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Directorate-General for Internal Market, Industry, Entrepreneurship and SMEs

Industrial Transformation and Advanced Value Chains
Automotive and Mobility Industries

Brussels, 23 October 2015
GROW.C.4/KS

RDE 2nd regulatory package: explanatory note to the TCMV

This proposal contains the following main elements:

- a. Definition of "*Base emission strategy*" and "*Alternative emission strategy*" and a requirement to disclose respective information at the moment of type approval.

These provisions should facilitate the supervision of the emission control strategy applied by the manufacturer in order to better enforce the prohibition of "defeat devices" as provided for by Articles 3(10) and 5(2) of Regulation (EC) 692/2008. It follows respective provisions of the US and European heavy duty vehicles (Euro VI) legislation.

- b. Application of a 1st regulatory step of not-to-exceed (NTE) emission limits at type approval as from 1 September 2017/18 for all new type approvals/firstly registered vehicles.
- c. Application of a conformity factor (CF) of 1.6 (2.6) for NO_x emissions measured at a RDE test at moderate (extended) conditions after the 1st regulatory step of NTE emission limits comes into force.
- d. Application of a 2nd regulatory step of not-to-exceed (NTE) emission limits at type approval as from 1 September 2019/20 for all new type approvals/firstly registered vehicles.
- e. Application of a conformity factor (CF) of 1 + *margin* (1,6 + *margin*) for NO_x emissions measured at a RDE test at moderate (extended) conditions after the 2nd regulatory step of NTE emission limits comes into force. The parameter *margin* should reflect measurement uncertainties of the PEMS equipment. The initial value for *margin* is set to 0,2 and it will be subject to a regular review and possible revision due to better experience with the PEMS procedure and technical progress.

For points b, c, d and e it should be noted that the Commission follows its previous proposal following a thorough analysis of the legal and political situation, in particular taking into account views from other European Institutions.

- f. The possible introduction of the concept of transfer functions at a later stage will be mentioned in a recital.

After further considerations and discussion with political stakeholders the Commission services came to the conclusion that, albeit it might be a

valid concept, transfer functions are not sufficiently developed yet to be included in the legal part of the text.

- g. Complementary boundary conditions are introduced as developed by the RDE data evaluation task force and along the lines discussed in previous TCMV meetings.
- h. Various technical elements, in particular in Appendix 6 to Annex IIIA of Regulation (EC) 692/2008 are clarified, some errors corrected.



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Real Driving Emissions (RDE)

Reaction to Commission proposal for TCMV on 28 October 2015

The EU automobile industry is supportive to the fast adoption of a complete RDE legislation, so that manufacturers can plan to introduce new RDE-compliant diesel cars by September 2017. All parties need the RDE legislation in order to make progress on reducing the current discrepancies between the results from laboratory tests (following NEDC) and those from real driving emission tests.

However, the new Commission proposal presents many significant and new concerns to industry.

What are the key views of industry?

- Industry is aligned with what was agreed by the member states in May 2015, i.e. to implement a new RDE legislation in two clearly separated regulatory steps.
- Industry fully accepts that RDE regulatory step 1 should commence from September 2017 for new vehicle types. However we have serious concerns that the proposed content of the RDE regulatory step 1 will have significant adverse consequences for industrial jobs, consumer affordability and choice.
- Industry is concerned by the lack of any detailed economic impact analysis of the proposals, which were only revealed to the member states recently and have not been formally shared with the affected businesses.

In order to be feasible, the timeline, test conditions, gradual scope implementation and limits of the RDE regulation must take into account the technical and economic realities of today's markets - the proposal must provide a reasonable transition time to apply RDE to all new vehicles.

That is why it remains important to proceed in a way that allows manufacturers to plan and implement the necessary changes in two clearly separated regulatory steps, without jeopardising the role of diesel as one of the key pillars for fulfilling future CO₂ targets. Diesel vehicles, as part of a manufacturer's portfolio mix, remain key to help fulfil the 2021 CO₂ targets.

Concerns of industry to the Commission proposal:



There is a clear relationship between the conformity factors, the boundary conditions and the timing of an RDE regulation. These key issues must be considered as a package – they cannot be looked at in isolation from one another.

(a) Conformity factors and timing – RDE regulatory step 1:

Delivering vehicles to comply with RDE step 1 from September 2017 would require a design sign-off no later than the second half of 2016.

There is little time for manufacturers to develop, design, test, type-approve, implement the supply of new components and amortise the investments to manufacture all vehicles with the major design changes that would be required to comply with the conformity factors for RDE step 1 and from the dates proposed by the Commission.

Given the significant share of effective NOx storage catalysts in the current diesel market, the automotive industry expects that **a substantial share of current diesel models will not be able to achieve the conformity factors proposed by the Commission (i.e. 1.6) for RDE step 1**, even if those vehicles could make additional progress in time.

Therefore, according to the **Commission proposal, RDE step 1 would lead to the immediate elimination of a substantial share of current diesel models already planned for introduction in the 2017-18 timeframe**. This will have substantial economic and social implications across the entire value chain. It follows from the data provided to the Commission by the Joint Research Centre that the conformity factor proposed by the Commission for RDE step 1 from 2018 would exclude some 80% of current diesel models from the European market.

The delivery of RDE step 1 for M1 and N1 class I vehicles from September 2017 and for September 2019 for all new registrations **is possible** but under the condition of a moderate driving conformity factor that is higher than the excessively stringent value that has been proposed by the Commission.

ACEA would like to draw the attention of the member states to the need for higher conformity factors in RDE step 1 in order to give the EU automotive industry a realistic chance to develop vehicles that are able to fulfil the future RDE regulation. This need has also been stated by other stakeholders, such as the suppliers (CLEPA), who advocate a very ambitious conformity factor of 2.5 for RDE step 1.

Considering that manufacturers must cover all of their vehicle production in a very short time, a slightly higher conformity factor than that proposed by the suppliers is recommended. It should not be forgotten that the conformity factor is a 'limit' or 'cap' on permitted emissions under real driving conditions. To ensure compliance, manufacturers



will need to design their vehicles to achieve even lower on-road NOx emissions over the useful life period.

(b) Conformity factors and timing – RDE regulatory step 2:

The industry is prepared to accept RDE step 2 with a very stringent conformity factor for moderate driving of around 1.8 as a limit, but it is not in a position to fulfil this before 2021. Any lower conformity factor threatens the existence of diesel engines in general as there is no time for hardware redesign; for those diesel models that remain this will result in cost increases that the market may not accept.

Without a realistic timeframe for the two regulatory steps and reasonable testing conditions for each step, diesel models (or any alternative powertrain that could be possible) will not be prepared in time. The compliance costs for diesel models that could be ready in time would make them unaffordable. In other words, the RDE regulation would force manufacturers to stop selling diesel cars and LCVs. This would have serious repercussions for consumer choice, employment in the wider automotive sector and would have negative implications for meeting future CO2 targets. This will affect not only passenger cars but also lighter commercial vehicles, where diesel is the technology of choice for operators.

(c) Applicability of the conformity factors:

The Commission now also proposes that the conformity factors must be met **not only over the complete RDE trip but also over just the urban part of the trip**. This is new and has not been discussed with stakeholders. It changes, at this very late stage, the basis of the design of the RDE regulation on which stakeholders have worked over the past three to four years – which is the evaluation over a complete trip mix (i.e. urban, rural and motorway).

This change of $v \times apos$ (see point (d) below) and the requirement to meet the conformity factors also over the urban part of the trip alone has significant consequences for the conformity factors that were considered for a complete trip mix.

Such a significant change appears to go beyond the basic scope of the Regulation and cannot be accepted at this very late stage.

(d) Set of Boundary conditions for moderate and extended driving:

It is surprising that while the Commission announced and then proposed an excessively stringent proposal for the RDE second package, the boundary conditions are still being discussed and changed.



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The boundary conditions are related to the conformity factors (and vice-versa). There are some very significant recent changes to the boundary conditions that must be raised here:

Dynamic criteria $v \times apos$:

This has now been tightened for the urban part of an RDE drive, as follows in section 4.1.1 of Appendix 7a:

Previously:

$$v_k \leq 74,6 \text{ km/h and } (v * apos)_k [95] > (0.1961 * v_k + 9.8725)$$

New:

$$v_k \leq 74,6 \text{ km/h and } (v * apos)_k [95] > (0.136 * v_k + 14.44)$$

It appears that this change has been justified by limited testing in one member state where vehicles have been followed by a 'chase car' in urban driving conditions until the car being followed left the route. From experience of such testing, the chase car will experience higher dynamics than the car it follows. This resulted in more aggressive driving overly influencing the results. The new equation is simply the mean between the position of a well-known respected independent expert (using the well-known database of the WLTP) and the member state agency that ran this small test program and concluded that urban driving in their territory was more aggressive.

This change would have an additional effect on the conformity factor of between +0.3 to +1.0 for a complete RDE trip, depending on the vehicle technology. The effect on the urban part would be higher. It is questionable why results from one member state should be accepted in isolation, leading to a significant effect on the RDE package as a whole.

The change would add to the exclusion of a substantial share of current diesel models that would not be able to achieve the requirements for RDE step 1.

There should be a clearly defined $v \times apos$ boundary between moderate and extended driving conditions. This is needed to address, on the one hand, the environment and political need for a very ambitious low conformity factor for moderate driving conditions and, on the other hand, the request to cover a wide range of extended or extreme driving conditions by an extended conformity factor, even though vehicles would rarely be driven under such extended driving conditions (those conditions represent a very low percentage of all European driving).

(e) Scope of the two RDE regulatory steps:

RDE regulatory step 1 should apply to Category M1 and N1 class I diesel vehicles with the focus on NOx emissions. These vehicles are the priority.



RDE step 1 should specifically exclude N1 classes II and III, N2 and M2 vehicles because:

- The European market of LCVs in category N1 classes II and III, N2 and M2 is relatively small: **around 9% of the total passenger car and LCV market**. Some of these vehicles are outside the scope of the RDE requirements since they are approved according to the heavy-duty emissions legislation (Regulation 595/2009).
- Contrary to the N1 class I (directly derived from passenger cars), vehicles in category N1 classes II and III, N2 and M2 are specifically designed for commercial (goods or passenger carrying) operations.
- No tests have been performed yet.
- The number of variants, versions and equipment in these vehicles is huge, in order to respond to any specific task demanded by the vehicle operators.
- Similarly, the conditions of use both in terms of daily duty cycle (from very low speed stop and go, to high-speed long distance) and in terms of load factor (from very low payload, e.g. transporting light goods, to high payload).
- The yearly renewal rate of these vehicles is relatively low.

For these reasons, the effort to adapt such vehicles in time for the first RDE regulatory step will be huge for manufacturers, and the benefits in terms of emissions reduction will be disproportionately low.

Therefore, Category N1 classes II and III, N2 and M2 vehicles should fall under the second RDE regulatory step.

In addition, the boundary conditions in the proposal are specific to cars. The Commission must make a further evaluation and proposal for representative RDE boundary conditions that are applicable for LCVs.

Additionally, **the application of RDE to vehicles with diesel and petrol direct injection engines for the measurement of particle emissions should commence from the second RDE step**. The RDE test procedures and the testing equipment are not ready to be applied before the second RDE step.

(f) Transfer Function:

Industry has twice communicated to member state experts what the Transfer Function is and why it is needed for both the first and second RDE steps.

It is highly regrettable that the Commission has not included any reference to the Transfer Function in the proposal, except for some mild words in a 'whereas' clause. This is a major concern for industry as **the Transfer Function is critical to the effective operation of the**



RDE analysis and is necessary to address transitions from moderate to extended driving (or vice-versa).

Industry respectfully asks the member states to **support including the principles of the Transfer Function in the second RDE package**, and to request the Commission to complete the details as soon as possible in 2016 with the involvement of all stakeholders.

This corresponds to the Commission's option (c) in its paper (dated 20 August 2015) to the TCMV meeting on 10 September.

(g) In-service conformity checking:

The Commission has indicated that it will revise the in-service conformity checking (ISC) procedures in a fourth RDE package due later in 2016.

Industry must again state that, without knowing how the complete RDE regulation fits together, **ISC will be another unknown element that will affect the content of what is being discussed in this second RDE package.**

Therefore, industry strongly recommends that any new ISC procedures could only apply from the second RDE regulatory step. Some fine-tuning may be possible, but the first RDE regulatory step should continue on the basis of what we know today for ISC.

Concerning the issue of defeat devices:

Like many parties, ACEA has expressed concern over the revelation that one European manufacturer has falsified the emission tests through the alleged use of an emission control software 'defeat device'. We condemn such practices, but reject allegations from some parties that this would be common practice within the automotive industry. We certainly regret that this issue has thrown into disrepute advanced diesel technologies, which manufacturers have invested in for years and which are a crucial component of manufacturers' strategies to fulfil future CO2 emissions targets.

We recognise that the Commission must now find a way to strengthen the light-duty emission regulation.

It should be noted that the Euro 5 and 6 emissions Regulation ⁽¹⁾ and even the Euro 3 and 4 emissions Directive ⁽²⁾ have defined defeat devices and prohibited their use. The legislation does permit certain changes to emission controls under strictly specified conditions written in the legislation. However, the current Euro 5 and 6 Regulation does

⁽¹⁾ See Article 3 and 5 of Regulation 715/2007, OJ L171, 29.6.2007, page 1.

⁽²⁾ See sections 2.16 and 5.1.1 of Annex I to Directive 98/69/EC, OJ L350, 28.12.1998, page 1.



not require manufacturers to declare when, how and why they might need to make certain changes to emission controls, within what is permitted under the defeat device prescriptions.

