

Transmitted by IWG SLR

Informal document GRE-81-19
(81st GRE, 15-18 April 2019,
agenda item 4)

Simplification of the UN Lighting and Light-signalling Regulations

**Progress report on the
Stage 2 and request for advice to GRE**

Workload and meeting pace

29 meetings held until now:

- | | | | |
|--------|---|---------|---------------------------------------|
| I. | 11 September 2014 in Brussels (BE) | XIX. | 12-14 July 2017 in Brussels (BE) |
| II. | 23 October 2014 in Geneva (CH) | XX. | 4-6 October 2017 in Brussels (BE) |
| III. | 14 January 2015 in Brussels (BE) | XXI. | 18-21 December 2017 in Brussels (BE) |
| IV. | 13 April 2015 in Geneva (CH) | XXII. | 29 Jan / 1 Feb 2018 in Shenzhen (CN) |
| V. | 13 October 2015 in Brussels (BE) | XXIII. | 4-6 April 2018 in Brussels (BE) |
| VI. | 5-6 November 2015 in Brussels (BE) | XXIV. | 30 May / 1 June 2018 in Brussels (BE) |
| VII. | 15-16 December 2015 in Brussels (BE) | XXV. | 3-5 July 2018 in Brussels (BE) |
| VIII. | 13-14 January 2016 in Brussels (BE) | XXVI. | 24-26 September 2018 in Brussels (BE) |
| IX. | 29 February & 1 March 2016 in Brussels (BE) | XXVII. | 10-12 December 2018 in Brussels (BE) |
| X. | 14-15 April 2016 in Brussels (BE) | XXVIII. | 25-27 February 2019 in Brussels (BE) |
| XI. | 9-10 June 2016 in Brussels (BE) | XXIX. | 27-29 March 2019 in Brussels (BE) |
| XII. | 5-7 September 2016 in Brussels (BE) | | |
| XIII. | 5-7 October 2016 in Brussels (BE) | | |
| XIV. | 5-7 December 2016 in Brussels (BE) | | |
| XV. | 21-23 February 2017 in Brussels (BE) | | |
| XVI. | 22-24 March 2017 in Brussels (BE) | | |
| XVII. | 16-18 May 2017 in Tokyo (JP) | | |
| XVIII. | 13-15 June 2017 in Brussels (BE) | | |

Next meetings:

- SLR-30** on 22-24 May 2019 in Brussels (BE)
- SLR-31** on 3-5 July 2019 in Brussels (BE)
- SLR-32** on 3-5 September 2019 in Tokyo (JP)
- SLR-33** on 9-11 October 2019 in Brussels (BE)
- SLR-34** on 4-6 November 2019 in Brussels (BE)
- SLR-35** on 11-13 December 2019 in Brussels (BE)

SLR "Stage 1"

The complete package adopted by WP.29 in March 2019

NEW SIMPLIFIED UN REGULATIONS

- Light Signalling Devices (LSD) → [WP.29/2018/157](#) (*GRE/2018/36 to Nov 2019*)
- Road Illumination Devices (RID) → [WP.29/2018/158/Rev.1](#) (*part of GRE/2018/37 to Nov 2019*)
- Retro-Reflective Devices (RRD) → [WP.29/2018/159/Rev.1](#) (*part of GRE/2018/38 to Nov 2019*)

Transitional Provisions

Collective Amendments for Regs Nos. 3, 4, 6, 7, 19, 23, 27, 38, 50, 69, 70, 77, 87, 91, 98, 104, 112, 113, 119 and 123
[WP.29/2018/091/Rev.1](#) to [.../098/Rev.1](#), [.../103/Rev.1](#), [.../106/Rev.1](#), [.../107/Rev.1](#), [.../109/Rev.1](#), [.../112/Rev.1](#) to [.../119/Rev.1](#)

Updated References to device Regs. + Reorganized and grouped **definitions** +
Use of "**Change Index**" and its definition

