

MINUTES OF THE 10TH RETROFIT EMISSIONS CONTROL DEVICES (REC) INFORMAL GROUP MEETING OF GRPE

24 - 25 April 2012; Institute for Transport Science (KTI), Budapest

Documents for the meeting can be downloaded from the web page on the link:

<http://www.unece.org/trans/main/wp29/wp29wgs/wp29grpe/rec10.html>

24 April 2012

1. Welcome and introduction

KTI welcomed participants and mentioned the importance in Hungary of environmental protection and emissions reduction. The attendance list is circulated as REC-10-08.

2. Approval of the draft meeting agenda

The agenda (doc. REC-10-01) was approved with the addition of 2 items under section 5c. There will be a presentation by AECC on temperatures and cycles and Hungary has provided some comments in document REC-10-07.

3. Approval of the draft minutes of REC-09

The minutes of the 9th REC meeting held in Geneva on 18 January 2012 (doc. REC-09-04) were approved with one change to item 5 – “[Williams Eurocot](#) will undertake this for the next meeting”. The chairman thanked the secretary for the quality of the minutes.

4. Discussion of proposed roadmap for REC work

May introduced the draft REC roadmap (doc. REC-10-04) which is based on the 2-step approach recommended by GRPE/ WP.29, noting that the deadlines for document submission to WP.29 set the key milestones. From this the deadlines for submission of documents to GRPE follow.

The tasks to prepare and finalise a suitable informal document for submission to the January 2013 GRPE are shown in the roadmap and responsibilities are attributed. There were no objections to the attribution of tasks and the timeline was accepted as being the quickest possible for a 2-step approach.

5. REC Chairman's report

a. Report back from GRPE-63 meeting – guidance from GRPE

The chairman reported that Article 12 of the UN 1958 Agreement states that on the introduction of a new series of amendments, the previous version can only stay in force if at least 20% of the contracting parties subscribing to the Regulation say that they wish the earlier version to remain in force. He has drafted a letter to contracting parties asking them for an indicative response on whether they would wish to retain the rev.00 version.

Martinez said that advice from the legal services of the European Commission is that all EU Member States would need to adopt the same performance level. This would probably mean that they would accept only level 2. This approach is based on a Council decision on the accession of the EU to the 1958 UN agreement (see Appendix 1).

There appear to be 48 Contracting Parties to the 1958 Agreement, of which the EU Member States comprise 27. Therefore at least 10 non-EU Contracting Parties would need to support the continuation of rev.00 in parallel with rev.01. The Commission representative was asked to arrange for discussion of the EU position at the next TCMV meeting.

The continuing need for the two performance levels was discussed. It was pointed out that only European Contracting Parties were present at this meeting, so the question should be resolved based on responses to a letter to Contracting parties that the chairman is currently finalising for

circulation ahead of the June REC meeting. It was concluded that if 20% of contracting parties do not require rev.00, then there would be no point in continuing with that option and work should then concentrate on rev.01.

b. Report from REC editorial meeting

The meeting was held on 28 March 2012 in Brussels and had spent some time discussing the proposal for zero NO₂ increase, with concern that this would severely limit the availability of systems. The availability and application potential of such systems was commented on and it was agreed that this will be further discussed in item 6.

The REC editorial meeting had completed the initial split of the draft Regulation into 2 parts and these have since been circulated. The editorial meeting also gave initial consideration to the draft documents from CECE and OICA/Euromot.

Minutes of the editorial meeting will be circulated with the minutes of the meeting (as Appendix 2).

c. Questions and comments from REC meeting participants

i) CECE proposed text (doc. REC-10-05)

Williams presented his slides based on the CECE proposals, noting that the primary objective of the CECE proposal is to ensure that safety considerations are adequately addressed in the installation of the REC and subsequent operation of the vehicle. Specific references to NRMM have been dropped as under Reg. 96 NRMM are a class of vehicle. The proposals require that written instructions have to be passed from the REC provider to the installer and/or owner to maintain the original level of safety of the vehicle.

Following discussion of the need for adequate information to be provided within the legal limitations of a UN regulation's applicability, the general approach was agreed, with the detailed text to be discussed under item 6.

ii) OICA/Euromot proposed text

Stein introduced the outline proposed by OICA and Euromot on NO_x control provisions (doc. REC-10-06), based upon those adopted for Euro VI and proposed for NRMM Stage IV but adapted for REC. It had not been possible to compile a full text for this meeting, but this will be done for the June REC meeting.