The heavy-duty emissions Regulation ⁽³⁾ similarly prohibits the use of defeat devices but the implementing Regulation ⁽⁴⁾ has more detailed requirements on defeat devices and a requirement to provide the approval authorities with confidential and commercially sensitive data. Data that should be provided and identified within an 'extended documentation package' is defined as being 'strictly confidential'.

While industry is supportive of the Commission's proposal to regulate defeat devices under the scope of Regulation 715/2007 in a similar manner to what has already been done for heavy-duty vehicles, it insists that **the Commission also includes the confidentiality requirements for data that are commercially sensitive but to be provided in the extended documentation package.**

At a minimum, any new requirements for defeat devices in Euro 5 and 6 must match what is already in EU legislation.

Summary:

Industry reiterates its commitment to support a balanced RDE proposal combining challenging but feasible targets beginning in 2017. However we respectfully request the member states to take fully into account the economic and employment impacts on the European automotive industry from this Commission proposal, as should be the case with all EU regulation proposals. These issues and our more detailed comments should be fully considered before taking any decision on the Commission proposal for the RDE second package.

The Commission proposal goes beyond air quality needs in defining conformity factors and boundary conditions that manufactures must design to meet, even though a vehicle would almost never be driven in this way. It is these conditions that will cause immediate elimination of a substantial share of current diesel models already planned for introduction in the 2017-18 timeframe with very significant economic impacts.

Our industry supports having a clear and finalised RDE proposal in place soon that can be realistically implemented by both OEM's and suppliers taking into account economic realities and technical constraints.

⁽³⁾ See Article 5 of Regulation 595/2009, OJ L188, 18.7.2009, page 1.

⁽⁴⁾ See section 8 of Annex I to Regulation 582/2011, OJ L167, 25.6.2011, page 1.



**Service public fédéral
Mobilité et Transports**

*Direction générale Transport routier et Sécurité routière
Direction Certification et Surveillance
Cellule Technique
City Atrium
Rue du Progrès 56
1210 Bruxelles
Tél. 02 277 31 11*

**European Commission
Internal market, Industry, Entrepreneurship
and SME's Directorate-General**

Votre contact
Aurélië WAYENBERGH
Tél. : +32 2 277 36 01

e-mail : aurelie.wayenbergh@mobilitt.fgov.be

métro : Rogier
train : Gare du Nord
arrêt de bus et de tram : Rogier
parking vélos gardé : Gare du Nord

Brussels, 16th October 2015

Subject: Belgian comments on the "second package RDE" presented at the last TCMV (6th October 2015) - NTE emission limits, application dates and other issues regarding RDE legislation

Dear,

In the proposal from the European Commission at the last TCMV, our attention goes to four points:

1) Dates of entry into force

Belgium supports the Commission proposal: 2017/2018 for the 1st phase and 2019/2020 for the 2nd phase.

Justification:

We support a fast implementation of the regulatory RDE package since the beginning of discussion on RDE in the TCMV. This issue is a political priority for Belgium since Belgium faces constant difficulties to overcome air quality problems. The recent event on manipulations of emission control systems in cars proves the urgency to resolve the problem of high NO_x emissions.

Regarding the 2nd phase, we recognize some Euro 6b vehicles with an appropriate use of emissions after treatment devices are already compliant today with a RDE test cycle with a CF < 2. However, five years is necessary between adoption and new requirements for all new vehicles so that all manufacturers have enough time to comply. When the 2nd package will be finalized in November 2015, we can agree with an entry into force for all new vehicles in 09/2020. However, the adoption in November is crucial.

2) Conformity factor

Belgium supports the Commission proposal: CF = 1 + margin for the 2nd phase. For the 1st phase, Belgium still has an internal scrutiny reserve.

Justification:

For the 2nd phase (final step), there is no other option that one to get a CF = 1 regarding 715/2007 requirement of article 14 (3): "The Commission shall keep under review the procedures, tests and requirements referred to in Article 5(3) as well as the test cycles used to

measure emissions. If the review finds that these are no longer adequate or no longer reflect real world emissions, they shall be adapted so as to adequately reflect the emissions generated by real driving on the road. The necessary measures, which are designed to amend non-essential elements of this Regulation, by supplementing it, shall be adopted in accordance with the regulatory procedure with scrutiny referred to in Article 15(3).“

Nevertheless, regarding the OEM interest, we accept to take into account a margin as suggested by the Commission.

3) Transfer function

BE supports option a) excluding the concept of transfer functions from the 2nd regulatory RDE package.

Justification:

- Option b) rejection: We cannot accept a new delay for the adoption of 2nd regulatory RDE package;
- Option c) rejection: Like already expressed at the last TCMV, we are not on principle against the Transfer function concept but so far, a clear evaluation of the impact of TF's on the RDE test procedure representativeness and robustness is not available. If we cannot guaranty today the level of requirements needed for RDE, we have to avoid defining already such concept and we will not be able to support the option of including the transfer function in the second package.
- Maintaining normal and extended conditions with different CF excludes the need for TF.

4) Dynamic boundaries (driving behavior)

Belgium would like to have complementary information before deciding.

Thank you for your consideration of those comments.

Bulgarian comments
on the Commission proposal to amend EU Regulation 692/2008 to introduce Real Driving Emission requirements

As was highlighted during the TCMV meeting on 06 October, BG considers 2nd RDE package as important legislative proposal and we will support any effort to achieve reasonable compromise. In this connection and considering complexity of the matter, we would like to comment on 2 issues, which in our view are crucial for the implementation of the package:

I. Timetable and scope

For step 1 we could support:

timing: 09/2017 for new types and 09/2019 for all types

scope: only M₁ and N₁ class I vehicles

For step 2 we could support:

timing: 09/2020 for new types and 09/2022 for all types

scope: all vehicles under scope of Regulation (EU) 715/2007

Justification:

We share the importance of ensuring high level of environmental protection but without compromising competitiveness of the industry. It remains important to proceed in a way that provides sufficient lead-time for industry to apply RDE to all new vehicles.

II. Conformity Factors

We support the comments and reasoning behind Italy's opinion that "a CF not below 3.0 would be justified." for the 1st step.

For the rest of parameters we could be flexible in order to support the compromise.

PORSTI-RONNBERG Satu (GROW)

From: lubomir.kincl@mdcr.cz
Sent: 16 October 2015 14:43
To: GROW C4 MEETINGS
Cc: jiri.pocta@mdcr.cz
Subject: CZ comments to RDE

Dear Ms. Szychowska, dear Mr. Steininger,

with regard to today's deadline given on last TCMV meeting for comments of member states concerning the RDE legislation we would like to inform you about up-to-date position of the Czech Republic.

CZ fully supports all efforts aiming to improve the testing of pollutant emissions in order to achieve a better alignment between laboratory test results and real driving conditions. Therefore we endorse to start implementing the new test methods in two clearly separated regulatory steps and we fully accept that RDE Step 1 should commence from September 2017 for new vehicle types.

In connection with this we would like to express our thanks to the Commission for the work it has done in this field.

However, we are also aware of the complexity of the relevant issue. Taking into account the necessity of quick agreement of RDE package, yet we should respect as well, in our opinion, justified views of European industry.

Looking at where we are today and recognising that a Step 1 date of September 2017 means industry must sign-off designs no later than early second-half 2016, the conformity factor for RDE Step 1 appears far too ambitious for industry to react in time - effectively RDE Step 1 provides no lead-time.

In addition to the technical potential approach, a decision on conformity factors has to reflect present measurement inaccuracies. In fact, on-road measurement devices for gaseous criteria emissions of passenger cars have only been developed in recent years starting from appliances in the heavy-duty sector. Their accuracy can be expected to improve over the coming years.

Given the significant share of NOx storage catalysts in the current diesel market, there is possible to expect that a substantial share of current diesel models will not be able to reach the CF proposed by the Commission for RDE Step 1, even if those vehicles could make additional progress in time. Therefore, RDE Step 1 according to the Commission proposal would lead to the elimination of a substantial share of current diesel models. This would affect suppliers, OEM's and dealers alike. Estimates will vary by company and model but industry estimates from 10% - 30% of current diesel models would be threatened by RDE Step 1.

Therefore, we incline to allow for the aspects of competitiveness in this important sector of the EU economy resulting, in our view, in an acceptable following compromise:

Step 1:

Timing: 9/2017 for new and 9/2019 for all types
 CF: 2,7 for moderate driving
 Scope: only M1 and N1 class I vehicles

Step 2:

Timing: 9/2020 for new and 9/2022 for all types
 CF: 1,7 for moderate driving
 Scope: all vehicles under scope of 715/2007

Boundary conditions – more flexible especially dynamic driving meaning using average of WLTP.

Thank you very much for taking this standpoint into account.

Best regards

**Lubomír Kincl
Ministry of Transport of the Czech Republic**

From: Katerina Lizalova [mailto:Katerina_Lizalova@mzv.cz]
Sent: Monday, October 26, 2015 6:26 PM
To: wi-6-eu@brue.auswaertiges-amt.de; jan.krak@mzv.sk; GROW C4; jean-pierre.labe@mae.etat.lu; claude.liesch@snch.lu; bengt.wennerstein@gov.se; henrik.drake@gov.se
Subject: Fw: RDE

Dear colleagues,

in view of the upcoming TCMV meeting on Wednesday, we would like to share with you our position on the new Commission proposal and would welcome your positions and views on points we might have in common in order to reach sensible compromise of this important dossier. Because the new proposal of the Commission does not show any progress towards compromise in comparison to the proposal from 6th October and did not react to the comments of delegations, we cannot accept the proposal as it stands now - in this regard please find attached our position to the proposal from 6th October.

We believe that is not possible to vote on this new proposal at the meeting on Wednesday and in case there will be a vote, we would be forced to vote against. We would like to kindly ask you for your support in this and for taking into account requests to change the calendar dates and to raise the conformity factors in accordance with the principle of competitiveness mainstreaming. If I missed any of your colleagues dealing with RDE in the mailing list, please forward it to them.

Thank you very much.

Best regards

Kateřina Lizalov
Technical Harmonisation, Better Regulation
Sectorial Policies Unit A

Stale zastoupenı Česke republiky pı Evropske unii
Permanent Representation of the Czech Republic to the European Union
Rue Caroly 15, 1050 Bruxelles - Ixelles, Belgie / Belgium

tel.: +32 2 2139 104 | fax: +32 2 2139 184
e-mail: katerina_lizalova@mzv.cz | web: www.mzv.cz/eu



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In connection with this we would like to express our thanks to the Commission for the work it has done in this field.

However, we are also aware of the complexity of the relevant issue. Taking into account the necessity of quick agreement of RDE package, yet we should respect as well, in our opinion, justified views of European industry.

Looking at where we are today and recognising that a Step 1 date of September 2017 means industry must sign-off designs no later than early second-half 2016, the conformity factor for RDE Step 1 appears far too ambitious for industry to react in time - effectively RDE Step 1 provides no lead-time.

In addition to the technical potential approach, a decision on conformity factors has to reflect present measurement inaccuracies. In fact, on-road measurement devices for gaseous criteria emissions of passenger cars have only been developed in recent years starting from appliances in the heavy-duty sector. Their accuracy can be expected to improve over the coming years.

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Timing: 9/2020 for new and 9/2022 for all types
CF: 1,7 for moderate driving
Scope: all vehicles under scope of 715/2007

Boundary conditions – more flexible especially dynamic driving meaning using average of WLTP.

Thank you very much for taking this standpoint into account.

Best regards

Lubomír Kincl
Ministry of Transport of the Czech Republic

Ministry of Environment and Food
The Danish Environmental Protection Agency

Danish EPA Environmental
Technology
J.nr. mst-5200-00056
Ref. kaasm
October 9 2015

Danish comment regarding draft proposal regarding RDE

Introduction

Denmark appreciate that the Commission and the Technical Committee on Motor Vehicle have this issue high on their agendas. Denmark have for many years been one of the voices advocating for more rigid test requirements, that better reflects real driving emissions.

At the latest TCMV meeting Denmark stressed that the overall focus continuously shall be to ensure compliance with Regulation 715/2007/EC and only a RDE-procedure which adequately reflect the emission generated by real driving on the road can fulfil this obligation.

The Commission declared that any proposals deviating from the figures set in the draft proposal should be supported and justified by technical analyses. Denmark is in line with this approach and have based the below proposal on the data provided by the Commission and JRC.

Step 1

The Commission propose that vehicles exceeding the NO_x emission limit values by 60 % should still be acceptable towards 2020. It is however important that the new RDE procedure will re-establish confidence of consumers and citizens towards the euro-norms for vehicles.

With respect to the note from the Commission 1 October 2015 "*NTE emission limits and application dates for RDE legislation*" there are available technologies already on the European market to comply with a conformity factor between 1-1,4. On this basis Denmark find it justified to set a conformity factor, not to exceed, for step 1 at 1,2 plus the measurement uncertainties set to 0,1875.

$NTE = CF_{1,20} * \text{Euro 6+ measurement uncertainties}_{0,1875}$.

Denmark supports the Dutch delegation regarding entry into forces 1 January 2017/18 of step 1 for respectively new types of vehicles and all new types of vehicles.

Since this is based on already known technologies there is no need to differentiate the entry into forces for Class M, N1 class I and N1 class II and N1 class III and N2.

Step 2

The introduction of a conformity factor for step 2 must be based on the NO_x emission limit value and only take into account the measurement uncertainties.

NTE=Euro 6+measurement uncertainties _{0,1875}.

Denmark supports the Dutch delegation regarding entry into forces 1 January 2019/20 of step 2 for respectively new types of vehicles and all new types of vehicles.

