

NOTES ON 16TH GRPE INFORMAL GROUP MEETING ON RETROFIT EMISSIONS CONTROL DEVICES (REC)

11 September 2013, 10:00 – 15.00; DG Enterprise, Brussels

1. Welcome and introduction

The chairman welcomed participants and a brief tour de table was conducted.

2. Approval of the meeting agenda - doc. REC-16-01

The agenda was adopted without change.

3. Approval of minutes of the 15th REC meeting (Geneva, 3 June 2013) - doc. REC-15-05

On page 1 (paragraph 5) Euro Vi should read Euro VI. The minutes were adopted with this minor correction.

4. REC Chairman's report from UNECE/GRPE-66 and following discussions

The chairman summarised the main elements for further discussion by the group as being NO₂, the requirements for vehicles/machines where there is no further stage, and requirements to prohibit the reversal of DPFs. Eberhardt identified an error (concerning driver inducement systems) in the text adopted by GRPE and asked that this also be discussed.

5. REC roadmap review - doc. REC-16-02

The secretary reviewed the REC roadmap. It was noted that the 00 version of the Regulation was adopted by the June 2013 meeting of GRPE. The formal proposal for the REC-01 needs to be sent before mid-October to meet the publication deadline for the January 2014 GRPE.

A Council decision is being prepared to allow the EU to vote positively for the adoption of the Regulation at the November 2013 meeting of WP.29.

It was clarified that once published by the UN, the Regulation can then be applied by Contracting Parties who are then bound to accept approvals to the UN Regulation. This does not prohibit local authorities or companies from having additional requirements. It was noted, though, that the Regulation has been developed in such a way as to minimise any demand for additional requirements.

The Commission does not at present intend to develop harmonised EU legislation based on the UN Regulation and this is not on the Commission's work programme for 2013 or 2014.

The formal 01 version of the REC Regulation (which will introduce the stricter limits for efficiency and possibly for NO₂) has to be submitted by 15 October 2013 to be considered at the January 2014 session of GRPE.

6. Discussion of draft REC Regulation

The sequence of operator inducement requirements in paragraph 6, covering a repeated failure, is incorrect – it should be made clear when the shut-down activates.

Paragraph 6.1.1. was amended to *“The operator warning system shall be activated in accordance with paragraph 4.3. to 4.7. of this Annex.”* and para. 6.1.2. to *“The operator inducement system shall be activated in accordance with paragraph 5.2. and 5.3. of this Annex 2 hours after detection of the malfunction in paragraph 6.1.1. of this Annex.”*

As the 00 version of the Regulation has not yet been adopted by WP.29, the correction could be covered by an amendment submitted by GRPE to the November 2013 meeting of WP.29. It was agreed that Stein and Eberhardt would draft a document to support this. This will then be sent to the GRPE secretariat to become a corrigendum to ECE/TRANS/WP.29/GRPE/2013/6 (**REC-16-05**).

a) Consideration of remaining issues from REC-00 Regulation – doc. GRPE-66-08

i) NO₂ limit for Class 2 RECs

The Class II REC requirements allow a limited increase in NO₂ from fitment of a REC (30 percentage points above baseline in the 00 version). There has been on-going discussion as to whether this could be reduced to 20 percentage points.

The EIC (O'Sullivan) gave a presentation (**REC-16-04**) identifying that NO₂ is considered to be the most reliable system for regeneration, recognising the concerns of Member States but pointing out that Diesel PM is considered to be a greater public health issue than NO₂ and that all NO is converted to NO₂ in a matter of tens of seconds. The EIC considered that meeting a 20 percentage points maximum NO₂ increase would result in higher failure rates/reduced reliability. Modelling data was presented to show that regeneration would be less effective and soot loading would not reduce sufficiently with a system designed to meet the 20% figure. Although the 20% figure is already a US requirement, the REC Regulation is very much a worst case as the NO₂ test uses the largest catalyst with highest Pt loading, fitted closest to the engine and with limited de-greening. Also the engine-out NO_x:PM ratio is often better for US engines over a transient cycle. The alternatives to NO₂ for regeneration were described: fuel-borne catalysts (FBC), electrical systems and burners or fuel injection. The drawbacks of such systems were identified. EIC concluded that REC certification already places a major cost of compliance for the retrofit industry for a limited number of sales and smaller retrofit companies would not be able to support the development costs.

In discussion it was noted the issue is political rather than technical, with some EU Member States unable to accept (for the 01 step) the 30 percentage points NO₂ increase that had been agreed for the 00 step of the Regulation. Participants were reminded that Contracting Parties could agree to incentivise only Class I RECs (no NO₂ increase permitted) or combined PM and NO_x (Class IV) devices and could prohibit use of Class II systems in LEZs, but had to allow use of Type Approved Class II devices in their country.