The proposed general requirements and operator inducement system were summarised. It was noted that the text would need to include provision for both electronically- and mechanically-controlled engines. It was also agreed that in the event of the activation of the operator inducement interruption of starter current, there should be a limited emergency over-ride. It was agreed that, with these additions, the requirements as proposed by Euromot/OICA are necessary and that the proposal is accepted. Development of the full text is now needed.

The question of whether there should be equivalent requirements for PM reduction RECs, but after discussion it was agreed that this was not currently feasible or necessary.

iii) AECC information on NO_x efficiency vs. driving cycle

May presented some test results on a limited sample of 3 engines showing the lower NO_x conversion efficiency over the WHTC compared to the ETC. In discussion it was noted that the current generation of SCRT-type systems would not be able to achieve approval to the proposed efficiencies on the weighted WHTC, but they can achieve 70-80% efficiency over the whole-vehicle test using the London Bus (Millbrook) Cycle which appears also to be representative of bus operation in other European cities. It was also commented that bus retrofitting had to be very specific for the duty cycle to get maximum advantage.

The question was asked as to whether this meant that the proposed NO_x efficiency for the REC regulation would need to be reduced. It was agreed that the efficiency figures need to be reviewed but they should not be set too low. It was suggested that a conversion factor could be proposed to convert the original proposal (which was based on ETC efficiency) to WHTC figures.

The chairman has initiated some work on this at TNO and this will be followed up.

iv) Comments from Hungary

Uhlik presented Hungary's comments (doc. REC-10-07) and proposed that with the split into rev.00 and rev.01 versions of the regulation the term Reduction Level is no longer needed as each version would only allow 1 level. However, in later discussion it was agreed that Reduction Level should be retained so that customers can differentiate between systems once rev.01 is introduced.

In discussion of the Hungarian proposal to revise the matrices in section 8 it was agreed that the tables show the emissions levels that have to be achieved by meeting the next emissions level of Reg. 49 or 96; so the figures are thus fixed by those Regulations. The requirement in the draft REC regulation is to meet both this performance level and the Reduction (efficiency) Level. It was suggested that the information document (Annex 1) and Communication (Annex 2) should be modified to show additional information – at least the emissions level achieved as well as the base level.

In regard to Hungary's point on the clarification of durability requirements, it was agreed that Section 9.1 should be clarified to:

"The applicant shall ~~confirm~~ declare that the REC system will comply with the applicable provisions during normal operation over a useful life of:...". It was also agreed to add a new Section 9.5 to show that the REC must meet the limit values and efficiency requirements at the end of the 1000 hour durability test.

Following from a further Hungarian proposal, the first sentence of Section 10 (application range) was modified to: "The application range is initially limited to ~~describes~~ the range of engines or engine systems to which the REC family may be applied...."

It was also agreed to add a sentence that this paragraph is not applicable to systems intended to meet Euro VI limit values.

The provision allowing the extension of the application range of RECs to other engine manufacturers was also discussed with the conclusion no further changes were needed.

Hungary also proposed an additional section on recognition of alternative Type Approvals. The proposal was not accepted by the group, but it was noted that the draft Regulation does not preclude using the same engine for an NRMM and an HD approval through full testing to the two sets of requirements.

6. Discussion of draft REC Regulation

a. Detailed consideration of the new draft REC Regulation

Changes agreed at the last editorial meeting are marked in the circulated documents REC-10-02 & -03. These were accepted unless shown below. Where a section is not mentioned, there were no changes made during the meeting. Document REC-10-02 was reviewed in detail:

Section 1: Purpose

Reference to "(PM mass and PM number)" was deleted as PM Number does not apply to rev.00.

The changes proposed to Sections 2 (Scope) and 3 (Definitions) were agreed.

Section 5: Markings

The need for a mark indicating the Reduction Level was discussed. It was agreed that this should be further discussed with the GRPE secretariat.

Annex 1 and this section need to tie together (e.g. part number to be included in Annex 1)

Section 7: General Requirements – The OICA/Euromot section needs to be included when it is available.

Section 8: Performance Requirements

It was agreed that the wording of Section 8.2 should be clarified to show that the retrofitted engine system has to meet the next more stringent emissions stage for the relevant pollutant. It was also agreed that this section should include a requirement that the retrofitted system continues to meet the other emissions limits to which the base engine was Type Approved.

A definition of engine system also needs to be re-instated in section 3. An alternative approach would be a clause that the definitions in Regs. 49/96 apply unless otherwise stated.

It was confirmed that the new approach (rev.00 and rev.01) means that it would no longer be possible to approve NO_x+PM devices that meet one level for one pollutant but the other level for the second pollutant.