Since this is based on already known technologies there is no need to differentiate the entry into forces for Class M, N1 class I and N1 class II and N1 class III and N2.

Denmark supports to regularly revise the uncertainty value according to the improved quality of the portable emission monitoring systems due to technical progress.

Transfer Function

Denmark support PL and NL not to introduce transfer functions to the RDE requirements. It has been taken on board at a very late stage and there is a lack of data to justify it.

Complementary boundary conditions proposed by NL

Denmark would like to base the RDE procedure on the latest findings and are positive to update the driving behaviour if it promotes the overall objective to adequately reflect the emission generated by real driving on the road.

TRANSLATION

16 October 2015

**Comments by the Federal Government
on the
proposal of the European Commission for the 2nd regulatory package
on the control of real driving emissions (RDE) from passenger cars and light
commercial vehicles
on the basis of the TCMV meeting held on 6 October 2015**

The Federal Government continues to believe that there is an urgent need for action to more effectively limit pollutant emissions from passenger cars and light commercial vehicles in the future via the European type approval legislation. Against this background, Germany welcomes the fact that, for the meeting of the TCMV held on 6 October 2015, the European Commission had presented specific proposals for the contents of the 2nd regulatory package. We wholeheartedly support the fastest possible adoption of the regulation and application of mandatory RDE requirements.

Against the background of ongoing discussions regarding the use of unlawful defeat devices, we consider the RDE procedures to be a component of a possible solution to the problem. However, a more comprehensive solution should be sought, and the Commission is invited to conduct a more thorough scrutiny of the European type approval procedure. In this context, the instruments of market surveillance should also be strengthened in the future. When elaborating the new type approval rules for passenger cars, the current restrictions on the market surveillance of passenger cars should be dispensed with, and the general market surveillance rules of Regulation (EC) No 765/2008 should be applied in their entirety to this sphere.

The new framework rules will create new provisions that are likely to also have an impact on the way in which the rules of this RDE regulation have an effect. It will thus be necessary, in the light of the new framework rules, to evaluate this regulation and, if necessary, adapt it to the new rules. This evaluation should be completed one year after the new type approval legislation has entered into force. In other words, the corresponding evaluation provision should come into force immediately when the current type approval rules cease to be effective. The Federal Government suggests that a corresponding review clause be included in the regulation. Given the importance of diesel technology in achieving our climate change targets, this review clause should also be linked to an evaluation of the impact on the automotive industry.

TRANSLATION

16 October 2015

Measures that are launched must be technologically feasible and deliverable within a certain period of time, including with regard to vehicle architecture. Thoroughness must take precedence over speed, and technological determinations and implementation prospects must be feasible and deliverable. The time at which the conformity factors enter into force, their level and the shape they take must be intelligently dovetailed. The diesel engine should be preserved as powertrain option on the mass market of the future and play its part in tackling climate change and controlling air pollution.

Regarding the specific contents of the proposal for a regulation, the following comments and the following adaptations are suggested:

Application dates:

The application dates proposed by the Commission for the transitional and final conformity factors are supported.

Conformity factors:

As far as the conformity factor for the transitional period is concerned, Germany has always stressed that it should be an ambitious figure, but at the same time one that is as pragmatic as possible. This also applies, in particular, against the background of the importance of diesel technology for achieving the 2020 climate change targets.

The Commission's estimates for calculating the conformity factor for the transitional phase are based – as it admits itself – on a small number of replies to its technical questionnaire. The current Commission proposal cannot be finally assessed by the Federal Government, nor is a comprehensive and detailed technological impact assessment possible. On the basis of what is currently known, the conformity factor should be adjusted appropriately. In its analysis, the Commission stated that a conformity factor in the range from 1.6 to 2.2 would result in improved emissions, but on the basis of exhaust emission control systems currently installed in the vehicle models. According to the Commission, around 10 % of present-day diesel models would no longer be eligible for approval in this scenario.

We consider the discussions on the level of the measurement tolerances to be taken into account for the final conformity factor to be not yet completed. Due regard should be paid to the measurement uncertainties – which have not yet been completely settled – when determining the conformity factors for the second phase. We thus suggest a mark-up

TRANSLATION

16 October 2015

amounting to 30 mg/km, corresponding to the tolerance ceiling quoted by the Commission. The resulting conformity factor is 1.4.

The conformity factors for the extended testing fields for temperature and absolute level are to be adapted accordingly.

Transfer function:

Germany had always made possible support for a transfer function contingent on the effectiveness of RDE also being guaranteed with a transfer function. At present, there is no evidence to prove this. Further expert discussions are required. In the case of a transfer function concept such as that being considered by the Commission, the average level of emissions would have the same legally binding force over the entire testing range. Such a transfer function concept would create an appropriate balance between the risk for the manufacturers and the risk for the regulatory bodies. The Federal Government is thus in favour of option C continuing to be taken into account in the next steps.

Proposals for adaptation of the RDE testing procedure:

The independence of the RDE tests must be guaranteed. Against this background, consideration must be given to the extent to which the already determined test conditions from the 1st regulatory RDE package need to be revised again so that the tests are to be conducted fully independently of the manufacturer.



Bundesministerium
für Verkehr und
digitale Infrastruktur

Bundesministerium für Verkehr und digitale Infrastruktur • Postfach 20 01 00, 53170 Bonn

Frau
Joanna Szychowska
Head of Unit
European Commission
DG GROW, Unit C4
BREY 10/58
45 Avenue d'Auderghem
B-1040 Brussels
Belgium

HAUSANSCHRIFT
Robert-Schuman-Platz 1
53175 Bonn

POSTANSCHRIFT
Postfach 20 01 00
53170 Bonn

TEL +49 (0)228 99-300-4370
FAX +49 (0)228 99-300-8074370

Ref-LA27@bmvi.bund.de
www.bmvi.de

**Realemissionen von Pkw und leichten Nutzfahrzeugen (RDE)
- Stellungnahme der Bundesregierung**

Aktenzeichen: LA 27/7353.2/5

Datum: Bonn, 16.10.2015

Seite 1 von 1

Sehr geehrte Frau Szychowska,

anliegend übersende ich Ihnen die Stellungnahme der Bundesregierung zu den Vorschlägen der Europäischen Kommission für das 2. Verordnungspaket zur Kontrolle der Realemissionen von Pkw und leichten Nutzfahrzeugen (RDE) auf der Basis Ihres derzeitigen Vorschlages zur Sitzung des TCMV am 06.10.2015.

Mit freundlichen Grüßen
Im Auftrag

Christoph Albus



16.10.2015

Stellungnahme der Bundesregierung**zum****Vorschlag der Europäischen Kommission für das 2. Verordnungspaket
zur Kontrolle der Realemissionen von Pkw und leichten Nutzfahrzeugen (RDE),
gemäß Stand des TCMV am 06.10.2015**

Die Bundesregierung sieht weiterhin dringenden Handlungsbedarf, die Schadstoffemissionen von Pkw und leichten Nutzfahrzeugen zukünftig über die europäischen Typgenehmigungsvorschriften wirkungsvoller zu begrenzen. Vor diesem Hintergrund begrüßt Deutschland, dass die Europäische Kommission (KOM) für den TCMV am 6. Oktober 2015 konkrete Vorschläge für die Inhalte des 2. Verordnungspakets zu RDE vorgelegt hatte. Eine schnellstmögliche Verabschiedung der Verordnung und Anwendung verbindlicher RDE-Anforderungen wird ausdrücklich unterstützt.

Vor dem Hintergrund der aktuellen Diskussionen bzgl. der Verwendung von unzulässigen Abschaltvorrichtungen wird die RDE-Prozedur als ein Baustein einer möglichen Problemlösung gewertet. Es sollte jedoch eine umfassendere Lösung angestrebt werden und die KOM wird aufgefordert, das europäische Typgenehmigungsverfahren grundsätzlich auf den Prüfstand zu stellen. In diesem Zusammenhang sollten auch die Instrumente der Marktüberwachung zukünftig gestärkt werden. Bei der Ausarbeitung der neuen Typgenehmigungsregelungen für Pkw sollte auf die derzeitigen Einschränkungen bei der Marktüberwachung von Pkw verzichtet und die generellen Marktüberwachungsregelungen der Verordnung (EU) Nr. 765/2008 in Gänze auf diesen Bereich übertragen werden.

Mit den neuen Rahmenregelungen werden neue Vorschriften geschaffen werden, die voraussichtlich auch Auswirkungen im Hinblick auf das Wirken der Regelungen dieser Verordnung zu RDE haben werden. Es wird deshalb erforderlich sein, im Lichte der neuen Rahmenregelung diese Verordnung zu evaluieren und ggf. an die Neuregelungen anzupassen. Diese Evaluierung sollte ein Jahr nach Inkrafttreten der neuen Typgenehmigungsvorschriften abgeschlossen sein, die entsprechende Evaluierungsvorschrift also an das Außerkrafttreten der bisherigen Typgenehmigungsregelungen anknüpfen. Die Bundesregierung schlägt vor, eine entsprechende Revisionsklausel in die Verordnung aufzunehmen. Vor dem Hintergrund der Bedeutung der Diesel-Technologie zum Erreichen der Klimaschutzziele, soll diese Revisionsklausel außerdem mit einer Evaluierung der Auswirkungen auf die Automobilindustrie verknüpft werden.

Grundsätzlich müssen Maßnahmen, die eingeleitet werden, technisch machbar und zeitlich auch in Hinblick auf die Fahrzeugarchitektur realisierbar sein. Gründlichkeit muss vor Schnelligkeit gehen, technische Festlegungen und Umsetzungsperspektiven müssen machbar und realisierbar sein. Das zeitliche Inkrafttreten der Konformitätsfaktoren deren Höhe und deren Ausgestaltung müssen intelligent aufeinander abgestimmt werden. Das Aggregat Diesel sollte auch zukünftig im Massenmarkt als eine Antriebsoption erhalten bleiben und einen Beitrag sowohl zum Klimaschutz als auch zur Luftreinhaltung leisten.

16.10.2015

Zu den konkreten Inhalten des Verordnungsvorschlages wird wie folgt Stellung genommen bzw. folgende Anpassungen vorgeschlagen.

Anwendungstermine:

Die von der KOM vorgeschlagenen Anwendungsdaten für die Übergangs- und finalen Konformitätsfaktoren werden unterstützt.

Konformitätsfaktoren:

Bzgl. des Konformitätsfaktors für die Übergangsstufe hat Deutschland stets betont, dass dieser ambitioniert und zugleich möglichst pragmatisch festgelegt werden soll. Dieses gilt insbesondere auch vor dem Hintergrund der Bedeutung der Diesel-Technologie zur Erreichung der Klimaschutzziele in 2020.

Die Abschätzungen der KOM zur Ermittlung des Konformitätsfaktors für die Übergangsstufe basieren, wie sie selber einräumt, auf einer geringen Anzahl von Rückmeldungen zu ihrem technischen Fragebogen. Der bisherige Vorschlag der KOM kann durch die Bundesregierung nicht abschließend bewertet werden und es ist keine umfassende und detaillierte Technologiefolgenabschätzung möglich. Nach bisheriger Kenntnis sollte der Konformitätsfaktor angemessen angepasst werden. Die KOM hat in ihrer Analyse ausgeführt, dass ein Konformitätsfaktor im Bereich von 1,6 bis 2,2 bereits zu emissionsseitigen Verbesserungen führt, jedoch auf Basis aktuell in den Fahrzeugmodellen bestehender Abgasnachbehandlungstechnologie. Etwa 10% der heutigen Dieselmotoren wären laut KOM in diesem Szenario nicht mehr genehmigungsfähig.

Die Diskussion bzgl. der Höhe der zu berücksichtigenden Messtoleranzen für den finalen Konformitätsfaktor wird als noch nicht abgeschlossen angesehen. Die noch nicht restlos ausgeräumten Messunsicherheiten sollten bei der Festlegung des Konformitätsfaktors für die zweite Stufe angemessen berücksichtigt werden. Es wird daher ein Aufschlag in Höhe der von der KOM angegebenen Toleranzobergrenze von 30 mg/km vorgeschlagen. Der resultierende Konformitätsfaktor beträgt 1,4.

Die jeweiligen Konformitätsfaktoren für die erweiterten Prüfbereiche für Temperatur und absolute Höhe sind entsprechend anzupassen.

Transferfunktion:

Deutschland hatte eine mögliche Unterstützung einer Transferfunktion stets davon abhängig gemacht, dass die Wirksamkeit von RDE auch mit einer Transferfunktion gewährleistet ist. Dieser Nachweis liegt aktuell noch nicht vor, weitere fachliche Diskussionen sind erforderlich. Bei einem Transferfunktionskonzept, wie es von der KOM angedacht ist, würde der Durchschnitt der Emissionen über den gesamten Kontrollbereich im Prinzip rechtsverbindlich gleich bleiben. Ein solches Transferfunktionskonzept würde einen angemessenen Ausgleich zwischen Hersteller- und Ordnungsgeberrisiko schaffen. Die Bundesregierung spricht sich daher dafür aus, dass die Option C im weiteren Verfahren berücksichtigt wird.

16.10.2015

Vorschläge zur Anpassung der RDE-Testprozedur:

Die Unabhängigkeit der RDE-Überprüfungen muss gewährleistet sein. Vor diesem Hintergrund ist zu prüfen, inwieweit die bereits festgelegten Prüfbedingungen aus dem 1. Verordnungspaket zu RDE nochmals überarbeitet werden müssen, so dass die Prüfungen vollkommen unabhängig vom Hersteller durchzuführen sind.