- R48, series 03, 04, 05 and 06 of amendments
([WP.29/2018/102](#), [.../101](#), [.../100/Rev.1](#), [.../099/Rev.2](#))
- R53, series 01 and 02 of amendments
([WP.29/2018/105](#) + [WP29-177-07](#), [.../104/Rev.1](#) + *GRE-80-05 to Nov 2019*)
- R74, series 01 of amendments
([WP.29/2018/108/Rev.2](#))
- R86, series 00 and 01 of amendments
([WP.29/2018/111](#), [.../110/Rev.1](#))

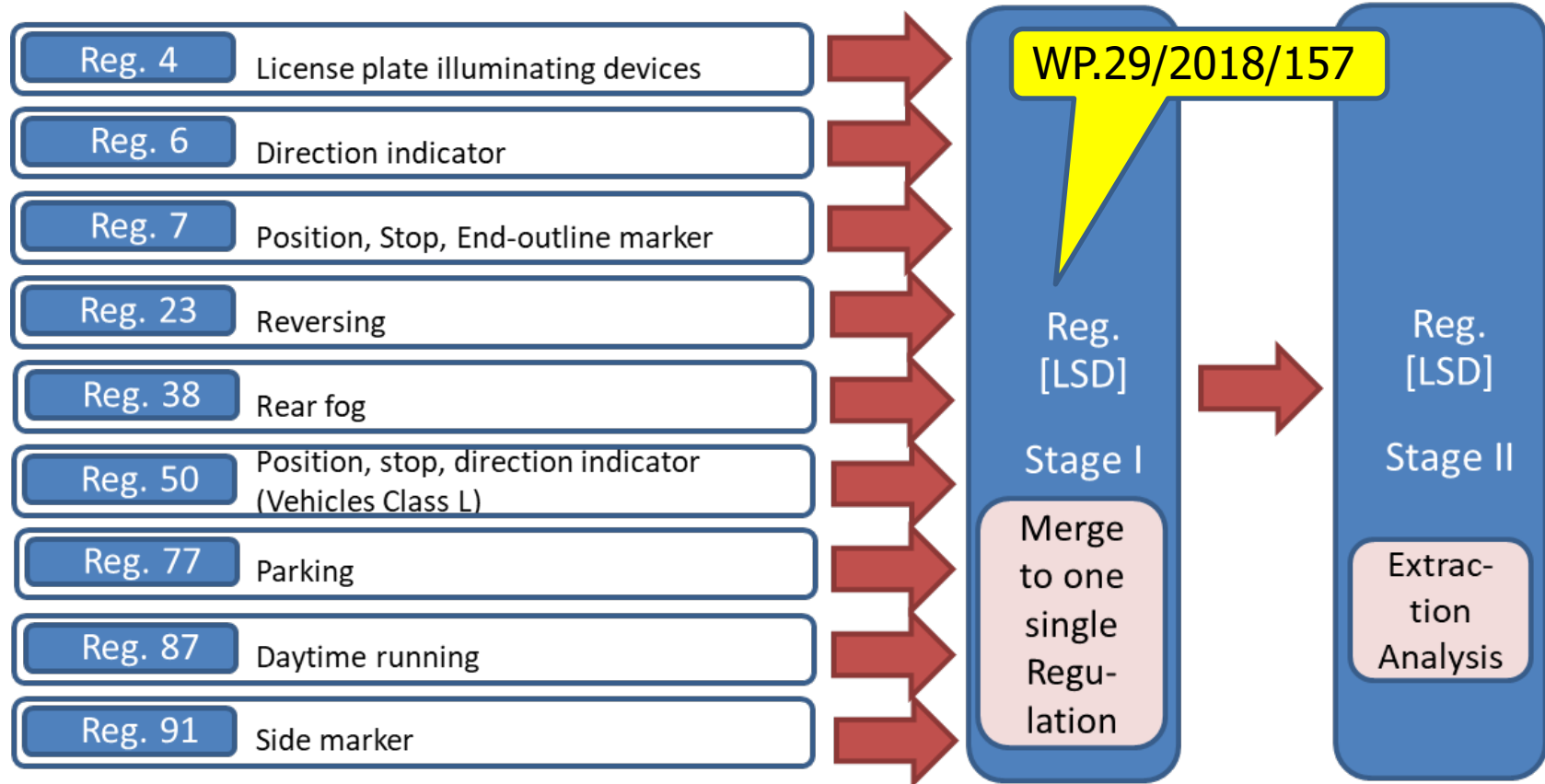
Work plan and time schedule for “Stage 2”