Following a discussion on the effect of existing DOCs on NO₂, it was agreed to add “with or without aftertreatment” to the parameters for extension of the application in Section 10.

25 April 2012

7. Continued consideration of new draft REC Regulation

Section 8: Performance Requirements

After a further substantial discussion on NO₂ requirements and the capabilities of different types of system, it was agreed that:

- a) for evaluation of NO₂, the weighted cold+hot start NRTC would be used for NRMM and the weighted cold+hot start WHTC for HD.
- b) the requirements for Type II RECs should be 30% max NO₂ increase at Level 1 (rev.00) and [20%] at Level 2 (rev.01).

For the ammonia secondary emission requirement (Section 8.6.1) it was agreed to set a limit of 25 ppm for the rev.00 version.

Section 9: Durability requirements

Section 9.1 was modified to read “The applicant shall ~~confirm~~ declare that the REC system when used and maintained according to the manufacturer’s instructions will comply with the applicable provisions during normal operation over a useful life of:...”

The square brackets were removed from the mileage, time and operating hours in Sections 9.1 a) and b). It was confirmed that these refer to the REC not to the vehicle to which it is fitted.

In the first sub-paragraph of 9.3 it was agreed to refer to 1000 hour as “durability run” rather than “testing”. It was agreed to add a sentence that would allow use of an engine of the same type for the post-durability run tests if the original one has broken in the meantime. As noted earlier, a new Section 9.5 was added to record that the REC system has to fulfil the performance requirements after the durability run.

Section 10: Application Range

It was agreed that Schulte will provide additional wording to clarify application range in the 2nd paragraph of this section.

As discussed earlier an additional point was added to the parameters for extension of the application range: vi) with or without aftertreatment system.

Section 11: Modifications to engine baseline emissions

The question was discussed as to whether the REC manufacturer should be permitted to replace an existing DOC to improve performance for a DPF retrofit. It was agreed that this should be permitted and the third paragraph of this section will be modified to reflect this.

There was a discussion on whether, in paragraph 3 of this section, the sentence “Any modification upstream of an original de-NO_x system is not allowed” over-rides the previous sentence which allows modifications with written permission of the OEM. This needs to be resolved.

Section 12: Choice of the test engines and REC combination

It was agreed to add a definition (in section 3) of engine family, referring to the appropriate definitions in UN Regulations 49 and 96.

Section 13: Specifications concerning emissions measurement

It was agreed to specify that the CLD converters must meet the requirements of Reg. 49 or 96 as appropriate and to add the word ‘absolute’ before converter efficiencies. The square brackets around the 3% requirements can then be deleted.

The 2nd paragraph of 13.1 therefore now reads:

“If a heated chemi-luminescent detector (CLD) is used for the determination of NO₂ in accordance with paragraph 8.4, two parallel measuring chambers to determine NO_x and NO simultaneously shall be used. Two CLDs in parallel are permitted providing that they both comply with the requirements of regulations 49 or 96 as appropriate and the absolute converter efficiencies are shown to be within 3% of each other.”

Section 14: Particulate reduction REC family

Following from a request for the addition of a paragraph allowing the substitution of equivalent substrate materials from different suppliers, it was agreed that 14.1 b) already covers this.

It was agreed to remove the square brackets from around “[or other active] material”.

In Section 14.1 f) the permissible tolerance on the volume of active components (i.e. DPF substrates) was changed to ±40%.

Section 15: NO_x reduction REC family

In Section 15.1 it was agreed that the tolerance on the volume of the catalytic element should also be ±40%.

The wording of Section 15.1 c) needs to be clarified and it was agreed that a similar section should also be included in section 14.

It was agreed that the heading of Section 15.2 should be deleted as it did not align to the content. It was also agreed that the [] in this paragraph could be deleted.

Section 16: NO_x and PM reduction REC family

It was agreed that the editorial group will review the wording needed to clarify that the requirements also apply to devices having the PM and NO_x reduction activities in a single device (e.g. coated filter).

Section 17: Fuel

The title of this section was changed to “Fuel and fuel consumption”.

The editorial group will review the wording of Section 17.2 to make it clearer.

In section 17.3 the [] around the 4% increase in fuel consumption were deleted. Following discussion of which cycles this applied to, it was noted that the 2nd part of Section 17.3 points to this being the transient cycles and including regeneration. It was agreed that Schulte will propose cross-referencing to the appropriate annexes and the editorial group will finalise the wording.