**Position of Spain concerning the Commission proposal of amending
Regulation (EC) No 692/2008 as regards emissions from light
passenger and commercial vehicles (Euro 6)**

(TCMV 28.10.15)

A. General Statement

Spain welcomes the proposal from the European Commission concerning the second package of the real driving emissions (RDE) test procedures. We are in favour of a quick introduction of the first phase of requirements in order to improve the air quality in our cities. In that sense, we think that the date of September 2017 is acceptable. In that context, Spain can accept the text proposed by de Commission in TCMV, on 6.10.2015, with the following modifications:

1. Recitals:

- 10) In order to allow manufacturers to gradually adapt to the RDE rules, the final quantitative RDE requirements should be introduced in two subsequent steps. In the first step, which should apply from 3 years after the mandatory Euro 6 dates, a Conformity Factor of **2,3** should apply. The second step should follow **3** years after and ~~should require full compliance with the emission limit value for NO_x of 80 mg/km set out in Regulation (EC) No 715/2007 plus a margin taking into account the additional measurement uncertainties of the PEMS test procedure~~ **with a Conformity Factor of 1.6**. For extended conditions as defined in point 5.2 of Annex IIIA to Regulation (EC) 692/2008, NTE emission limits should be increased by 60 % as compared to moderate conditions.

2. Article 1:

Article 1

Regulation (EC) No 692/2008 is amended as follows:

Annex I is amended as follows:

In Appendix 6, table 1 is amended as follows:

- (i) Rows ZD, ZE, ZF shall be replaced by the following:

"

ZD	Euro 6c-TEMP	Euro 6-2	M, N1 class I	PI, CI	1.9.2017	1.9.2019	31.8.2022
ZE	Euro 6c-TEMP	Euro 6-2	N1 class II	PI, CI	1.9.2018	1.9.2019	31.8.2020
ZF	Euro 6c-TEMP	Euro 6-2	N1 class III, N2	PI, CI	1.9.2018	1.9.2019	31.8.2020

"

(ii) The following rows are inserted after row ZF:

"

ZG	Euro 6c	Euro 6-2	M, N1 class I	PI, CI	1.9.2020	1.9.2022	
ZH	Euro 6c	Euro 6-2	N1 class II	PI, CI	1.9.2021	1.9.2023	
ZI	Euro 6c	Euro 6-2	N1 class III, N2	PI, CI	1.9.2021	1.9.2023	

"

2.1.1 Final Conformity Factors

The conformity factor $CF_{pollutant}$ for the respective pollutant is specified as follows:

Pollutant	Mass of oxides of nitrogen (NOx)	Number of particles (PN)	Mass of carbon monoxide (CO) ⁽¹⁾	Mass of total hydrocarbons (THC)	Combined mass of total hydrocarbons and oxides of nitrogen (THC + NOx)
$CF_{pollutant}$	1,6	tbd	-	-	-

~~Margin is parameter taking into account the additional measurement uncertainties introduced by the PEMS equipment and is set to 0,2. This value shall be regularly revised according to the improved quality of the PEMS procedure due to technical progress.~~

2.1.2 Temporary Conformity Factors

By way of exception to the provisions of point 2.1.1, until **6** years after the dates given in Article 10 (4) and (5) of Regulation (EC) 715/2007 and upon request of the manufacturer, the following temporary conformity factors may apply:

Pollutant	Mass of oxides of nitrogen (NOx)	Number of particles (PN)	Mass of carbon monoxide (CO) ⁽¹⁾	Mass of total hydrocarbons (THC)	Combined mass of total hydrocarbons and oxides of nitrogen (THC + NOx)
$CF_{pollutant}$	2,3	tbd	-	-	-

The application of temporary conformity factors shall be recorded in the certificate of conformity of the vehicle.

5.4.1 The overall excess or insufficiency of driving dynamics during the trip shall be checked using the methods described in Appendix 7a of this Annex.

In this regards, average v.apos should be limited to less than or equal to 12 in the case of moderate conditions and should be limited to less than or equal to 17 in case the of extended conditions.

5.4.2

(g) In point 6.11, the following sentence is added:

“In addition, the proportional cumulative positive altitude gain shall be **less than 650 m/100 km for moderate conditions, and less than 1100 m/100 km in the case of extended conditions**, and be determined according to Appendix 7b.”

B. Justification

Spain is the European leader in production of diesel vehicles which represents 54.2% of our total national production motor vehicles, that represents 1.4 million of diesel passenger cars per year. In fact, 31 over 43 models manufactured in Spain are provided with a diesel engine.

Regarding diesel engines, the total yearly production reaches the amount of 1.1 million. In terms of work force, the data shown before represents an amount of 2.500 qualified employees.

In total, net value of diesel vehicles and engines production in Spain reaches the amount of 25.000 mill. € per year.

The introduction of severe new requirements in terms of timing and conformity factor would have the following consequences:

- Negative influence in the Spanish economy.
- Difficulties in meeting CO₂ targets.
- Weakness in European competitiveness related to diesel technology.
- Would introduce the risk of destroying highly qualified jobs.
- Would reduce the investment in R+D+i.
- Would facilitate the introduction of non European technologies.
- Would have implications across the entire value chain: suppliers, OEMs and dealers.

Regarding vehicles of category N1 class II and III, it should be considered that the European market of LCVs in category N1 classes II & III, N2 and M2 is relatively small: around 9% of the total passenger car and LCV market. Moreover, some of these vehicles are outside the scope of the RDE requirements since they are approved according to the heavy-duty emissions legislation. It is, then, appropriate to delay the application of the new requirement for some years.



**REPRÉSENTATION PERMANENTE DE LA FRANCE
AUPRÈS DE L'UNION EUROPÉENNE**

Aude CHARRIER
Conseillère Environnement

Bruxelles, le 19 octobre 2015

Réf. : CAD : 2015-1014599
ITEC /0961 / 2015

OBJET : Observations des autorités françaises sur la proposition relative à l'essai en condition réelle de conduite (RDE) présentée au comité des véhicules à moteurs le 6 octobre 2015.

Madame la Directrice générale,

Je vous prie de bien vouloir trouver ci-joint une note des autorités françaises concernant la proposition relative à l'essai en condition réelle de conduite (RDE) présentée au comité des véhicules à moteurs le 6 octobre 2015.

Je vous prie d'agréer, Madame la Directrice générale, l'expression de ma très haute considération.

Aude CHARRIER



COMMISSION EUROPEENNE

Madame Lowri EVANS
Directrice générale Marché intérieur, industrie, entrepreneuriat et PME

Madame Joanna SZYCHOWSKA
DG GROW Unité C4 « Industries automobile et de mobilité »



PREMIER MINISTRE

NOTE DES AUTORITES FRANÇAISES

Paris, le 16 octobre 2015

OBJET : Observations des autorités françaises sur la proposition relative à l'essai en condition réelle de conduite (RDE) présentée au comité des véhicules à moteurs le 6 octobre 2015.

Les autorités françaises tiennent à remercier la Commission d'avoir proposé, comme elle s'y était engagée, un texte complet mettant en œuvre l'essai en condition réelle de conduite RDE pour les NOx dans un premier temps.

Compte tenu des contraintes de mise en œuvre industrielle, les autorités françaises renouvellent leur souhait que cette proposition soit adoptée en comité avant la fin de l'année. L'objectif est d'offrir très rapidement un cadre juridique adapté permettant l'identification de véhicules plus vertueux et facilitant leur valorisation et leur vente.

I. Nouvelles homologations

Pour la première étape, les autorités françaises sont favorables à la mise en œuvre du test RDE pour les nouvelles homologations de véhicules **pour le 1er septembre 2017**, date d'entrée en vigueur de la dernière phase « dite C » de la norme Euro 6. Elles souhaitent que la cible retenue pour le coefficient de conformité (CF) soit ambitieuse, tout en restant réaliste et incitative. A ce titre, **elles sont prêtes à discuter de la valeur appropriée pour ce coefficient de conformité, tout en souhaitant qu'elle ne soit pas supérieure à 2 en conditions modérées.**

Pour la seconde étape, les autorités françaises sont favorables à sa mise en œuvre pour les nouvelles homologations de véhicules **au plus tard le 1er septembre 2019**. Elles considèrent à ce stade qu'un **facteur de conformité ne devrait pas être inférieur à 1.4**. Elles souhaitent par ailleurs que la Commission transmette aux Etats membres au plus tard le 31 décembre 2019 une analyse relative au traitement des NOx accompagnée, le cas échéant, d'un facteur de conformité plus ambitieux.

Les autorités françaises accueillent favorablement le relèvement de 60% du CF pour les conditions étendues en température et en altitude.

II. Nouveaux véhicules

Pour ce qui concerne la date d'application à tous les véhicules neufs, les autorités françaises considèrent que **pour la première étape, les contraintes techniques liées à la modification rendue nécessaire des modèles en circulation justifient un délai de 2 ans (soit septembre 2019).**

Pour la seconde étape, les autorités françaises peuvent soutenir la proposition de la Commission pour une application à tous les véhicules neufs à partir de septembre 2020.

Concernant les véhicules N1 classe 2 et 3, les autorités françaises considèrent que ces derniers doivent avoir une gestion de calendrier sur le même principe qu'actuellement, soit des dates d'application décalées de 1 an, par rapport aux dates d'application des M1.

III. Fonction de transfert

Concernant la fonction de transfert, les autorités françaises estiment qu'il est préférable de **supprimer toute mention à cette fonction** afin de ne pas alourdir inutilement le projet, tout en gardant à l'esprit que cette proposition d'amélioration de l'essai RDE (si elle se confirme) pourra être introduite dans une phase ultérieure.

Enfin, les autorités françaises demandent à la Commission de faire rapidement un retour d'expérience de la fraude dénoncée par US EPA afin de faire une proposition visant à renforcer notablement la surveillance du marché en Europe. En effet, il est primordial que la Commission soit en capacité de garantir le respect des seuils réglementaires. Il en va de la crédibilité de la réglementation des émissions de polluants et des émissions de CO₂.

15th October 2015

Hungarian position on

COMMISSION REGULATION amending Regulation (EC) No 692/2008 as regards emissions from light passenger and commercial vehicles (Euro 6)

Hungary thanks the Commission for elaborating and introducing the 2nd package of Real Driving Emissions (RDE) regulation in a timely manner which allows and facilitates the open discussion of this very important topic.

Reasonable timing is also a key element for the automotive industry in order to be able to manage the increasing developing tasks due to the new test requirements. The introduction of a significantly new requirement requires at least three years of preparation time. This means that the second more stringent phase will be introduced only in 2019; three years after the RDE regulation enter into force, foreseen in 2016. An excessive timeframe can overstress the capabilities of the automotive industry and could result a negative effect on the economy. Hungary is interested to avoid such effect.

Some measurements show that an ambitious 1.6 conformity factor (CF) can be achievable; however this statement is not being proven for all type and category of vehicles. A more realistic CF for the 1st phase can also ensure vehicle compliance with the current requirements (off-cycle emission purpose).

According the aforementioned principles Hungarian comments in relation to the package of measures on RDE, was introduced at the past TCMV meeting, are as below.

1.) Hungary prefers a more realistic, feasible conformity factor, which is based on technical research and experiments. According to our current estimations this factor could be for example around 2.5 for the first phase and to not reject the application of transfer functions (TF) in the second phase. Albeit TF seems to make more complicated the RDE legislation, currently there is no sufficient information on their application. Hungary suggests the Commission to consider the possible application of the TFs prior to the entry into force of mandatory application dates of the 2nd RDE step, in case of the industry provides adequate and sufficient information about it in a due time.

2.) Concerning introduction dates for the 1st step, Hungary prefers 09/2017 for new types and 09/2019 for all types only for M, N1 class I vehicles equipped with compression ignition (CI) engines. For N1 class II, class III and N2 CI vehicles Hungary favors 09/2019 and 09/2020 for new types and for all types respectively.

3) Concerning vehicles with positive ignition (PI) engines, Hungary suggests applying only the 2nd step of RDE requirements. Measurements are shown that those kinds of vehicles do not exceed the limit values of Regulation 715/2007/EC during a PEMS test.

4) The 2nd step of RDE must be met by CI and PI vehicles from 09/2021 for new types and from 09/2022 for all types of N1 class II, class III and N2 vehicles. As regards the conformity factor in the 2nd step the definition of the exact value should be based the experience of the first phase.

The additional 1 year for certain category of vehicles and the exclusion of PI vehicles from the 1st step seem to be necessary for the industry to manage the huge amount of developing work on existing models, as well as the additional testing.

Appendix to the

Hungarian position on COMMISSION REGULATION amending Regulation (EC) No 692/2008 as regards emissions from light passenger and commercial vehicles (Euro 6)

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ZI	Euro 6c	Euro 6-2	N1 class III, N2	PI, CI	1.9.2020 1.9.2021	1.9.2021 1.9.2022	

From: John Kilroy [<mailto:jkilroy@rsa.ie>]
Sent: Thursday, October 22, 2015 5:21 PM
To: SZYCHOWSKA Joanna (GROW)
Cc: GROW C4; MATTHEWS Catherine (GROW); Caroline Greene
Subject: RE: TCMV 6 October

Dear Ms. Szychowska,

Ireland is supportive of the Commission's proposals regarding NTE emission limits and application dates (including the proposed conformity factors, boundary conditions and transfer functions) for RDE legislation put forward in your email to TCMV members on the 2nd of October. As a number of studies have now shown that light duty vehicles continue to release harmful emissions into the atmosphere which greatly exceed those stated on their certification, we feel that legislation in this regard is well overdue. We welcome the initiative taken by the Commission in this regard and call for the swiftest possible introduction of the measures proposed.