STAGE 2 = SIMPLIFIED REGULATIONS with technology neutral and performance based requirements

<p>STAGE 2</p>	<p>The overarching objective is to update and harmonize the technical requirements for lighting and light-signalling to be <u>suitable for global implementation under the 1958 and 1998 Agreements.</u></p>	
<p>STAGE 2 STEP 1</p>	<p>Revise the technical requirements of the new LSD, RID and RRD UN Regulations, to become technology neutral with performance-based and objective test requirements taking into account glare and visibility.</p> <p>Amendments will also be required to the installation UN Regulations taking into account the work of IWG-VGL.</p>	
	<p>Informal submission to the eighty-second session of GRE</p>	<p>October 2019</p>
	<p>Final consideration at the eighty-third session of GRE</p>	<p>April 2020</p>
	<p>Adoption by WP.29</p>	<p>November 2020</p>
<p>STAGE 2 STEP 2</p>	<p>Simplify and update the technical requirements of the UN installation Regulations (Nos. 48, 53, 74, 86), to become technology neutral with performance-based and objective test requirements</p>	
	<p>Informal submission to the eighty-sixth session of GRE</p>	<p>October 2021</p>
	<p>Final consideration at the eighty-seventh session of GRE</p>	<p>April 2022</p>
	<p>Adoption by WP.29</p>	<p>November 2022</p>

LIGHT SIGNALLING DEVICES (LSD)

Stage II – Regulation No. [LSD]



SIMPLIFICATION

Technology independent

Objective test-methods

Performance based

Stage II – Regulation No. [LSD]

Main topics of work

- Rearrangement of the requirements -> §5.x.x
- Align „D“ and „Y“ lamp provisions -> §4.4
- Light source module definition -> §4.3.2.ff
- Harmonise failure provisions -> §4.6. (see also §5.4.4.ff)
- Rear registration plate lamp – harmonisation -> §5.11.
- Reversing lamp – improvement -> §5.8.
- Rear fog lamp – improvement -> §5.9.
- Additional functions -> New §x.y.
- Move requirements to main text -> Annex 2,3

Stage II – Regulation No. [LSD]

Re-arrangement of the specific technical provisions in Par. 5

Existing provisions for each function in Regulation No. [LSD]

Par.	Content	5.1.	5.2.	5.3.	5.4.	5.5.	5.6.	5.7.	5.8.	5.9.	5.10.	5.11.
		Front position, front end-	Rear position, rear end-outline	Parking	Daytime running	Stop	Direction indicator	Side marker	Reversing	Rear fog	Manoeuvring	Rear registration
5.x.												
5.x.1.	Intensity shall meet table x + table x	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5.x.2.	Table of photometry	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	different
5.x.3.	Colour	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
5.x.4.	Outside table	✓	✓	✓	✓	✓	✓	n.a.	n.a.	n.a.	n.a.	n.a.
5.x.5.	Area of apparent surface	n.a.	n.a.	n.a.	✓	n.a.	n.a.	n.a.	n.a.	✓	n.a.	n.a.
5.x.6.	Measuring procedure	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	✓
5.x.7.	Other requirements	n.a.	n.a.	n.a.	✓	n.a.	✓	n.a.	n.a.	✓	n.a.	✓

Proposal: New structure for Paragraph 5.x. including a fixed framework and empty requirements if no provision exists.