Section 18: Operating behaviour and safety hazard,

Section 19: Noise Emissions and

Section 20: Installation of a REC

Davies and Williams will work together to finalise the wording for these sections based on the proposal from CECE. The changes will be shown as mark-up.

Section 21: Conformity of production

The need for any further specifications was discussed, but it was agreed that the current sentence should be sufficient. The text of the requirements referenced in this Section will be circulated for members to review.

Annex I: Information Document

It was agreed that ‘Type’ in 1.2 should be renamed ‘manufacturer’s designation’ to avoid confusion with Type I to IV as defined in this Regulation. It may also be necessary to include family, as ‘manufacturer’s designation’ could be a sub-set of a family. Information on the Application range and Reduction level need to be added. Hungary will review the wording of the annex and the editorial group will then finalise it.

Annex 2: Communication

Hungary will also review the contents of this Annex.

Annex 3: Approval Mark

It was agreed that the wording of the final sentence should be changed to “The approval mark shall also show the Type of REC (I, II, III or IV) and ~~its Reduction~~ bear the marking ‘Level 1’. Rev.01 will then change this to Level 2.

Following further discussion it was agreed that to avoid confusion, instead of defining the PM reduction etc. RECs as ‘Types’ they should be referred to as ‘Category’ or ‘Class’. This will also require changing all sections of the Regulation where the designation ‘Type’ is used.

Annex 4: Application range

The column headed “Type Approval identification number of the REC” should revert to its original “Type identification of the REC” as the Type Approval number will not be available at this stage.

Hungary will review this Annex.

Annex 5: Test of a Particulate reduction REC

In section 6.2, ‘Variance’ should be ‘Co-efficient of Variance’ and the denominator of the standard deviation calculation still needs to be amended to ‘ $n(n-1)$ ’.

Galey will review the figure of 15% over 25 test cycles to be in line with 95% confidence.

In 6.3 the square brackets were removed from “[It must not be a REC which has been approved by extension of the original approval.]. They were also removed throughout sections 6.4 and 6.6 (except for the paragraph references in 6.6 and 6.6.1 and 6.7).

In Section 6.6, 4th paragraph, the editorial group will review whether the word ‘nominal’ should be ‘overall’ or some other wording.

The final two paragraphs of Section 6.7.1 were initially combined, but following further discussion it was agreed Eberhardt will review whether this section can be deleted.

In Section 6.7.2 ‘standard deviation is replaced by ‘co-efficient of variance’. The validity of the calculation for only 3 cycles was queried, with a proposal to specify a fixed amount as well as a percentage as is done in Reg.49 (wording of Reg.49 to be checked).

Annex 6: Test of a NOx reduction REC

In Section 6: the square brackets were removed from “...manner [and will work effectively]...”

In Sections 8 and 9 the highlighted cycle references need to be replaced by reference to WHTC or NRTC as appropriate.

REC-10-02:

Stein noted that it had been agreed that the requirements on PM number emissions should be in the section on secondary emissions. It is currently shown as being in the section on performance requirements.

8. Next REC meeting

The next meeting is 6 June 2012, 09:30-12:30, in Geneva.

The following meeting will be on 4 & 5 October 2012, to be hosted by the EC if possible. ‘Back-up’ options will be for hosting by the UK or Germany.

9. Closure of the meeting

The chairman thanked KTI for their hospitality and hoped to see all participants at the next meeting in Geneva.

Appendix 1:

97/836/EC: Council Decision of 27 November 1997 with a view to accession by the European Community to the Agreement of the United Nations Economic Commission for Europe concerning the adoption of uniform technical prescriptions for wheeled vehicles, equipment and parts which can be fitted to and/or be used on wheeled vehicles and the conditions for reciprocal recognition of approvals granted on the basis of these prescriptions ('Revised 1958 Agreement')

Official Journal L 346 , 17/12/1997 P. 0078 - 0094

COUNCIL DECISION of 27 November 1997 with a view to accession by the European Community to the Agreement of the United Nations Economic Commission for Europe concerning the adoption of uniform technical prescriptions for wheeled vehicles, equipment and parts which can be fitted to and/or be used on wheeled vehicles and the conditions for reciprocal recognition of approvals granted on the basis of these prescriptions ('Revised 1958 Agreement') (97/836/EC)

THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty establishing the European Community and in particular Articles 100a and 113 thereof, in conjunction with Article 228 (2), first sentence, Article 228 (3) second subparagraph, and Article 228 (4) thereof,