Best Regards,

John Kilroy

John Kilroy | Vehicle Standards Engineer | Road Safety Authority | Moy Valley Business Park, Ballina, Co. Mayo | Tel: 096 25038 | Fax: 096 78297 | www.rsa.ie

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Best Regards,

John Kilroy

John Kilroy | Vehicle Standards Engineer | Road Safety Authority | Moy Valley Business Park, Ballina,
Co. Mayo | Tel: 096 25038 | Fax: 096 78297 | www.rsa.ie

Italian comments to the Commission proposal to amend EU Regulation 692/2008 to introduce Real Driving Emission requirements

At the last Technical Committee Motor Vehicles the Commission proposal to complete the 1st RDE package (adopted by the TCMV in May 2015) was presented. This proposal mainly addresses the timetable, the scope, the adoption of conformity factors and the possible introduction of a “transfer function”.

The Italian position -already stated during TCMV - is summarised as follows:

Timetable and scope

We support a two-step approach.

However, with regard to the 1st step, we agree to start on 1st September 2017 for new approvals while we suggest the 1st September 2019 for all new registrations.

The first step should apply to M1 and N1, class I vehicles.

The second step should therefore apply as from 2020 (New types) and 2021 (new registrations) to M1 and N1, class I vehicles and one year later to N1, class II and III and N2 vehicles.

Conformity Factors

While we understand the reasons for fixing a 2nd step CF= 1 plus a tolerance, we are not convinced that adopting a CF= 1,6 during the 1st step would imply “significant improvements of the calibration via software modifications, but no major hardware changes”. In this respect a CF not below 3.0 would be justified.

Transfer function

The possible introduction of T.F. should be technically assessed without slowing down the adoption process of this package.

Justification

Please refer to the attached paper

Justifications

The legal framework

In 2007 the EU adopted Regulation 715/2007 setting the EURO 5/6 emission limits; such limits were "cycle-related". Euro5 vehicles and afterward Euro6 vehicles developed by manufacturers are compliant with the "cycle-related" limit values.

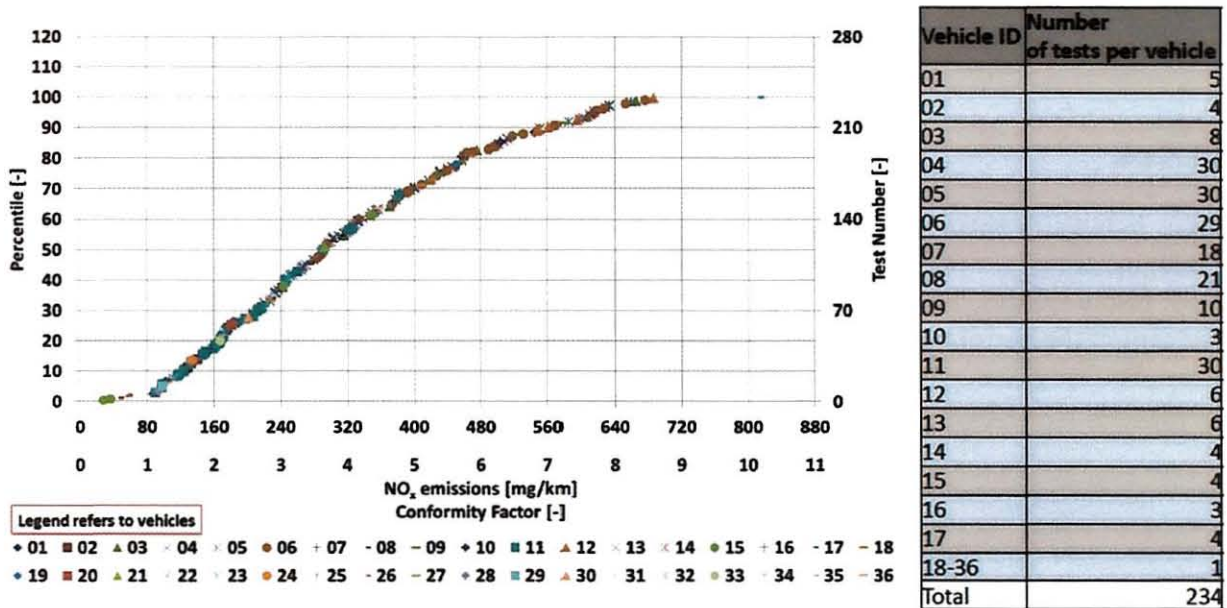
After the adoption of EU Regulations 443/2009 and 510/2011 setting CO2 emission targets for M1 and N1 vehicles respectively, the manufacturers were pushed to focus their efforts in reducing CO2 emissions. One solution to meet CO2 targets - and in order not to incur in penalties since those Regulations are effective - has been to downsize diesel engines especially for manufacturers of small cars; those engines are offered on cars that need to stay affordable for the final customer.

The proposal on Real Driving Emissions (RDE) - New requirements to achieve NOx emission limits

The European Commission wants M1 and N1 vehicles to respect limit values in "Real Driving Emissions" (RDE).

There is an agreement that RDE requirements should be introduced in two steps: the first one should imply "significant improvements of the calibration via software modifications, but no major hardware changes", the second one will require the redesign of the system which implies very relevant investments.

Some preliminary data which were presented by JRC, concerning 234 tests carried out on 36 current Euro 6 diesel cars, equipped with SCR, SCR+DeNOx and DeNOx only, underline that there is a high range of Conformity Factors.



Source: JRC

Although the number of checked vehicles is limited, it is quite clear that the definition of a low CF, as for in the Commission proposal (1.6 1st step and 1,1875 in the 2nd step for moderate conditions), would require major changes and investments for the manufacturers, since already during the 1st step, more than 90 per cent of performed tests on those 36 vehicles should meet the proposed limit.

The Commission only refers to SCR & DeNOx or SCR technology (which is the most complex and costly) while several Euro 6 vehicles, in particular those belonging to segments A and B, are equipped with DeNOx technology. On these "low cost" vehicles the installation of SCR (which includes an additional urea solution tank of 10-15 litres) would imply a significant extra cost compared to the current EURO 6 version. This would make those vehicles less affordable and would "de-facto" exclude diesel as the technical solution to meet CO2 targets affecting the ability of the manufacturers to meet those targets as well.

The vehicle affordability is also a key element for the LCVs in categories N1 cl. II/III and N2 where the purchasing criteria are driven by vehicle cost and there is a very limited offer in alternative to the Diesel solution. A relevant cost increase of those vehicles, used mainly for professional purposes, would slow down the fleet renewal rate with a risk of perverse negative externalities in terms of air quality.

The lack of test on LCVs in categories N1 cl. II&III and N2 together with the huge variety of vehicle configurations and missions make very risky the introduction of a binding CF in the first step. It is therefore reasonable for these LCVs to be part of the monitoring phase and to be included directly in the second more stringent step. A longer monitoring phase would allow collecting more elements so to properly set and fine tune the RDE requirements.

It should also be considered that the market share of these categories of vehicle is relatively small around 9% of the total market of M1 and N1 vehicles.

Conclusions

In order to follow a balanced approach which takes into account the environmental and health needs and safeguards the just made EURO 6 investments by requiring interventions on software calibration a CF not below 3.0 should be adopted for the 1° step. Referring to the JRC study, this would mean that 60 per cent of the performed tests currently exceeding NOx emissions would respect the new limits.

Position of the Netherlands

concerning the Commission proposal of

amending Regulation (EC) No 692/2008 as regards emissions from light passenger and commercial vehicles (Euro 6);

TCMV 6 October 2015

Introduction

The Netherlands welcomes the proposal from the European commission concerning the second package of the real driving emissions (RDE) test procedures. In the TCMV meeting on the 10 September 2015, the Netherlands has indicated that we need as soon as possible the completion of the second package with adequate conformity factors for the first and second mandatory phase which should deliver us real Euro 6 vehicles as required by the Regulation No. 715/2007. The disclosure of the Volkswagen scandal put the RDE in a higher priority level, for the legislators to speed up the RDE regulation with robust requirements and for the vehicle manufactures to recover trust again on their diesel engines.

1) Introduction date of the mandatory phase and CF

Because of the urgency which is caused by this diesel scandal the introduction of the mandatory date should be set on the 1 January 2017 for type approvals and for new vehicles (all types) on the 1 January 2018 with a conformity factor for the NOx emission level of 1,5 for the moderate condition and a conformity factor of 2 for extended conditions.

Two years later the conformity factor should be set to 1 with the margins as proposed in the Commissions proposal. This means with the earlier introduction dates; 1 January 2019 for new type approval and 1 January 2020 for new vehicles (all types). From these dates the Netherlands do not see the need to delay the RDE for N1 vehicles of category II and III and N2 vehicles with 1 year so we propose the same date as for the M1 vehicle category.

2) Investigation for the Commission to align emission levels of N1 with M1 and a set of fuel neutral emission levels and a specific conformity level for urban driving.

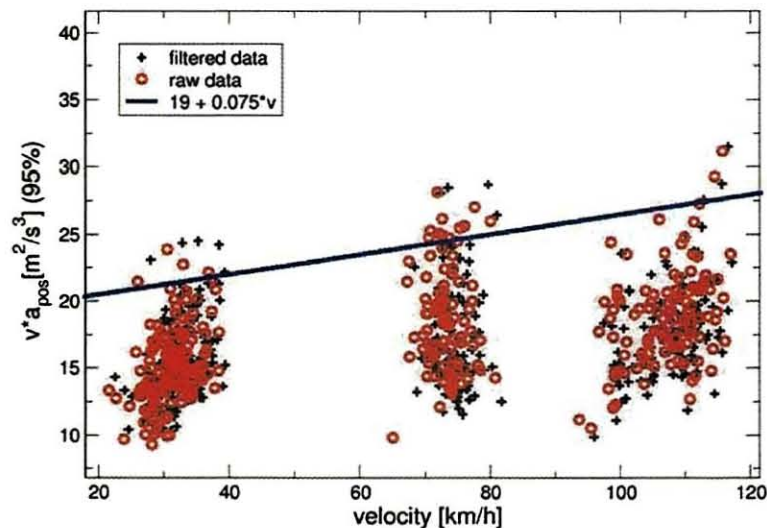
The Netherlands ask the Commission to investigate the possibility to align the Euro 6 emission levels of N1 vehicles class II and III and the classes N2 with the M1 vehicle category. In addition to this a investigation is also required for a fuel neutral emission levels. From air quality perspective it is illogic to have different levels of stringency between petrol and diesel.

Furthermore in the light of our last measurement results measured by TNO, we see that from current Euro 6 vehicles the NOx emissions in urban areas are extremely higher than on the rural or highway roads (at moderated speeds), therefore we ask the Commission to investigate the possibility for a separate NTE limit for city driving (0-60 km/h). Since urban emissions have the highest impact on the European air quality problems, despite the limited urban mileage, it would warrant a separate requirement.

3) Complementary boundary conditions

In the RDE-LDV group and in the RDE-LDV data evaluation group the Netherlands has proposed to improve the quality of the speed signal with a simple method of wheel rotation in addition to the GPS signal. We thought it was accepted in the group but we do not see this in the Commission proposal. In the annex you see our proposal with this new text.

Concerning the dynamic boundary of $v \cdot a_{\text{pos}}$ we have presented in the RDE-LDV group the recent findings of driving behavior in the Netherlands. More than 120 different trips and 68 hours of data are analyzed by TNO on urban-rural-highway trips of around 50 km randomly throughout the Netherlands by randomly following vehicles on the road. We have discovered that the acceleration of $v \cdot a_{\text{pos}}$ in the Commission proposal is not reflecting the today's driving styles. In this case more than half of our city trips will be invalid which is unacceptable. In the picture below you see the result of our exercise. We need to have more city trips valid in the trip verification and proposed that only if the $v \cdot a_{\text{pos}}(95\%) > 19 + 0.075 \cdot v$ [m²/s³] the trip is invalid.



4) Transfer functions

Our position is clear on this topic as already indicated in the TCMV from the 10 September. The Netherlands support option a) to introduce the RDE requirements without transfer functions, according to the principles agreed at the TCMV of 1 July and 10 September. If the industry will develop this TF themselves then they can do that of course. The Commission should not take any commitment to introduce the TF now.

Proposal:

Mean text RDE 2nd package

10) In order to allow manufacturers to gradually adapt to the RDE rules, the final quantitative RDE requirements should be introduced in two subsequent steps. In the first step, which should apply from 24 months after the mandatory Euro 6 dates, a Conformity Factor of 1,5 should apply. The second step should follow 2 years after that and 1 year in the case of category N 1 class II and III and category N 2 and should require full compliance with the emission limit value for NOx [of 80 mg/km] set out in Regulation (EC) No 715/2007 plus a margin taking into account the additional measurement uncertainties of the PEMS test procedure. For extended conditions as defined in point 5.2 of Annex IIIA to Regulation (EC) 692/2008, NTE emission limits should be increased by 33% as compared to moderate conditions.

