

MINUTES OF THE 8TH GRPE RETROFIT EMISSIONS CONTROL DEVICES (REC) INFORMAL GROUP MEETING

22 November 2011, 09.00 – 17.15, Kijkduin, the Netherlands

1. Welcome and introduction

The chairman *Henk Baarbé* welcomed participants (attendance list is REC-08-07).

2. Approval of the meeting agenda (doc. REC-08-01)

The agenda was adopted without change.

3. Approval of draft minutes of 7th REC meeting

The minutes of the REC-07 meeting held in Ispra on 20 and 21 September 2011 and contained in doc. REC-07-05 were adopted without further change.

4. REC Chairman's report

a. REC editorial meeting held on 28 October 2011 at UK-DfT in London

The chairman reported that in addition to going through the text in detail, members of the editorial working group had put forward the idea of incorporating transitional provisions as a method of coping with different severity levels in one regulation. The proposal had not yet been discussed with the GRPE chairman and GRPE secretariat, and will be reviewed later in this meeting.

b. Questions and comments from REC meeting participants

There were no questions or comments to the materials circulated ahead of the meeting. It was noted that some participants had submitted new documents that will be discussed today.

5. Discussion of draft REC Regulation

a. Discussion of REC test cycle proposal – doc. REC-08-02 (Germany)

This document proposes that the engine is first tested without REC using the appropriate cycle for that engine to establish that it fulfils the relevant requirements for that base engine. Emissions are then measured with the REC fitted using the appropriate cycle for the emission level to be achieved, which may not be the same as that for the original engine approval. In the 3rd and 4th steps, the engine is tested without and then with the REC on the weighted cold+hot WHTC or NRTC (as appropriate) to determine the relative reduction rate of the REC. The same cycles could also be applied for the NO₂ part of the test programme. It was noted that the flow chart (Annex 12) will need to be modified.

In considering the testing burden it was said that, with appropriate definitions of REC families, it could be possible for HDV to certify for the whole range of engines with 3 to 4 families. Section 10 allows the definition of families that incorporate different engine manufacturers. It was suggested that aligning the family definitions with Euro VI Annex XI (replacement pollution control devices) might help minimise the requirements.

It was agreed that appropriate preconditioning procedures should also be addressed in the Regulation to ensure reproducibility whilst maintaining realistic loadings of PM and ammonia at the start of test. Germany agreed to draft preconditioning proposals and AECC offered to provide information on the processes that had been used to give realistic loadings in the AECC HD and NRMM test programmes.

Members were reminded that the 'worst case' Type II system for NO₂ is different from that for PM, so requires additional tests. This could be considered in more detail later. One suggestion was that the 'worst case' system should only need to be tested once across the range of engine families. In response to concerns that 'worst case' might be a combination of substrate size and PGM loading

that is not actually offered, it was clarified that the intent is to test the worst-case within the range of systems in the manufacturer's portfolio and that the 'worst case' system would have to be agreed with the Type Approval authority.

The German proposal for the test cycles was accepted and it was agreed that Germany and AECC would work together on a pre-conditioning proposal to achieve good reproducibility.

b. Consideration of the draft REC Regulation – doc. REC-08-03

Since the draft agenda was prepared, documents REC-08-04, 5 and 6 had been received from participants, providing new/amended proposals. They were discussed in this section.

b1. Transitional Provisions

The chairman introduced the proposal from the drafting group for transitional provisions as a possible method to permit the different stringency levels to be incorporated in the Regulation.

The wording of the proposed text was discussed and modified whilst retaining the approach that allows flexibility for individual Contracting Parties to move rapidly to the higher performance level (through paragraph 4.3) if they so wish. Paragraph 4.2 was amended as shown below:

"4.2. As from [dd/mm/yyyy] contracting parties applying this Regulation ~~may~~ shall not refuse the placing on the market of RECs which ~~do not~~ meet the requirements of this Regulation."

It was also proposed to include in paragraph 4.3 reference to the paragraph defining Level 2.

The dates in this section will need to be set so as to allow contracting parties time to adopt national legislation. Some participants wished to see the shortest possible period between the to-be-defined dates in paragraphs 4.2 and 4.3.

It was identified that local authorities could still impose additional requirements (e.g. special requirements for entry to low emission zones); the Regulation could not prohibit this. However, this was considered unlikely as the Regulation is being drafted so as to cover the expected requirements of local authorities. Additional local requirements would probably need special products for a limited market, which would probably not be cost-effective.

