</p>	
17.	<p>Closure</p> <p>Mr. Loccufier thanked all the participants for their fruitful contribution and closed the meeting.</p>	

Annex 1 to SLR-27-16

Participation at 27th SLR meeting 10-12 December 2018

IN PERSON	WEBEX/TELEPHONE
Mr. Michel LOCCUFIER (BE, SLR Chair)	Mr. Gert LANGHAMMER (CLEPA)
Mr. Derwin ROVERS (NL)	Mr. Thomas GOLDBACH (OICA) – 11 Dec only
Mr. Davide PUGLISI (GTB, SLR Secretary)	Mr. Lukas SCHWENKSCHUSTER (GTB)
Mr. Geoff DRAPER (GTB) – 11-12 Dec only	Mr. Michael PERNKOPF (GTB)
Mr. Thomas BAUCKHAGE (CLEPA)	Mr. Tomasz TARGOSIŃSKI (PL) – 11 Dec only
Mr. Jean-Marc PRIGENT (OICA)	Mr. Eric BLUSSEAU (CLEPA) – 11 Dec only
Mr. Erik VANDERVREKEN (CLEPA)	Mr. Phil BAILEY (UK)
Mr. Takahiro KOYAMA (JP)	
Mr. Sébastien PATERNOTTE (IMMA) – 10 Dec only	
Mr. Walter SCHLAGER (IEC)	
Mr. Beny GRIGORESCU (GTB)	
Ms. Aurélie BERTHEL (OICA)	
Mr. Jürgen EWALD (CLEPA) – 10 Dec only	
Mr. Frédéric HAY (CLEPA)	
Mr. Wilfried VAN LAARHOVEN (NL) - 10-11 Dec only	

Apologies from:

- Ms. Daniela LEVERATTO (IMMA)
- Mr. Aleksander LAZAREVIC (EC, SLR Vice-Chair)
- Mr. Antoine PAMART (FR)