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Article 1

Regulation (EC) No 692/2008 is amended as follows:

Annex I is amended as follows:

In Appendix 6, table 1 is amended as follows:

(i) Rows ZD, ZE, ZF shall be replaced by the following:

"

ZD	Euro 6c-TEMP	Euro 6-2	M, N1 class I	PI, CI	<u>1.1.2017</u>	<u>1.1.2018</u>	<u>31.12.2018</u>
ZE	Euro 6c-TEMP	Euro 6-2	N1 class II	PI, CI	<u>1.1.2018</u>	<u>1.1.2019</u>	<u>31.12.2019</u>
ZF	Euro 6c-TEMP	Euro 6-2	N1 class III, N2	PI, CI	<u>1.1.2018</u>	<u>1.1.2019</u>	<u>31.12.2019</u>

"

(ii) The following rows are inserted after row ZF:

"

ZG	Euro 6c	Euro 6-2	M, N1 class I	PI, CI	<u>1.1.2019</u>	<u>1.1.2020</u>	
ZH	Euro 6c	Euro 6-2	N1 class II	PI, CI	<u>1.1.2019</u>	<u>1.9.2020</u>	
ZI	Euro 6c	Euro 6-2	N1 class III, N2	PI, CI	<u>1.1.2019</u>	<u>1.1.2020</u>	

"

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Annex IIIa is amended as follows:

(a) The following points 1.2.40 and 1.2.41 are inserted:

"1.2.40 "Severity parameter" is a measurable parameter of a PEMS trip, which is correlated with the severity of the emission control for objective scientific reasons and not due to the specific calibration of the pollution control system or the engine.

(a) Point 2.1 is replaced by the following:

"2.1 Not-to-exceed emission limits

Throughout its normal life, the emissions of a vehicle type approved according to Regulation (EC) No 715/2007 as determined in accordance to the requirements of this Annex and emitted at any possible RDE test performed in accordance to the requirements of this Annex, shall not be higher than the following not-to-exceed (NTE) values:

$$NTE_{pollutant} = CF_{pollutant} \times \text{EURO-6},$$

where EURO-6 is the applicable Euro 6 emission limit in Table 2 of Annex I to Regulation (EC) No 715/2007.

2.1.2 Temporary Conformity Factors

By way of exception to the provisions of point 2.1.1, until 27 months after the dates given in Article 10 (4) and (5) of Regulation (EC) 715/2007 and upon request of the manufacturer, the following temporary conformity factors may apply:

Pollutant	Mass of oxides of nitrogen (NOx)	Number of particles (PN)	Mass of carbon monoxide (CO) ⁽¹⁾	Mass of total hydrocarbons (THC)	Combined mass of total hydrocarbons and oxides of nitrogen (THC + NOx)
$CF_{pollutant}$	1.5	tbd	-	-	-

The application of temporary conformity factors shall be recorded in the certificate of conformity of the vehicle.

(a) Point 5.3 is deleted

(b) Point 5.4 is replaced by the following:

Article 2

This Regulation shall enter into force on the twentieth day following that of its publication in the *Official Journal of the European Union*.

It shall apply, for new type approvals of vehicles, from 1 January 2017 and from 1 January 2018 in the case of category N 1 class II and III and category N 2 vehicles, and for the registration, sale or entry into service of new vehicles, from 1 January 2018 and from 1 January 2019 in the case of category N 1 class II and III and category N 2 vehicles.

Deleted: 1.2.41 Transfer functions $TF(p_1, \dots, p_n)$ are real-valued functions depending on some measurable dynamical or ambient severity parameters p_i ($i = 1, \dots, n$) of the PEMS trip, such as transient driving or ambient temperature."¶

Deleted: $\times TF(p_1, \dots, p_n)$

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Deleted: 2.1.3 Transfer functions¶
The transfer function $TF(p_1, \dots, p_n)$ referred to in point 2.1 of this Annex is set to 1 for the entire range of parameters p_i ($i = 1, \dots, n$).¶
If the transfer function $TF(p_1, \dots, p_n)$ is amended, this shall be done in a manner which is not detrimental to the environmental impact. In particular the following condition shall hold:¶
 $\int TF(p_1, \dots, p_n) \cdot Q(p_1, \dots, p_n) dp = \int Q(p_1, \dots, p_n) dp$ ¶
Where:¶
- dp represents the integral over the entire space of the parameters p_i ($i = 1, \dots, n$) ¶
- $Q(p_1, \dots, p_n)$, is the probability density of an event corresponding to the parameters p_i ($i = 1, \dots, n$) in real driving."¶

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ANNEX I

3. TRIP INDICATORS

3.1. Calculations

3.1.1. Data pre-processing

Before dynamic parameters like acceleration $v \cdot a_{pos}$ or RPA can be calculated, the vehicle speed signals needs to have an accuracy of 0.1% above 3 km/h and a sampling frequency of 1 Hz. In general this quality can be obtained by using the wheel (rotational) speed signal.

Deleted: trace needs to be checked for faulty or implausible sections. The vehicle speed trace of such sections is characterised by steps, jumps, terraced speed traces or missing values.

4. VERIFICATION OF TRIP VALIDITY

4.1.1. Verification of $v \cdot a_{pos, [95]}$ per speed bin (with v in [km/h])

If $v \cdot a_{pos(95\%)} > 19 + 0.075 \cdot v$ [m2/s3], the trip is invalid.

Deleted: $\bar{v}_k \leq 74.6 \text{ km/h}$ and $(v \cdot a_{pos})_{k-[95]} > (0.1961 \cdot \bar{v}_k + 9.8725)$ is fulfilled for the urban or the rural speed bin, the trip is invalid.¶
If $\bar{v}_k > 74.6 \text{ km/h}$ and $(v \cdot a_{pos})_{k-[95]} > (0.0742 \cdot \bar{v}_k + 18.966)$ is fulfilled for the rural or motorway speed bin, the trip is invalid.

POLISH TYPE – APPROVAL’S COMMENT ON THE COMMISSION’S PROPOSAL OF THE RDE.

The current proposal of amendments in regulation (UE) 692/2008 have to regulate emissions test in vehicles, during the type-approval tests. The disclosure of the Volkswagen case put the Real Driving Emissions in a higher level of priority.

Transportowy Dozór Techniczny – type approval authority in Poland appreciates assumptions prescribed in Commission’s proposal, which should aim to accelerate work on RDE. Rapid standardisation of the emission test procedures is a key priority for TDT. However, Transportowy Dozór Techniczny, and Poland should have the certainty, that the European Commission did whatever is within its powers, to help motor industry implement new technologies to adapting new requirements concerning emission test procedure for vehicles.

Polish type – approval authority is concerned, that the value of Conformity Factor (equal to 1,6) in the 1st step of RDE (from September 2017 for new type-approval vehicles) was effectively consulted with motor industry. On the basis information available to the polish type-approval authority, that the Conformity Factor equal to 1,6 it could be impossible to fulfill for some vehicles being produced and equipped with diesel engine (with smaller capacity). From a industry point of view, the consequences of the Commission’s proposal for RDE 1st step will be the elimination of all diesel models except those are equipped with SCR system and improved SCR by 2017.

The costs of complying for diesel models that could be ready in time may make them unaffordable. The RDE regulation would force manufacturers to stop selling diesel cars and LCVs. This could have serious repercussions for consumer choice and will affect not only passenger cars but also lighter commercial vehicles, where diesel is usually used.

It is therefore recommended to introduce more flexible value of Conformity Factor, to give manufacturers an opportunity to adapt their vehicles to the new standards without the increase of production costs. In a results of such developments, it appears, there is a need for more flexible value of Conformity Factor, and consideration of possibility to introduce 2nd step of RDE later than 2019.

Poland appreciates Commission’s proposal of RDE, however PL support a more balanced solution to the RDE, and also would like to discuss among others value of Conformity Factor and transitional period for existing vehicle types. In the case of voting, at the TCMV meeting on 28 October 2015, the position to be taken by the Poland will be compromise in the light of other countries position. It is a result of economic factors regarding to polish motor industry.

Romanian proposals to the
COMMISSION REGULATION (EU) .../... of XXX amending Regulation (EC) No
692/2008 as regards emissions from light passenger and commercial vehicles (Euro 6)
(as presented in the TCMV of 06.10.2015)

1. Timetable and conformity factors in moderate conditions (M and N1 I)

Stage	Type-approval (new types)	First registration	CF moderate conditions
1	1.9.2017	1.9.2019	2,8
2	1.9.2020	1.9.2022	1,8

2. Timetable and conformity factors in moderate conditions (N1 II and III, and N2)

Stage	Type-approval (new types)	First registration	CF moderate conditions
1	NA	NA	NA
2	1.9.2021	1.9.2023	1,8

3. The coefficient for extended conditions: 1,6 as proposed by the Commission (point 9.5)

4. Dynamic conditions - to add the following sentence in point 5.4.1:

“In this regard, average V^*A_{pos} should be limited to less than or equal to 12 in the case of moderate conditions and should be limited to less than or equal to 17 in the case of extended conditions.”

5. The proportional cumulative positive altitude gain (point 6.11)

"In addition, the proportional cumulative positive altitude gain shall be less than **650 m/100 km for moderate conditions and 1200 m/100 km for extended conditions** and be determined according to Appendix 7b."

6. Transfer function: as proposed by the Commission.

Evaluation of the effect of different RDE's levels

RO did not identify any assessment regarding the effect of the RDE Regulation on the pollution mitigation (preferably for different options).

It is difficult in this context to appreciate what is the appropriate NOx emissions in real traffic conditions to achieve compliance with the existing air quality requirements (is the Commission's proposal adequate, too strict or too weak ?)

For this reason, we tried to make a simple assessment of the effect that we can obtain with the RDE Regulation on the existing NOx emissions (using data on cars, as they are predominant).

We appreciated that NOx reduction can be achieved by replacing the existing cars with Euro 6 RDE cars (based on the average age of the cars, we considered as representative existing cars the Euro 3 and Euro 4 cars).

We evaluated 2 RDE versions: one more strict named "Euro 6 RDE+" (the Commission proposal) and one less strict named "Euro 6 RDE-" (stricter than the RO proposal, but satisfying several MS proposals).

The conclusions of that analysis (see the table) are perhaps surprising: concerning the NOx real emissions reduction, the differences between the 2 options are extremely low (on the order of 3% for the final stage), given that the absolute reduction is remarkable even for the less strict option (ab. 87% compared to Euro 4 and ab. 95% compared to Euro 3).

Data for the evaluation:

- Euro 3 NOx – 500 mg/km (Directive 98/69/EC)
- Euro 4 NOx – 250 mg/km (Directive 98/69/EC)
- Euro 6 NOx – 80 mg/km (Regulation (EC) 715/2007)
- average age of the passenger car – ab. 8.5 years (ACEA and EEA statistics)
- representative EU passenger car level – Euro 4 (Euro 3 for eastern MS)
- estimated CF –
- CF Euro 3 = 5;
- CF Euro 4 = 4;
- Euro 6 RDE+ stage 1: 1,6;
- Euro 6 RDE- stage 1: 2,5;
- Euro 6 RDE+ stage 2: 1,2;
- Euro 6 RDE- stage 2: 1,6

Given the above conclusions, the next question is crucial:

It is reasonable for the Commission and for the MS to assume the risk to significantly affect the EU automotive industry (especially for the diesel LDV, which would affect the EU targets on CO2) for so little gains in term of NOx reduction ?

Stage 1	Euro 3	Euro 4	Euro 6 RDE+	Euro 6 RDE-	Euro 6 RDE+ related to Euro 6 RDE-
NOx	500	250	80	80	
CF	5	4	1,6	2,5	
Real emissions	2500	1000	128	200	
Euro 6 RDE effect related to Euro 3			- 94,9%	- 92%	+ 2,9%
Euro 6 RDE effect related to Euro 4			- 87,2 %	- 80 %	+ 7,2 %

Stage 2	Euro 3	Euro 4	Euro 6 RDE+	Euro 6 RDE-	Euro 6 RDE+ related to Euro 6 RDE-
NOx	500	250	80	80	
CF	5	4	1,2	1,6	
Real emissions	2500	1000	96	128	
Euro 6 RDE effect related to Euro 3			- 96,2%	- 94,9	+ 1,3 %
Euro 6 RDE effect related to Euro 4			- 90,4 %	- 87,2 %	+ 3,2 %

GROW C4 MEETINGS

From: Hudec, Marek <Marek.Hudec@mindop.sk>
Sent: 16 October 2015 14:13
To: GROW C4 MEETINGS
Cc: Halabica, Michal; Moravčík, Lubomír; jan.krak@mzv.sk
Subject: RE: 51st Meeting of TCMV 28/10/15 - opinion RDE

Follow Up Flag: Follow up
Flag Status: Completed

Dear Madam Szychowska, dear Mr. Steininger,
 as was agreed at Technical Committee meeting for motor vehicles on 6 October 2015, Member States should send some preliminary view to the RDE package which is being prepared for examination and final approval. In general we support the proposal which was discussed on previous meeting on TCMV. The Slovak Republic has not any technical service for emissions testing. Therefore we do not have some data, research and technical background in this area, so we cannot credible predict some technical values as conformity factor, boundary condition etc.

We prefer RDE step 1 which would commence since September 2017 for new type of vehicles - as was proposed.

Apparently, the type of vehicles which have been approved earlier could have significant problems, since by September 2018 they must fulfil requirements for RDE step 1. It is clear, that some vehicle types will not fulfil the new requirements and the production of these vehicles would stop.

In the Slovak Republic in 2014 more then 280 000 vehicles with diesel engine were produced, from this reason we have some concerns. Now we do not know yet what is the best solution for mandatory date or conformity factor for all type vehicles for RDE step 1, but we would like to seek during the TCMV meeting a solution for the vehicles that have already been approved.

We hope that in this regard we would be able to find a consensus that would be acceptable also for the automotive industry.