- 5.x. Name(s) and Symbol(s)
- 5.x.1. Luminous intensity:
- 5.x.2. Standard light distribution:
- 5.x.3. Colour:
- 5.x.4. Apparent surface:
- 5.x.5. Measurement:
- 5.x.6. Other requirements:

If necessary, add subparagraphs

**See SLR-29-04-Rev.1
for further details**

ROAD ILLUMINATION DEVICES (RID)

WP.29/2018/158/Rev.1

YESTERDAY

- R112 Class A
- Class B
- Class AR
- Class BR
- R98 Class DC
- Class DR
- R123 Class C
- Class E
- Class V
- Class W
- Class XR
- ADB
- R113 Class AS
- Class BS
- Class CS
- Class DS
- Class ES
- Class R-BS
- Class R-CS
- Class R-DS
- Class R-ES
- R19 Class B-F3
- R119 Class K

6 Regulations
24 Beam patterns

TODAY (RID "Stage 1")

- Class A
- Class B
- Class AR
- Class BR
- Class DC
- Class DR
- Class C
- Class E
- Class V
- Class W
- Class XR
- ADB
- Class AS
- Class BS
- Class CS
- Class DS
- Class ES
- Class R-BS
- Class R-CS
- Class R-DS
- Class R-ES
- Class F3
- Class K