The chairman concluded that the proposal to include these 'transitional provisions' was accepted subject to confirmation of its acceptability by the GRPE chairman and UN secretariat. The title of the section will be changed to "Dates for application" rather than 'Transitional provisions', though.

b2. Comments provided by members

Comments from Euromot and EMA

a) PM Number requirements for NRMM

Euromot and EMA said they could not accept a PM Number requirement as only Switzerland currently has PM Number limits for NRMM, and in the USA PM Number is not used at all. Most DPFs designed to reduce PM will also reduce PN. EMA suggested that PM Number requirements should only be introduced in the timeframe of EU Stage V. Hungary supported this proposal.

Switzerland, however, said that they could not agree to less than the current proposal and the Netherlands and Germany supported the inclusion of PM Number efficiency requirement for Level 2 RECs. The UK commented that this issue should be considered as entirely separate from NRMM Stage V. The chairman pointed out that the PM Number requirement is an efficiency requirement – there is no limit value for PN and the efficiency requirement is one that all current high-efficiency [i.e. level 2] DPFs can readily meet. He also pointed out that the US is not a signatory to the 1958 agreement under which this Regulation is being developed.

EMA and VDMA proposed that this issue be raised at the REC-09 meeting in Geneva when more contracting parties are present and this was agreed. As Mr. D'Urbano has to attend another meeting that is taking place at the same time as the REC-09 meeting, he asked that it be recorded that removal of this requirement was not acceptable to Switzerland.

b) NOx control

The NOx control requirements in Reg. 96 are much more comprehensive than those currently proposed for REC. Euromot and EMA therefore proposed that the requirements of Reg.96 should be incorporated. Similar comments had been received from Sweden. It was agreed that Sweden, in discussion with the engine manufacturers, would develop proposals.

c) Acceptance of alternate test procedures and records

Euromot and EMA proposed the introduction of a paragraph on acceptance of existing test records. Participants were advised that although this would be normal practice in Type Approval, the Regulation could not require that a Technical Service accept such data.

d) Customer/dealer information

It was clarified that information on the engines to which any given retrofit can be installed is included in the Information Document (Annex 4) and this is available for the manufacturer to supply to retrofitters or dealers. The installation guidelines in para.22.3 would automatically require this information to be provided. It was agreed that this provision would be sufficient but could be made more specific. EMA will provide a short additional sentence on this.

e) Labelling

It had been proposed to add a reference to the power class (e.g. F). As these classes change with emissions level, it was felt that with such a marking it would not be clear whether the reference was to the original or retrofitted level, or to NOx or PM. It was therefore proposed that the label should refer to the REC Type and Level, rather than the emissions class.

Proposals from Hungary

f) Document construction

The () show all the parts that should be included and the numbering system. Hungary proposed several modifications so as to align the structure of the draft Regulation with the UNECE guidelines shown on the UNECE website. As some of the proposed changes would depend on the 'transitional provisions' (Dates for application) approach being accepted, it was agreed that any restructuring should await the outcome of discussions in GRPE and the finalisation of the content.

g) Title, Purpose and Scope

Hungary proposed that the title be changed as follows: "...uniform ~~requirements for provisions concerning the approval of~~ Retrofit...". This was agreed.

Hungary also proposed that section 3 (Purpose) is not needed. In discussion it was felt that it was important to retain this.

Regarding the scope, Hungary proposed to refer to engines covered by the scope of UNECE Regulation 49 and 96 to ensure that N1 vehicles approved to the light-duty UN Regulation 83 requirements were excluded. However, such references had previously been removed so as to ensure that RECs could be used for HD and NRMM engines that did not have approvals to UNECE Regulations. Following discussion it was agreed that the text should remain unchanged except for 2.1 which should be modified to exclude engines approved under Reg. 83:

"2.1. on category M2, M3 and N vehicles and their C.I. engines, excluding those vehicles approved according to Regulation. No 83."

h) Marking

There was a discussion as to whether the label (or plate) should be fitted to the REC or to the vehicle/machinery. It was agreed that the minimum requirement should remain that the label (plate) be attached to the REC. Any inspections should then have to verify that that the REC is fitted, not just that a plate is fitted.

i) REC Matrices for Performance Requirements

It was proposed that the REC matrices in section 9 (Performance Requirements) be deleted as the information on emissions limits are available in Regulation 96. It was agreed that the tables are helpful for clarity and should be retained.