If you have any question do not hesitate to contact me.
 Best regards

Hudec

Marek Hudec
 Senior adviser
 Section of Road Transport
 Ministry of Transport of the Slovak Republic
 Tel: +421 2 59494 343
 Fax: +421 2 5244 2202
 e-mail: marek.hudec@mindop.sk

From: GROW-C4-MEETINGS@ec.europa.eu [mailto:GROW-C4-MEETINGS@ec.europa.eu]
Sent: Thursday, October 15, 2015 5:28 PM
To: dieter.karl@bmvit.gv.at; wilhelm.kast@bmvit.gv.at; bruessel-ov@bmeia.gv.at;
 Olivier.brahy@environnement.belgique.be; Aurelie.wayenbergh@mobilite.fgov.be; michel.locufier@mobilite.fgov.be;
 johan.staes@mobilite.fgov.be; ann.vereecken@mow.vlaanderen.be; dispatch.belgoeurop@diplobel.fed.be;
 Barbara.BONVISSUTO@ec.europa.eu; Peter.BROERTJES@ec.europa.eu; i.atanasova@mee.government.bg; info@bg-permrep.eu; info@missionbg.be; islaveikov@rta.government.bg; borna.domitrovic@mvep.hr; tonko.zupanic@dzm.hr;

Boris.Gorup@dzm.hr; skolettas@rtd.mcw.gov.cy; imiliadou@rtd.mcw.gov.cy; mtsingou@rtd.mcw.gov.cy; ynicolaides@rtd.mcw.gov.cy; cy.perm.rep@mfa.gov.cy; roman_diatka@mzv.cz; lubomir.kincl@mocr.cz; Ref-LA27@bmvi.bund.de; Ref-LA20@bmvi.bund.de; bernd.schuettler@bmvi.bund.de; christoph.albus@bmvi.bund.de; christian.theis@bmvi.bund.de; oliver.kloeckner@bmvi.bund.de; richard.damm@bmvi.bund.de; stephan.redmann@bmvi.bund.de; sven.paeslack@kba.de; info@eu-vertretung.de; brurep@um.dk; kaasm@mst.dk; dokub@mst.dk; info@trafikstyrelsen.dk; sjo@trafikstyrelsen.dk; msh@trafikstyrelsen.dk; um@um.dk; Panagiota.DILARA@ec.europa.eu; jplaguna@minetur.es; jlgarcia@minetur.es; sgcalidadseguridad@minetur.es; jmprietob@minetur.es; Luis.ESCOBAR-GUERRERO@ec.europa.eu; sander.salmu@mkk.ee; permrep.eu@mfa.ee; timo.karkkainen@trafi.fi; kari.saari@mintc.fi; sanomat.eue@formin.fi; daniel.kopaczewski@developpement-durable.gouv.fr; pierre.bazucchi@developpement-durable.gouv.fr; aude.charrier@diplomatie.gouv.fr; emmanuel.mounier@diplomatie.gouv.fr; serge.ficheux@utaceram.com; Guido.GIELEN@ec.europa.eu; dto@yme.gov.gr; c.dionelis@rp-grece.be; pollak.ivan@kti.hu; uhlik.krisztian@kti.hu; sec.beu@mfa.gov.hu; zsolt.gyurkovics@nfm.gov.hu; laszlo.bady@hu.tuv.com; marie.osullivan@dfa.ie; PermanentRepresentativesOffice@dfa.ie; johnkilroy@rsa.ie; denisebarry@rsa.ie; antonio.erario@mit.gov.it; tommaso.salerno@mit.gov.it; normtec@rpue.esteri.it; Alexandra.KUXOVA@ec.europa.eu; Antony.LAGRANGE@ec.europa.eu; janis.liepins@csdd.gov.lv; Aleksander.LAZAREVIC@ec.europa.eu; Emilio.LEON@ec.europa.eu; Susanna.Lindvall@ec.europa.eu; justas.petrauskas@vkti.gov.lt; vkti@vkti.gov.lt; justas.rasomavicius@vkti.gov.lt; Virginijus.ciskauskas@vkti.gov.lt; office@eurep.mfa.lt; gytis.mazeika@eu.mfa.lt; communications.centre@mae.etat.lu; claude.liesch@snch.lu; bruxelles.rpue@mae.etat.lu; permrep.eu@mfa.gov.lv; tristan-charles.camilleri@mccaa.org.mt; eusec@gov.mt; cathryn.camilleri@mccaa.org.mt; maltarep@gov.mt; priscilla-ann.agius@mccaa.org.mt; Sophie.MUELLER@ec.europa.eu; pstriekwold@rdw.nl; BRE@minbuza.nl; ARijnders@rdw.nl; DRovers@rdw.nl; mbargerbos@rdw.nl; Tstoffels@rdw.nl; Tguiting@rdw.nl; lukasz.mieszkowski@msz.gov.pl; k.mizgajska@tdt.pl; k.witkowska@tdt.pl; a.marciniszyn@tdt.pl; r.jarosz@tdt.pl; Satu.Porsti@ec.europa.eu; lpaulo@imtt.pt; cla@reper-portugal.be; pev@reper-portugal.be; Johan.Renders@ec.europa.eu; Renate.Repplinger-Hach@ec.europa.eu; cristian.uta@rarom.ro; cosmina.miu@rpro.eu; Alexandra.Sa-Carvalho@ec.europa.eu; Efren.SANCHEZ-GALINDO@ec.europa.eu; representationen.bryssel@gov.se; per.ohlund@transportstyrelsen.se; anders.gunneriusson@transportstyrelsen.se; Jan.Krak@mzv.sk; Hudec, Marek; robert.jeronic@gov.si; Andrej.Cvenk@gov.si; Mateja.Mlakar@gov.si; kodbori.spbr@gov.si; darko.trajanov@gov.si; Nikolaus.Steiningergov.si; Elitza.STOYANOVA-PODVARZACHOVA@ec.europa.eu; Joanna.SZYCHOWSKA@ec.europa.eu; Maciej.SZYMANSKI@ec.europa.eu; Margarida.TELES-ROMAO@ec.europa.eu; Philipp.TROPPMANN@ec.europa.eu; ian.yarnold@dft.gsi.gov.uk; adrian.burrows@dft.gsi.gov.uk; Donald.Macdonald@dft.gsi.gov.uk; jim.hand@dft.gsi.gov.uk; Robert.Lloyd-smith@dft.gsi.gov.uk; ukrep@fco.gov.uk; Andreas.UNTERSTALLER@ec.europa.eu; Andreas.VOSINIS@ec.europa.eu; duncan.kay@dft.gsi.gov.uk

Subject: 51st Meeting of TCMV 28/10/15

Dear Sir/Madam,

Please find attached your invitation to the next TCMV meeting that is taking place on the 28th October 2015 in the Borschette Building, room ABOA from 10h00-13h00.

If you plan to attend, please send us the information requested in the letter. **Please note that due to changes in the Commission security procedure, unless you are registered for the meeting you will not be granted access to the building.**

Important information concerning the reimbursement of your travel expenses:

Could you please fill in the attached forms : application for reimbursement and, if you have no label, the expert financial identification sheet.

Please prepare these documents before the meeting starts :

- **tickets and invoices; the original tickets need to be handed in, if you need a copy for your own files please bring it with you.**

- **in the case of online bookings, the printout of the electronic reservation.**

Regards

Catherine Matthews

Assistant



European Commission

DG Internal Market, Industry, Entrepreneurship and SMEs

Unit C4

BREY 10/06

B-1049 Brussels/Belgium

+32 2 2963161

Catherine.matthews@ec.europa.eu

Swedish position regarding the second package of the RDE test procedure

amending Regulation (EC) No 692/2008 as regards emissions from light passenger and commercial vehicles (Euro 6)

Introduction

Sweden welcomes the commission proposal for the second package of the Real Driving Emissions (RDE) test procedure, and encourage the introduction of a test procedure more representative for vehicle emissions in real traffic. It is important that this second package is adopted as soon as possible to enable the introduction of quantitative RDE provisions for new types from 1 of September 2017.

Sweden had wished for a more rapid implementation but in order to reach an agreement on the second package as soon as possible the implementation plan proposed below for the RDE test procedure seems most appropriate.

Justification

At the TCMV meeting the 6 of October Sweden expressed that the proposed conformity factors and the time for introduction of the first stage for all types (first registration of new vehicles) does not give the manufacturers adequate time to introduce required technology to improve vehicles to comply with the requirements. The understanding for the first stage was that it should be limited to software changes of current vehicles that already is equipped with advanced NO_x reduction technology.

The conformity factors as proposed in the commission proposal will most likely require that the manufacturer will also need to introduce hardware changes. And with respect to the short time until the requirements will be mandatory it will be impossible to introduce hardware changes in a cost effective manner.

Therefore, the Swedish position is that the implementation date of the first stage for all types should be 1 of September **2019** instead of 1 of September 2018 as in the commission proposal. The implementation date for stage two for all types should be 1 of September **2021** instead of 1 of September 2020 as proposed by the commission. Consequently, for N₁ vehicles the date for all types should be one year later for both stage one and stage two compared to the commission proposal.

Sweden does not share the view of the commission regarding the analyses to determine the proposed conformity factor of 1.6 for moderate conditions. We believe that a larger share of current vehicles will be able to be extended to comply with the RDE requirement only with software changes. Therefore, the Swedish position is that the conformity factor for moderate

condition in the first stage should be **2,5** and for extended conditions **4.0** (for extended conditions using the factor 1,6 in section 9,5).

Regarding conformity factor for the second final stage the Swedish position is to support the commission proposal of **1,2** for moderate condition including the margin for measurement uncertainties.

Available studies, from Swedish Transport Agency, AECC and ICCT among others show that current euro 6 compliant vehicles perform with a conformity factor of 7 and above. A conformity factor of 2.5 will therefore still result in a significant improvement in NO_x emissions performance from RDE compliant vehicles for the first stage.

In the end this will affect the end customers' possibility to acquire new vehicles which is RDE compliant. And there is a risk that a too strict conformity factor will delay the introduction of RDE compliant vehicles in the member states vehicle fleet because an increased price for these vehicles.

In addition, the requirements in the RDE legislation should be balanced with the requirement in the CO₂ legislation. And in our opinion with the conformity factors proposed by the commission this will not be the case.

Regarding transfer function, the Swedish position is that it should not be included in the second package of RDE. We propose to delete these parts from the commission proposal.

Need for correction of Commission proposal

Even if the commission does not take the Swedish proposal into account we believe that there is an **error** in the proposed table 1 of appendix 6 regarding the date for all types for the final stage. Last date for registration of the temporary conformity factors with the letter ZD should be 31 of August 2020 and for the letter ZE and ZF the date should be 31 of August 2021 to be in line with the current commission proposal.

Proposal

Sweden proposes changes to the proposal from the commission presented at TCMV the 6th of October for the second package of RDE according to the following.

New text in red color and deleted text with strikethrough.

- (10) In order to allow manufacturers to gradually adapt to the RDE rules, the final quantitative RDE requirements should be introduced in two subsequent steps. In the first step, which should apply from 3 years after the mandatory Euro 6 dates, a Conformity Factor of ~~1,6~~**2,5** should apply. The second step should follow 2 years after and should

require full compliance with the emission limit value for NO_x of 80 mg/km set out in Regulation (EC) No 715/2007 plus a margin taking into account the additional measurement uncertainties of the PEMS test procedure. For extended conditions as defined in point 5.2 of Annex IIIA to Regulation (EC) 692/2008, NTE emission limits should be increased by 60% as compared to moderate conditions.

Article 1

Regulation (EC) No 692/2008 is amended as follows:

1. Annex I is amended as follows:

(a) In Appendix 6, table 1 is amended as follows:

(i) Rows ZD, ZE, ZF shall be replaced by the following:

"

ZD	Euro 6c-TEMP	Euro 6-2	M, N1 class I	PI, CI	1.9.2017	1.9.2019	31.8.2021
ZE	Euro 6c-TEMP	Euro 6-2	N1 class II	PI, CI	1.9.2018	1.9.2020	31.8.2022
ZF	Euro 6c-TEMP	Euro 6-2	N1 class III, N2	PI, CI	1.9.2018	1.9.2020	31.8.2022

"

(ii) The following rows are inserted after row ZF:

"

ZG	Euro 6c	Euro 6-2	M, N1 class I	PI, CI	1.9.2019	1.9.2021	
ZH	Euro 6c	Euro 6-2	N1 class II	PI, CI	1.9.2020	1.9.2022	
ZI	Euro 6c	Euro 6-2	N1 class III, N2	PI, CI	1.9.2020	1.9.2022	

"

(ii) In the key to the table, the fifth paragraph, starting with 'Euro 6c emission standard', shall be replaced by the following:

"'Euro 6c-TEMP' emissions standard = Full Euro 6 emission requirements, i.e. Euro 6b emission standard and final particle number standards for PI vehicles and use of E10 and B7 reference fuel (where applicable) assessed on regulatory lab test cycle, RDE testing against temporary conformity factors;

'Euro 6c' emissions standard = Full Euro 6 emission requirements, i.e. Euro 6b emission standard and final particle number standards for PI vehicles and use of E10 and B7 reference fuel (where applicable) assessed on regulatory lab test cycle, RDE testing against final conformity factors;"

2. Annex IIIa is amended as follows:

(a) The following points 1.2.40 and 1.2.41 are inserted:

"1.2.40 "Severity parameter" is a measurable parameter of a PEMS trip, which is correlated with the severity of the emission control for objective scientific reasons and not due to the specific calibration of the pollution control system or the engine.

~~1.2.41 Transfer functions $TF(p_1, \dots, p_n)$ are real-valued functions depending on some measurable dynamical or ambient severity parameters p_i ($i = 1, \dots, n$) of the PEMS trip, such as transient driving or ambient temperature."~~

(b) Point 2.1 is replaced by the following:

"2.1 Not-to-exceed emission limits

Throughout its normal life, the emissions of a vehicle type approved according to Regulation (EC) No 715/2007 as determined in accordance to the requirements of this Annex and emitted at any possible RDE test performed in accordance to the requirements of this Annex, shall not be higher than the following not-to-exceed (NTE) values:

$$NTE_{pollutant} = CF_{pollutant} \times TF(p_1, \dots, p_n) \times \text{EURO-6},$$

where EURO-6 is the applicable Euro 6 emission limit in Table 2 of Annex I to Regulation (EC) No 715/2007.