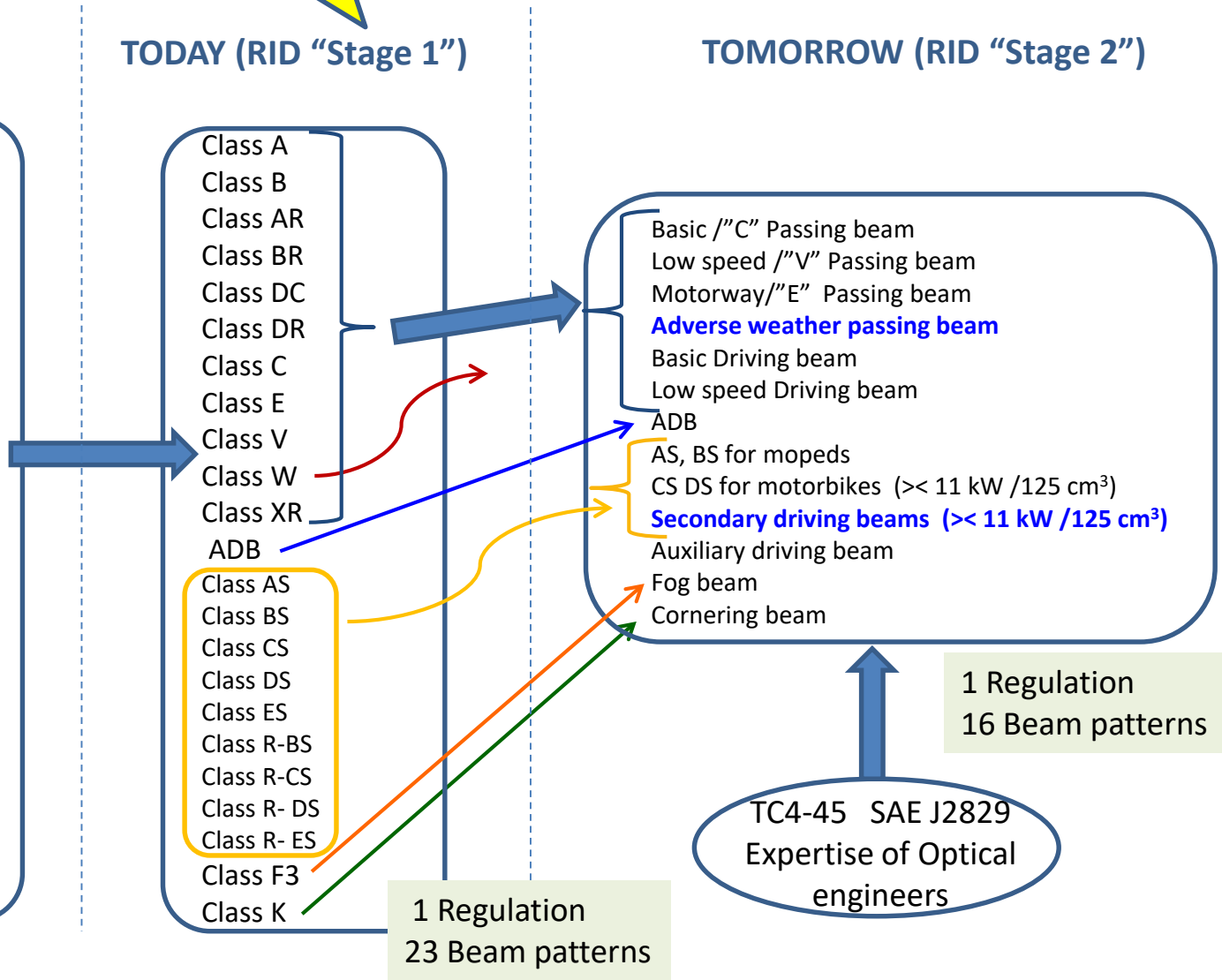
1 Regulation
23 Beam patterns

TOMORROW (RID "Stage 2")

- Basic /"C" Passing beam
- Low speed /"V" Passing beam
- Motorway/"E" Passing beam
- Adverse weather passing beam**
- Basic Driving beam
- Low speed Driving beam
- ADB
- AS, BS for mopeds
- CS DS for motorbikes (> 11 kW /125 cm³)
- Secondary driving beams (> 11 kW /125 cm³)**
- Auxiliary driving beam
- Fog beam
- Cornering beam

1 Regulation
16 Beam patterns

TC4-45 SAE J2829
Expertise of Optical engineers



Installation requirements after SLR step 1 Regulation RID



Class B, BR
 Class DC, DR
 Class C
 Class E
 Class V
 Class W
 Class XR
 ADB
 Class F3
 Class K



R48



Class A, AR
 Class B, BR
 Class DC, DR
 Class AS
 Class BS, R-BS
 Class CS, R-CS
 Class DS, R-DS
 Class ES, R-ES
 Class F3
 Class K