Having regard to the proposal by the Commission (1),

Having regard to the assent of the European Parliament (2),

(1) Whereas, in its Decision of 23 October 1990, the Council authorized the Commission to take part in the negotiations concerning the revision of the United Nations Economic Commission for Europe (ECE) Agreement concerning the adoption of uniform conditions of approval and reciprocal recognition of approval for motor vehicle equipment and parts, done at Geneva on 20 March 1958;

(2) Whereas the 1958 Agreement has been revised;

(3) Whereas, as a result of the aforementioned negotiations, the Community has the option of becoming a Contracting Party to the Revised Agreement in its capacity as a regional economic integration organization to which its Member States have transferred powers in the area covered by the Agreement;

(4) Whereas accession to the Revised Agreement constitutes an aim of common trade policy in accordance with Article 113 of the Treaty to remove technical barriers to trade in motor vehicles between the Contracting Parties; whereas involvement by the Community will add weight to the harmonization activities conducted pursuant to that Agreement and will thus permit easier access to third-country markets; whereas that involvement must

result in the establishment of consistency between the instruments referred to as 'Regulations', adopted under the Revised Agreement, and Community legislation in this area;

(5) Whereas the approval of motor vehicles and technical harmonization are conducted on the basis of Directives concerning vehicle systems, components and separate technical units pursuant to Article 100a of the Treaty, which concerns the establishment and functioning of the internal market; whereas, since 1 January 1996 in respect of category M1 vehicles, the harmonization is total and mandatory within the meaning of Council Directive 70/156/EEC of 6 February 1970 on the approximation of the laws of the Member States relating to the type-approval of motor vehicles and their trailers (3) and the separate Directives on this category of vehicle;

(6) Whereas accession to the Revised Agreement by the Community requires amendments to instruments adopted in accordance with the procedure provided for in Article 189b of the Treaty; whereas the assent of the European Parliament is therefore required;

(7) Whereas the instruments referred to as 'Regulations' adopted within the bodies pursuant to the Revised Agreement will bind the Community on expiry of a six-month period following their notification if the Community has not made known its opposition to them; whereas it should therefore be stipulated that the Community vote concerning such instruments should be preceded by a decision adopted in accordance with the same procedure as that applying to the accession to the Revised Agreement, if those instruments do not simply constitute adaptation to technical progress;

(8) Whereas, however, assuming that the adoption of a regulation of this type merely constitutes an adaptation to technical progress, the Community vote may be decided on in accordance with the procedure used for technical adaptations to Directives on vehicle type-approval;

(9) Whereas it is appropriate to establish practical arrangements with regard to the involvement of the Community and the Member States in the Revised Agreement;

(10) Whereas the Revised Agreement provides for a simplified procedure for its amendment; whereas a form of decision-making at Community level should be instituted which takes account of the constraints of that procedure;

(11) Whereas, as required by the Revised Agreement, any new Contracting Party has the option, when lodging its instruments of accession, of declaring concomitantly that it intends not to be bound by certain UN/ECE Regulations of which it must give details; whereas the Community wishes to make use of that provision in order to accede immediately to the list of Regulations considered to be essential to the proper functioning of the vehicle approval system, as defined earlier in Directives 70/156/EEC, 74/150/EEC (4) and 92/61/EC (5), and, in view of their importance as regards the approval of vehicles at Community level and, likewise, at international level, to examine the scope for subsequently acceding to other Regulations on a case-by-case basis;

(12) Whereas that accession does not prejudice the option of ceasing to apply the UN/ECE Regulations set out in the list accepted by the Community, as provided for in Article 1 (6)

of the Revised Agreement; whereas such ceasing to apply will in particular concern cases where the Community adopts more stringent limit values for pollutant and noise emissions and the corresponding UN/ECE Regulations are not amended accordingly;

(13) Whereas, where the Community accedes not to all of the UN/ECE Regulations, but to a defined list of such Regulations considered essential to the proper functioning of the vehicle approval procedure, those Member States subscribing to such Regulations to which the Community does not accede should be permitted to continue to manage and develop those Regulations;

(14) Whereas, in pursuance of Article 234 of the Treaty, Member States should ensure that there is currently no incompatibility between the UN/ECE Regulations signed earlier, but to which the Community is not acceding, and the corresponding current Community legislation;

(15) Whereas the subscription to UN/ECE Regulations by Member States should not be incompatible with the provisions of Directives 70/156/EEC, 74/150/EEC and 92/61/EEC, and should take account of the procedures of Council Directive 83/189/EEC of 28 March 1983 laying down a procedure for the provision of information in the field of technical standards and regulations (6);

(16) Whereas, under Community rules, it is up to the Member States to implement the obligations deriving from Articles 2, 4 and 5 of the Revised Agreement,

HAS DECIDED AS FOLLOWS:

Article 1

The Community shall accede to the United Nations Economic Commission for Europe Agreement concerning the adoption of uniform technical prescriptions for wheeled vehicles, equipment and parts which can be fitted to and/or be used on wheeled vehicles and the conditions for reciprocal recognition of approvals granted on the basis of these prescriptions, hereinafter referred to as the 'Revised Agreement`.