(c) The following Points 2.1.1, 2.1.2 and 2.1.3 are inserted:

"2.1.1 Final Conformity Factors

The conformity factor $CF_{pollutant}$ for the respective pollutant is specified as follows:

Pollutant	Mass of oxides of nitrogen (NOx)	Number of particles (PN)	Mass of carbon monoxide (CO) ⁽¹⁾	Mass of total hydrocarbons (THC)	Combined mass of total hydrocarbons and oxides of nitrogen (THC + NOx)
$CF_{pollutant}$ <i>margin</i>	1 +	tbd	-	-	-

margin is a parameter taking into account the additional measurement uncertainties introduced by the PEMS equipment and is set to 0,2. This value shall be regularly revised according to the improved quality of the PEMS procedure due to technical progress.

2.1.2 Temporary Conformity Factors

By way of exception to the provisions of point 2.1.1, until 5 years after the dates given in Article 10 (4) and (5) of Regulation (EC) 715/2007 and upon request of the manufacturer, the following temporary conformity factors may apply:

Pollutant	Mass of oxides of nitrogen (NOx)	Number of particles (PN)	Mass of carbon monoxide (CO) ⁽¹⁾	Mass of total hydrocarbons (THC)	Combined mass of total hydrocarbons and oxides of nitrogen (THC + NOx)
$CF_{pollutant}$	2,54,6	tbd	-	-	-

The application of temporary conformity factors shall be recorded in the certificate of conformity of the vehicle.

2.1.3 Transfer functions

The transfer function $TF(p_1, \dots, p_n)$ referred to in point 2.1 of this Annex is set to 1 for the entire range of parameters p_i ($i = 1, \dots, n$).

If the transfer function $TF(p_1, \dots, p_n)$ is amended, this shall be done in a manner which is not detrimental to the environmental impact. In particular the following condition shall hold:

$$\int TF(p_1, \dots, p_n) * Q(p_1, \dots, p_n) dp = \int Q(p_1, \dots, p_n) dp$$

Where:

~~dp represents the integral over the entire space of the parameters p_i ($i = 1, \dots, n$)~~

~~$Q(p_1, \dots, p_n)$, is the probability density of an event corresponding to the parameters p_i ($i = 1, \dots, n$) in real driving."~~

(d) Point 5.3 is deleted

(e) Point 5.4 is replaced by the following:

"5.4. Dynamic conditions

The dynamic conditions encompass the effect of road grade, head wind and driving dynamics (accelerations, decelerations) and auxiliary systems upon energy consumption and emissions of the test vehicle. The verification of the normality of dynamic conditions shall be done after the test is completed, using the recorded PEMS data. This verification shall be conducted in 2 steps:"

(f) The following points 5.4.1 and 5.4.2. shall be inserted:

"5.4.1 The overall excess or insufficiency of driving dynamics during the trip shall be checked using the methods described in Appendix 7a of this Annex.

5.4.2 If the trip results as valid following the verifications according to paragraph 5.3.1, the methods for verifying the normality of the dynamic conditions and laid down in Appendices 5 and 6 of this Annex must be applied. Each method includes a reference for dynamic conditions, ranges around the reference and the minimum coverage requirements to achieve a valid test."

(g) In point 6.11, the following sentence is added:

"In addition, the proportional cumulative positive altitude gain shall be less than 1200 m/100km) and be determined according to Appendix 7b."

(h) Point 9.5 is replaced by the following:

"9.5. If during a particular time interval the ambient conditions are extended according to point 5.2, the emissions during this particular time interval, calculated according to Appendix 4 of this Annex, shall be divided by a value of 1,6 before being evaluated for compliance with the requirements of this Annex."

(i) A new Appendix 7a is added in accordance with the text in Annex I;

(j) A new Appendix 7b is added in accordance with the text in Annex II.

Article 2

This Regulation shall enter into force on the twentieth day following that of its publication in the *Official Journal of the European Union*.

It shall apply, for new type approvals of vehicles, from 1 September 2017 and from 1 September 2018 in the case of category N 1 class II and III and category N 2 vehicles, and for the registration, sale or entry into service of new vehicles, from 1 September 2019~~8~~ and from 1 September 2020~~19~~ in the case of category N 1 class II and III and category N 2 vehicles.

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ZI	Euro 6c	Euro 6-2	N1 class III, N2	PI, CI	1.9.2020	1.9.2022 21	

"

(ii) In the key to the table, the fifth paragraph, starting with 'Euro 6c emission standard', shall be replaced by the following:

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margin is a parameter taking into account the additional measurement uncertainties introduced by the PEMS equipment and is set to 0,2. This value shall be regularly revised according to the improved quality of the PEMS procedure due to technical progress.

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- (i) A new Appendix 7a is added in accordance with the text in Annex I;
- (j) A new Appendix 7b is added in accordance with the text in Annex II.

Article 2

This Regulation shall enter into force on the twentieth day following that of its publication in the *Official Journal of the European Union*.

It shall apply, for new type approvals of vehicles, from 1 September 2017 and from 1 September 2018 in the case of category N 1 class II and III and category N 2 vehicles, and for the registration, sale or entry into service of new vehicles, from 1 September 2019~~8~~ and from 1 September 2020~~19~~ in the case of category N 1 class II and III and category N 2 vehicles.



Department for Transport

Ms Joanna Szychowska
Head of Unit - Automotive Industry
European Commission
Directorate-General Enterprise and
Industry
Brey 10/58
45 Avenue d'Auderghem
B-1040 Brussels

Ian Yarnold
Head - International Vehicle Standards
Division
Department for Transport
Zone 1/34, Great Minster House
76 Marsham Street
London. SW1P 4DR
Direct Line: 020 7944 2080
e-mail: ian.yarnold@dft.gsi.gov.uk

Web Site: www.dft.gov.uk

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Dear Joanna,

UK response to Commission proposal published on 2 October 2015 (relating to Regulation EC/692/2008 regarding emissions from passenger cars and light vans)

The UK was grateful to receive the Commission's proposal for the 2nd package of the real driving emissions testing under the Euro 6c exhaust emissions requirements for new passenger cars and light duty vehicles.

As was highlighted during the technical committee meeting on 6 October, the implementation of this final stage of Euro 6 is an important element of the UK's air quality programme and so we are pleased to respond to your request for comments. I should like to express my appreciation for your extending the deadline for our reply.

The relationship between vehicle emissions and ambient air quality is a fundamental issue with vehicles contributing significantly to the pollution in towns and cities across the EU. This has been highlighted with the recent issues affecting the motor industry and the relationship of this proposal to those issues is well understood.

We have been considering this and reflecting on the wider issues, including those of CO₂ from road vehicles. It is clear that the differences between laboratory testing and real world emissions is a growing concern among the public and motorists, and Governments have to respond to these concerns. It is our view that we should be ambitious and bold, and set a clear approach where the whole strategy for testing of vehicle emissions is, in future, based upon real driving situations once the two steps of the RDE proposal have been implemented. We recognise this will be a fundamentally new approach; it will present technical challenges and tough policy decisions but we are sure this is the right approach.

This is a key issue for the UK and I am sure you will agree this initiative is something the Commission should support. I have attached to this letter a suggested recital and article to include in this proposal. This will set the basis for work to be undertaken (in parallel to RDE implementation) jointly between the Commission and the member states, involving the Joint Research Centre. I hope you can support this proposal.

Turning to the technical detail of the proposal, the main points upon which you sought views were the implementation dates and the conformity factors to apply at those dates. We have examined your proposal in great detail, seeking to understand the air quality impacts of the proposal and the ability of manufacturers to delivery products to the market within the timescales proposed.

I can confirm that the UK supports your proposed implementation of Step-1 for light passenger cars and car-derived vans on 1 September 2017 (for new model types) and 1 September 2018 (for all new vehicles).

Your proposal and the additional commentary provided by your experts has helped our understanding of the basis upon which your assessments are made. The supporting information you provided clearly establishes that the conformity factor 1.6 is based upon the expected capability of SCR/DeNOx+SCR systems in 2017. We believe this is a reasonable assessment for this technology.

It is also our judgement that the conformity factor should be set at a realistic and achievable limit for the industry, recognising that diesel is an inherent part of many manufacturers product planning to deliver their CO₂ obligations to 2020. The UK appreciates the Commission's analysis which has concluded that a conformity factor range of 1.6 - 2.2 would result in 10% of vehicles being taken out of the market by 2018. The UK is of the view, however, that it is not yet possible to arrive at a robust conclusion on what the conformity factor should be in the absence of more complete data on lean NOx trap vehicles which comprise approximately 50%¹ of the market.

On the limited evidence we have seen, therefore, we currently do not see a rationale for agreeing a Step-1 conformity factor less than the 2.2 upper limit of the Commission's stated range, but we would appreciate the opportunity to engage with the Commission on a more complete analysis in order to arrive at a robust conformity factor.

For **Step-2** we support your proposal to set the conformity factor at 1.0 but we do not share your observations that a value of 15 mg/km should be added to allow for measurement inaccuracies. We also disagree with your proposed approach to share the inaccuracy risk between regulator and manufacturer. We instead propose that at the outset this should be the regulator risk – although we do accept that this could change as experience of using the PEMs equipment becomes available.

The UK therefore **proposes the Step-2 conformity factor should be 1.4 (for moderate conditions).**

¹ Approximately 55% of the EU-28 market in 2014. Source ICCT 'NOx control technologies for Euro 6 Diesel passenger cars', September 2014, available here: http://www.theicct.org/sites/default/files/publications/ICCT_NOx-control-tech_revised%2009152015.pdf.

The Commission's proposal for quick action and to achieve a conformity factor providing equity with the laboratory test is an ambition we welcome and support. Nonetheless we do have to be sure that industry can deliver the low emission technologies into the marketplace and so we suggest the implementation date for Step-2 should be delayed by one year.

The UK proposes **the implementation of Step-2 for light passenger cars and car derived vans should be 1 September 2020 (for new model types) and 1 September 2021 (for all new vehicles).**

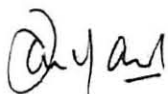
In the case of **larger vans**, we **support the Commission's proposal** for the RDE tests **to apply one year later for both Step-1 and Step-2.**

You also sought our views on including Transfer Functions. **The UK supports the inclusion of the transfer function** (option c in your paper) but also welcomes your additional regulatory proposal that ensures any subsequent amendment ...*"shall be done in a manner which is not detrimental to the environmental impact."* This is a helpful approach to ensure a fair testing regime while also avoiding any negative environmental impacts.

We also propose **improvements to the boundary conditions such that** the definition of 'extended' driving should include reference to the factor v^*a_{pos} . We propose that additional equations should be introduced based on v^*a_{pos} to define a boundary between moderate and extended conditions. We are aware that at least one other Member State has proposed changes with respect to the use of this factor, and we propose that there should be further consideration of the evidence in this area.

Due to the complexity of the proposal and the various dates and conformity factors, I have included a table (as an annex) which summarises our revisions to your draft document.

Yours sincerely



Ian Yarnold

Annex (a) – Proposed additional Article.

Recital

(12) Recognising the concerns regarding the ability of laboratory testing to reflect accurately reflect the emissions seen during real world driving of passenger cars and light vans, and noting the continued reliance of laboratory testing to evaluate CO₂ emissions and the differences that consumers report with the information published by manufacturers, there exists an urgent need to develop a new and robust approach based as far as is possible on real world testing that provides the certainty for consumers purchasing new vehicles, and the wider air quality and climate change considerations.

(13) Noting also the fundamental role the Member States have in managing air quality and carbon reduction within their territories, the Commission should implement a joint programme with the Member States and the Joint Research Centre to collect the best available evidence regarding vehicle emissions and their contribution to air quality and report on a new approach as soon as possible.

Article (probably new Article 2)

1. To ensure the regulatory requirements reflect real world conditions, the Commission, in conjunction with the Member States and the Joint Research Centre, shall review all laboratory based test procedures for measuring vehicle pollutant emissions and CO₂ by 1 January 2020, with a view to moving towards assessment procedures based on real world vehicle operation at the earliest opportunity.

2. Based on the findings referred to in paragraph 1, the Commission shall by 31 December 2020 present to the European Parliament and the Council a report outlining its proposed approach.

3. The Commission shall make appropriate legislative proposals to the European Parliament and the Council, taking into account the evidence presented, no later than 31 December 2021.

UK-DfT: 19 October 2015

Annex (b)**Real Driving Emissions – UK Position Summary**

1. The table below summarises the UK's position in response to the Commission's **Real Driving Emissions** proposal relating to NOx emissions from cars and light vans.

	Conformity factor ('moderate')	Conformity factor ('extended')	Dates	Transfer function	Boundary condition changes
Step 1	To be agreed	Moderate CF +60%	M, N1 Class I: 1/9/2017 (new models) 1/9/2018 (all registrations) N1 Class II & III, N2 one year later	Yes. Must not have a detrimental effect on the environmental impact.	Yes. Elements to be modified such that 'moderate driving' better reflects regular driving
Step 2	1.0 (plus 0.4 tolerance)	+60%	M, N1 Class I: 1/9/2020 (new models) 1/9/2021 (all registrations) N1 Class II & III, N2 one year later	Yes.	Yes.

UK-DfT: 19 October 2015