R86



R74

< 50 Km / h

AS
 BS, R-BS
 CS, R-CS
 DS, R-DS
 ES, R-ES
 A, AR
 B, BR



R53

<125 cm³

CS, R-CS
 DS, R-DS
 ES, R-ES
 Class B, BR
 Class DC, DR
 F3



>125 cm³

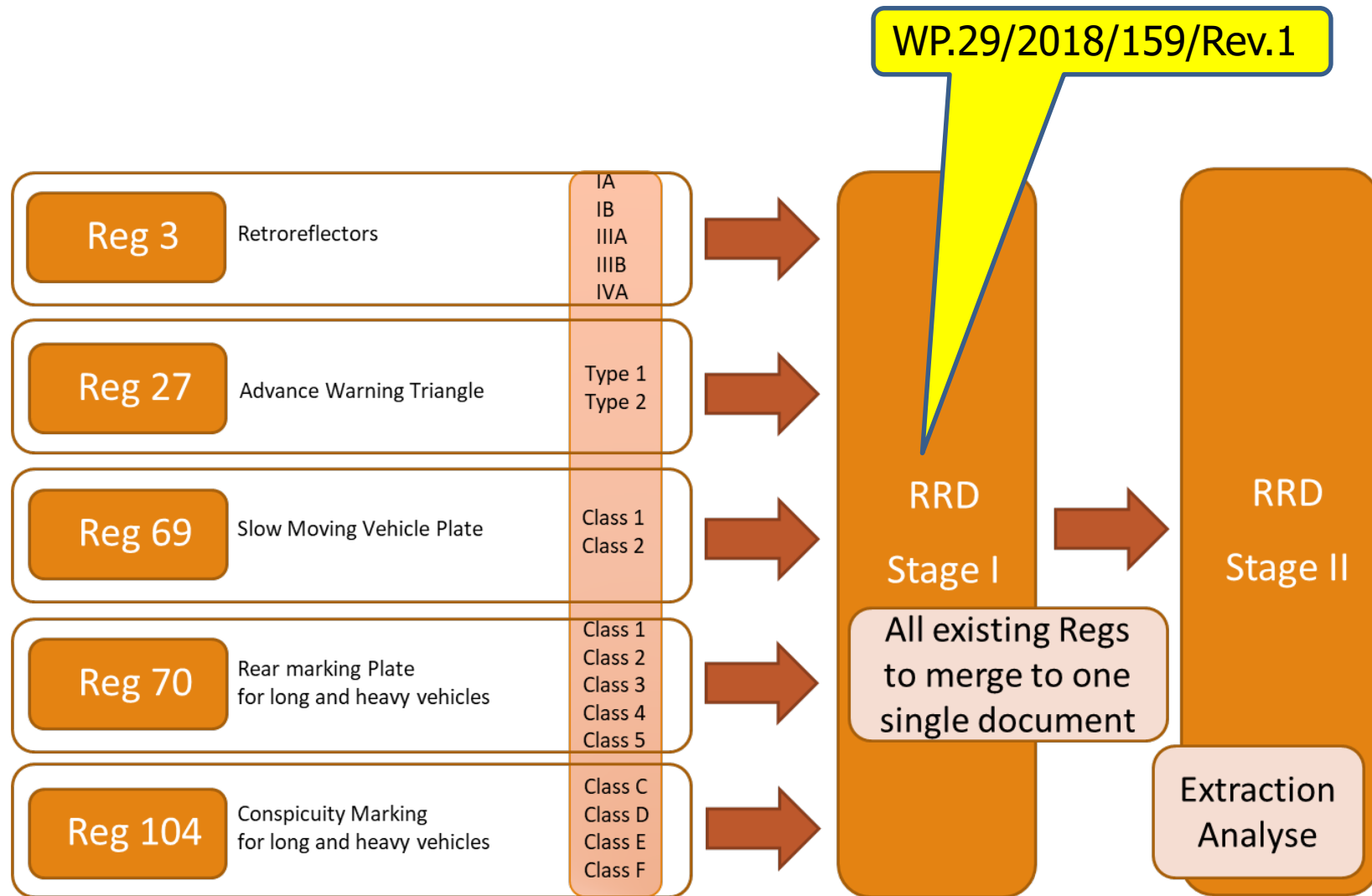
2 x CS, 2 x R-CS
 DS, R-DS
 ES, R-ES
 A, AR
 B, BR
 DC, DR
 F3

GREEN colour means «optional»
 BLACK colour means «mandatory»

Should the beam requirements be based on the category of the vehicle?

RETRO REFLECTIVE DEVICES (RRD)

Stage II – Regulation No. [RRD]



Stage II – Regulation No. [RRD]

Main topics to be worked on in future

- Requirements for CIL for retroreflective devices – classes
- Requirements for R' (R_A) for retroreflective devices/markings – classes
- Colorimetric requirements – daytime and nighttime visibility enhanced visibility
- Photometric measurement conditions – to define independent from device
- Water-penetration test and corrosion test independent from the device
- Weathering test (colour fastness) to adapt to state of the art testing
- Mechanical requirements to define testing independent from device
- Chemical and environmental requirements - testing independent from device
- Specific requirements and testing, which is depending from the device

GRE advice needed (1/3)

Is it OK to continue having the headlamp provisions expressed on the basis of luminous intensities equivalent to illuminance measured on screen at a distance of 25m?

GRE advice needed (2/3)

Items about Light Sources:

- SLR is considering to allow all (including the not yet known) technologies for all functions
- Should the combination of different Light Source technologies be possible for all functions?
- SLR is considering to separate the test procedures from the requirements and to move them to a new Annex called “Testing procedures”

GRE advice needed (3/3)

Impact/usage of the Unique Identifier in LSD/RID/RRD:

- Accessibility via DETA
- What markings and symbols will actually be replaced by the UI?
- Should some of the existing additional markings and symbols be maintained also with the UI?