The text of the Revised Agreement is set out as Annex I to this Decision.

Article 2

The President of the Council shall be authorized to designate the person empowered to lodge the instrument of accession as required by Article 6 (3) of the Revised Agreement and to make the notification contained in Annex IV to this Decision.

Article 3

1. Pursuant to Article 1 (5) of the Revised Agreement, the Community shall state that its accession will be restricted to implementation of the UN/ECE Regulations listed in Annex II to this Decision.

2. Pursuant to Article 1 (6) of the Revised Agreement, the Community may, in accordance with the procedure laid down in the second indent of Article 4 (2) of this Decision, decide to cease to apply a UN/ECE Regulation that it has previously accepted.

3. Pursuant to Article 1 (7) of the Revised Agreement, the Community may, in accordance with the procedure laid down in the second indent of Article 4 (2) of this Decision, decide to apply one, some or all of the UN/ECE Regulations to which it has not acceded at the time of its accession to the Revised Agreement.

Article 4

1. The practical arrangements with regard to the involvement of the Community and the Member States with regard to the work of the UN/ECE are set out in Annex III.

The contribution of the Community with regard to the priorities of the work programme of the UN/ECE shall be established in conformity with the procedure set out in Annex III, point 1.

2. The Community shall vote in favour of adopting any draft UN/ECE Regulation or a draft amendment to a Regulation

- where, if an existing Regulation to which it has acceded is being adapted to technical progress, the draft has been approved in accordance with the procedure set out in Article 13 of Directive 70/156/EEC,

- in all other instances, where on a proposal from the Commission and on receiving the assent of the European Parliament, the Council has approved the draft by a qualified majority.

3. Where a UN/ECE Regulation or an amendment to a UN/ECE Regulation is adopted without the Community having voted in favour, the Community shall express an objection in accordance with the second subparagraph of Article 1 (2) of the Revised Agreement.

4. On the assumption that the Community votes in favour of a UN/ECE Regulation or amendment to a UN/ECE Regulation, the decision shall also state whether that Regulation shall become part of the EC whole vehicle type-approval system and replace existing law within the Community.

5. The UN/ECE Regulations and amendments to UN/ECE Regulations binding on the Community shall be published in the official languages of the Communities in the Official Journal of the European Communities before entering into force.

Article 5

1. The proposed amendments to the Revised Agreement submitted to the Contracting Parties on behalf of the Community shall be adopted by the Council acting on a qualified majority, on a proposal from the Commission and having received the opinion of the European Parliament.

2. The decision whether to raise an objection, or otherwise, to the proposed amendments to the Revised Agreement put forward by other Contracting Parties shall be taken in accordance with the procedure followed in order to accede to that Agreement. Where that procedure has not been completed a week before expiry of the deadline provided for in Article 13 (2) of the Revised Agreement the Commission will state an objection to the amendment, on behalf of the Community, before that deadline expires.

Article 6

Those Member States which will subscribe, or have subscribed, to UN/ECE Regulations to which the Community is not bound may continue to manage and develop those Regulations by adopting amendments reflecting technical progress while ensuring:

- that subscription to these Regulations is not incompatible with the provisions of Directives 70/156/EEC, 74/150/EEC and 92/61/EEC, and
- that the procedures of Directive 83/189/EEC are observed.

Done at Brussels, 27 November 1997.

For the Council

The President

G. WOHLFART

(1) OJ C 69, 7. 3. 1996, p. 4.

(2) Assent delivered on 21 November 1997 (not yet published in the Official Journal).

(3) OJ L 42, 23. 2. 1970, p. 1. Directive as last amended by Directive 96/27/EC (OJ L 169, 8. 7. 1996, p. 1).

(4) OJ L 84, 24. 3. 1974, p. 10. Directive as last amended by the 1994 Act of Accession.

(5) OJ L 225, 10. 8. 1992, p. 72. Directive as last amended by the 1994 Act of Accession.

(6) OJ L 109, 26. 4. 1983, p. 8. Directive as last amended by Commission Decision 96/139/EC (OJ L 32, 10. 2. 1996, p. 31).