j) Noise emissions

Hungary proposed further elaboration of the noise requirements (Section 20) – for instance reference to a test method of Regulation 59. After discussion it was agreed to modify the wording: *“The applicant shall prove that the retrofitting of a REC will not lead to an increase of the vehicle’s noise emissions. ~~Noise emission measurements~~ This may be omitted in the case of REC fitted in addition to the original equipment manufacturer’s standard production silencer system. ~~If testing is done, it must comply with applicable international standards.~~”*

Comments from the UK

k) Inclusion of pre-Euro III engines

The proposal to include in Table 9.1 a line for pre-Euro III vehicles was agreed after some discussion. It is not expected that this would be of interest to EU countries but could be important for other contracting parties. It was also agreed that this section should include provision for such engines to meet EEV (identifier C) levels. The tables will be revised accordingly.

l) NO₂ emissions

It was agreed that Section 9.4.2. will be re-worded based on the TfL wording that: “For all vehicles, the NO₂ incremental increase shall not be more than 30 percentage points greater than the level recorded when no adaptation device is fitted (baseline). As an example, if baseline NO₂ is 10% of NO_x, the maximum permitted NO₂ emission with the adaptation device is 40% of NO_x”. The chairman commented that a reference to the test cycle would be needed.

b3. Review of the current document

Performance levels

Following a short discussion it was agreed to retain both levels as the less stringent level could be of importance to some contracting parties. The efficiently levels currently shown in square brackets in table 9.5 were also agreed. But the chairman also pointed out that in case of the new approach on “Dates of application” could not be agreed it might get necessary to discuss whether level 1 requirements can still be retained.

NO₂ emissions

If the proposed ‘transitional provisions’ are agreed, then Germany could accept the 30% NO₂ limit proposed for Type II RECs as they would move rapidly to Type I. Otherwise much stricter NO₂ requirements are necessary for Germany. Following further discussion on the need for NO₂ limitations for Type III (NO_x reduction) and Type IV (combined PM and NO_x reduction) systems, a new paragraph 9.4.3 was added that “For Type III and Type IV REC there should be no increase of NO₂ emissions in absolute terms, measured as defined in Annex 13.”

Participants will review this to ensure feasibility.

With regard to the introduction of a tolerance figure for Type I RECs, where the requirement is for no increase in NO₂, it was agreed that such a figure should not be included in paragraph 9.4.1, but some allowance (to be defined) could be allowed.

Secondary emissions

The approach proposed by Switzerland and the UK is to require the applicant for approval to provide information based on sound engineering analysis and judgement. It was agreed that the proposed wording should be incorporated but with the word “noxious” deleted to avoid confusion with NO_x. It was confirmed that this could rely on generic data from similar systems.

Table 9.1 (REC matrix for Regulation 49)

It was agreed that for baseline levels B1 and B2 (Euro IV and V) separate lines are needed for PM limits on the ETC and ESC (as in baseline A).

Ammonia emissions (paragraph 9.6.1)

AECC proposed clarifying that the 10ppm NH₃ limit is an average over the cycle. This was agreed.

NOx Reduction REC family (section 15)

Clarification was requested for para. 15.2.2. b) "The nature of the catalyst employed and the ratio of its active surface area to the nominal exposed surface area of the substrate being within 0.03 of that featured in the device tested". It was agreed that AECC would review the text and propose suitable parameters.

Nomenclature

There was a suggestion to change the definition of Type I and Type II to Type IA and IB so as to avoid confusion with level 1 and 2 and to allow for any new types of DPF which might have particular issues associated with them. This was rejected.

6. Outcome and results of the REC-08 meeting & report to GRPE-63 (January 2012)

The chairman said that there are still a number of issues to be resolved and he will report to GRPE that the REC group needs a few more months to complete a final draft. The REC chair will request an extension of the mandate to the January 2012 meeting of GRPE.

It should be possible to present a final draft as an informal document at the June 2012 meeting of GRPE. This would allow submission of the formal document to the January 2013 GRPE meeting in readiness for the WP.29 meeting of March or June 2013.

7. Next REC meeting

The next meeting (REC-09) will be held on Wednesday 18 January 2012 from 09.30h to 12.30h in Geneva. It was noted that there is a WLTP meeting in parallel as a result of which Mr. D'Urbano (and possibly others) will be unable to attend.

The chairman proposed that there should be 2 further meetings of the REC informal group between the January and June 2012 GRPE meetings, and there may also need to be further meetings of the editorial group. Hungary offered to host one of the main group meetings.

8. Any other business

There was no other business.

06/12/2011