It was also commented that the retrofit market in Europe is declining, but the 20% limit would inhibit the use of the cost-efficient systems in the growth area of developing markets with air quality problems, to the detriment of the European industry. It was also suggested that the 20% figure would be very difficult to achieve for NRMM.

It was suggested that a solution could be to have a 90% efficiency + 30% NO₂ requirement for the 01 step and a 90% efficiency + 20% NO₂ requirement as a near-simultaneous eventual 3rd step. In discussion, this appeared to be a viable solution provided it could be ensured, before agreeing the 01 step, that the third (02) step with a 20% increase could be introduced.

The chairman agreed to consult with the GRPE chairman and the UN secretariat on the viability of this option. If the simultaneous adoption of the 2 stages would not be possible, he would examine with them a further possible option of submitting a 01 standard to the March 2014 meeting of WP.29 and a 02 standard to the June 2014 meeting. If neither of these solutions is possible, then he will examine a further option of having a 30% limit as a 02 amendment, even though this could be confusing as it would normally be expected to be more, not less, stringent than the preceding stage. If none of these options are possible the chairman would submit the 01 proposal to the January 2014 session of GRPE only with the 20% NO₂ figure.

b) Consideration of new issues since REC-15 – doc. REC-16-03

i) Reversibility of DPF filter elements

The chairman had drafted an additional requirement to prohibit the reversing of filter elements: *"7.5.4. The filter element of a particulate reduction REC shall be designed and constructed in a way that it can only be installed in its casing in one direction. Intentionally or unintentionally reversing the element shall be physically impossible."*

It was pointed out that in the case of a modular device the wording could still permit reversal of the canned DPF assembly. It was also pointed out that the requirement should apply to combined (PM+NO_x) RECs. It was agreed that the wording should be amended to:

“7.5.4. The filter ~~element~~ of a particulate reduction or combined PM and NOx reduction REC shall be designed and constructed in a way that in can only be installed ~~in its casing~~ in one direction. Intentionally or unintentionally reversing the ~~element~~ filter shall be physically impossible.”

ii) Changes to paragraph 8.2.3.

At the previous meeting, Euromot drew attention to the addition during REC-14 of requirements for vehicles/equipment where there is no further stage (paragraph 8.2.3.), which would have added a percentage efficiency requirements (only) for such cases:

“8.2.3. In the case of an engine where no more stringent category is defined in Regulation No.49 or Regulation No.96 (as appropriate) the requirements of paragraph 8.3 shall be applied.”

Euromot had objected to this addition because the agreed basis of the Regulation had been only to take vehicles/equipment to the next applicable stage, whereas this proposal would take it beyond any current stage. In discussion, some participants had felt that the paragraph would be useful for those categories of NRMM where the most recent emissions stage(s) do not apply. Nevertheless, to enable agreement at GRPE it had been agreed to remove the paragraph but to re-discuss the issue at this REC meeting.

Although some participants continued to consider that there would be a benefit to allow fitment of DPFs in particular to machines/vehicles where the ‘final’ stage does not force the use of such devices, it was concluded that the retrofit requirements should not pre-empt future (OE) regulation stages and so the re-instatement of this paragraph could not be support. It was clarified that Contracting Parties and other organisations could still impose requirements for fitment of RECs where there is no further emissions stage, but it would not be possible to Type Approve these to the UN Regulation.

c) Consideration of the draft REC-01 Regulation – doc. GRPE-66-07

The draft document introduces the higher performance requirements, a 97% efficiency requirement for PN, and transitional provisions.

The [5%] figure for correlation if two instruments are used simultaneously for assessment of PN efficiency was agreed.

There was a discussion on the requirement for a [6-month] period (after the entry into force of the 01 standard) before Contracting Parties can refuse placing on the market of devices to the 00 standard (paragraph 16.3.). The EC and Member States wish to avoid a period where they have to accept such devices. The possibility of deleting this clause or setting a shorter time will be discussed with the UN secretariat.

The paragraph on reversal of filter elements, discussed earlier, will now be added to the draft text. There was a further discussion as to whether this requirement should also be included as an amendment to the 00 series, but it was not felt to be necessary.

7. Preparation of formal submission to GRPE-69 (Geneva, 9-10 January 2014)

The chairman will prepare a formal submission.

8. Next REC meeting (Geneva, 8 January 2014 from 09.30 – 12.30)

A meeting room has been reserved for the REC group on the Wednesday of GRPE week in January 2014 in case it is necessary.