Appendix 2:

MINUTES OF REC EDITORIAL MEETING

28 March 2012, 10:00 – 17:00, Diamant Conference Centre, Brussels

Present: Henk Baarbé (NL, chair), Dirk Bosteels (AECC, Secretary), Bernardo Martinez (EC DG-ENTR), Philipp Hallauer (CH), Simon Davies (UK), Oliver Eberhardt (D), Leif-Erik Schulte (D, TÜV Nord), John May (AECC)

Report back from WP.29

At WP.29 it was reported by the UNECE WP.29 Secretariat that, where an amendment is to be introduced to a Regulation, at least 20% of Contracting Parties that have adopted the Regulation have to state that they will continue to apply the original version if it is to continue in parallel (Article 12). This will need to be discussed informally with Contracting Parties to determine whether it is viable to maintain the original (rev.00) version of the REC Regulation once the amendment (rev.01) is introduced. Participants questioned whether this procedure is, in fact, normally done when amendments are introduced.

Baarbé suggested that, if necessary, the two levels could be handled as two separate UN Regulations. Martinez commented that it would perhaps not be possible to maintain 2 separate levels (by either route) within the EU – this will need to be checked with the Commission's legal services.

It was agreed that the GRPE secretariat should be asked to circulate an UN letter or e-mail to contracting parties requesting feedback on the continued use of the rev.00 version.

ACTION: Chairman

The extension of the REC mandate by a maximum of 2 years was agreed by WP.29.

Input on NOx warnings/inducements from OICA/Euromot

Jürgen Stein (OICA/ Euromot) has submitted an outline (developed with Germany) of the proposal for NOx monitoring/warning/inducement systems and a full version is to be submitted for the next full meeting in Budapest.

Leif-Erik Schulte explained that the outline proposal includes limits for NH₃, reagent availability at low temperatures (with system heating if necessary), and reagent level and quality monitoring. There would be requirements on operator warning systems and an operator inducement system in the event of failures consisting of an initial visual warning followed by an additional audible warning, both of which would escalate over time. After 20 hours the starter current would be interrupted. No engine start would be possible for 5 hours. If the failure was not corrected, there would be further escalation. Whilst it was agreed that it would be possible to by-pass such a system, this would need preparation and would be very inconvenient. The intent of the proposal is to be compatible with older, less sophisticated equipment without interfering with the ECU (if fitted).

In discussion it was considered that these obligations could not be put on the REC supplier – the Type Approval of the device could not be contingent on it. This should, though, be in the information/instructions supplied for installation, with the operator responsible for its application. Part of the Type Approval could be that the package to be supplied includes the necessary hardware for this.

It was suggested that guidance on in-use control/enforcement related to these measures could be given to contracting parties, but it was recognised that this could not be part of the Regulation. It was considered that warranty requirements might be the most effective enforcement tool and it could be made clear in the Regulation that warranty could be denied in the event of tampering.

The safety issues around the proposal for interruption of starter current were discussed. It was suggested that there might need to be a short-term re-start permitted to allow movement out of dangerous situations.

It was agreed that overall the draft forms a good basis for the section on inducements etc. and should be circulated in advance of the 10th REC meeting in Budapest. **ACTION: Secretariat**

Input on safety, noise and installation requirements by CECE

This document has been submitted with no indication of changes from the current draft, nor any justifications, which makes it difficult to evaluate.

CECE will be asked to explain the proposed changes at the meeting in Budapest and to provide a mark-up showing the proposed changes. **ACTION: AECC**

Data on WHTC testing for NOx efficiency requirements

The current proposal is for efficiency to be assessed using the WHTC or NRTC and the figures used for reduction efficiency were based on discussions with manufacturers. AECC presented initial WHTC data from testing of 2 engines which showed significantly lower NOx efficiency over the WHTC due to lower operating temperatures. It was agreed that the efficiency figures in the current draft Regulation had been based on the ETC. It was felt that, as the option for thermal management is limited in the case of retrofits, it would be preferable to maintain the WHTC as a requirement (to take account of likely 'real-world' efficiency) even if this required the acceptance of lower efficiencies on that cycle. The possibility of including both ETC and WHTC requirements was considered. It was agreed that the WHTC requirements should be retained as a weighted (cold-start + hot-start) figure. It may be possible to make an assessment of appropriate figures based on temperatures in the WHTC data, JRC results etc. It was suggested that this should also be discussed with TfL and Sweden. It was also suggested that the ETC:WHTC correlation factor developed for Euro VI might form a basis for adjusting the proposed efficiency requirements. However the figure used in that study assumed optimised engine configurations for Euro VI, so the lower end of the 7% to 20% increase in NOx for the WHTC had been used. It was agreed that Baarbé would discuss TNO's conclusions for older engines and the figures also need to be discussed with retrofitters. Temperature achievability and the ability for ammonia storage will need to be considered. TNO will also be asked if they have an SCR temperature/storage model that could be used. **ACTION: Henk Baarbé**

It was agreed that the efficiency figure needs to be challenging but achievable. Too low an efficiency figure might make it more difficult to 'sell' the first stage efficiency requirements.

AECC was asked to show the presentation at the REC-10 meeting. **ACTION: AECC**

Draft REC Roadmap

The draft roadmap/timeline was shown. The final plan will depend on whether 2 levels are maintained. The need for a Euro VI annex was discussed, with agreement that the provisions in Euro VI itself make it necessary to have this Annex. This will essentially require RECs for Euro VI to meet the full Euro VI technical elements. Simon Davies has already prepared such a listing and will provide it to the REC group. **ACTION: Simon Davies**

Appropriate references to Reg. 49 will then need to be added.

The need for further provisions on secondary emissions was further discussed. It was suggested that the section should specifically refer to evidence being required on key pollutants such as dioxins. Simon Davies agreed to provide additional wording. **ACTION: Simon Davies**

The tasks shown on the roadmap were reviewed and allocations agreed. The overall time plan was agreed and tentative timings for further meetings in 2012 were agreed.

The document will now be submitted to the Budapest meeting.

Date for June 2012 REC meeting.

A CARS 21 High Level group meeting is now scheduled for the same day as the REC meeting. Dirk Bosteels will have to attend the CARS 21 meeting and John May is also not available for the

GRPE meetings. Attempts have been made to exchange the date with other informal group meetings, but this has not been possible. The possibility of arranging the meeting for Monday (pm) will be explored with the GRPE secretariat and discussed in the Budapest meeting. It was agreed that, if needed, a solution will be sought with group members and the GRPE secretariat for preparation of minutes.

ACTION: Secretariat (in progress)

Draft 00 Regulation

Initial drafts of the base (00) and amending (01) regulations were reviewed.

It was noted that for higher-efficiency systems the two level approach would require re-approval to the 01 level once it was agreed.

The question of whether PM number requirements were to be included in the 00 version was discussed. It was agreed that this would not be needed until the 01 version. PM number requirements will be dealt with in a similar way to secondary emissions (rather than as a part of secondary emissions section).

It was agreed that that Type I devices (PM reduction with no NO₂ increase) should be retained in the 00 draft. The need for both Type I and Type 2 RECs in the 01 amendments was discussed, including the possibility of setting a maximum NO₂ percentage for Type II REC in the 00 versions and then decreasing the percentage in the 01 version. It was noted that if only Type 1 were to be permitted for the 01 amendments, this would effectively preclude most existing systems except additive systems and perhaps some systems using additional heating for DPF regeneration. Philipp Hallauer also noted that where DPFs are retrofitted after an SCR, additive systems would not be appropriate as the additive would first have to pass through the SCR. The possibility of using a ppm figure for tailpipe NO₂ was discussed, as was the use of this as a maximum in conjunction with a percentage figure. It was concluded that NO₂ requirements will need to be considered in the REC-10 meeting. The acceptability of a 20%, rather than 30%, increase in NO₂ for Type II was also discussed and Martinez was asked to get the views of DG-ENV on this.

ACTION: Bernardo Martinez

The transitional provisions section has been moved to the 01 series of amendments

It was thought that reduction levels may need to refer to the amendment, rather than being described as reduction level 1 & 2. The possibility of retaining the 'level 1/level 2' nomenclature was considered and will be discussed with the GRPE secretariat.

The original proposal allowed the combination of levels for Type IV (combined PM+NO_x) RECs. This would not be possible with the new proposal.

Para 14.2 on alternate emissions measurements, proposed by EMA, was deleted on the basis that equivalent analysers are already included in Regs. 49 & 96.

Schulte agreed to provide a graphic of the revised formula for 5.2. standard deviation in the Annex on testing of a particulate reduction REC and of the final version of the tables for Reg.96 limits.

ACTION: Leif-Erik Schulte (both actions completed and included in the latest draft)

The sections on CoP will need to be reviewed (by Hungary?) in view of the changes to the regulation structure.

Draft 01 amendments

Most issues had been discussed in combination with the re.00 draft.

The table on combination of levels will now have to be deleted.

The wording on modifications to existing engines may have to be extended to cover systems that have already been retrofitted.

