Template for corrections DA on test methods

Compilation by SWGs chairs Replies by CION	Proposal	indicates who tabled this proposal
	To be assessed	means to be assessed and possibly corrected by amending act
	OK	means to be corrected by the OJ Pub. Office

Article or Annex #	Appendix #	Section, paragraph, figure or equation #	Error/comment	Proposed correction (include name of file if attaching mark-up of correction or other separate document)	EC observations
All		General comment	Consistent and harmonised terminology should be used for the fuel used by the engine: engine fuelled with engine running on / to run on engine operated on	Harmonise the terms used	CION proposal Proposal for future amendment. As far as everybody understands the equivalency of the meaning, it is not necessary to make this correction at this stage. It would be good to harmonise this terms in a future revision of the legislation.
All		Use of scan tools	Use of scan tools on engines of categories IWA, IWP and RLR for market surveillance activities.	Question: Should it exist an interface for the engine ECU accessible by the scan tool that the river police has? Not been able to find a definition of scan tool neither in the CDA, nor in the supplementing legislation.	New proposal Proposal for future amendment. There is a definition of "scan-tool" in Point 1.1.(9) of Annex IV (Requirements with regard to emission control strategies, NOx control measures and particulate control measures) There is a requirement in this Annex for NRE, RLL, IWP and IWA for reading from the computer memory by a scan-tool if they were operated without urea or particulate after-treatment system has been tampered.

Template for corrections DA on test methods

Compilation by SWGs chairs Replies by CION	Proposal	indicates who tabled this proposal
	To be assessed	means to be assessed and possibly corrected by amending act
	OK	means to be corrected by the OJ Pub. Office

Article or Annex #	Appendix #	Section, paragraph, figure or equation #	Error/comment	Proposed correction (include name of file if attaching mark-up of correction or other separate document)	EC observations
					Up to day the legislation does not specify for a standardised connector for the scan-tool; nevertheless, there is an obligation on the manufacturer to make possible for national inspection authorities to read these records with a scan tool. A possible standardisation of the connector for the scan-tool should be developed at a later stage. In absence of such a standard requirements for manufacturers to describe connector and method to read information with scan tool may be requested.
Article		1	We consider as useful more clear and a matter of better regulation to have a new article before this Article 1. to set out the subject matter of this Commission Delegated Regulation.	Our suggestion: is: Article 1 (new). Subject matter This regulation sets out the technical and general requirements relating to emissions limits and type-approval for internal combustion engines for non-road mobile machinery in accordance with Regulation (EU) 2016/1628.	PT proposal Not accepted. An article on the subject matter is useful when the subject matter of the act will not emerge sufficiently clearly and quickly from a reading of the title and of the articles on rights and obligations. This Article should be more detailed than the title

Template for corrections DA on test methods

Compilation by SWGs chairs Replies by CION	Proposal	indicates who tabled this proposal
	To be assessed	means to be assessed and possibly corrected by amending act
	OK	means to be corrected by the OJ Pub. Office

Article or Annex #	Appendix #	Section, paragraph, figure or equation #	Error/comment	Proposed correction (include name of file if attaching mark-up of correction or other separate document)	EC observations
					and general enough to comprise the whole subject matter of the act and not just parts of it. Thus, it was suppressed, as much of the same has been said in the title and in the recitals.
Article		4	The emission laboratory test results shall be adapted to include the deterioration factors, comprising those related with the measurement of the particle number (PN) and with gaseous fuelled engines, referred to in Article 25(3)(d), Article 25(4)(d) and Article 25(4)(e) of Regulation (EU) 2016/1628, in accordance with the methodology laid down in Annex III to this Regulation.	We consider that it is suitable and more clear to refer also the article 25(4)(a).	PT proposal Accepted. The right reference is Article 25(1)(c) of Regulation (EU) 2016/1628 This reference is necessary to clarify which those factors are. You are right that Article 25(3)(d) does not refer to measurements of PN or gaseous fuelled engines, and Art. 25(4)(d) and (e) are empowerments which should be mentioned in the citations only.
Annex I		1.2.2. & 1.2.2.1. (c)	Value amemdment: 1.2.2. […] and an Fatty-Acid Methyl Ester ('FAME') content not greater than 7,0 % v/v. […] cetane number not less than 45 and an FAME content not greater than 7,0 % v/v. 1.2.2.1. (c) In the case of diesel (non-road gas-oil), Directive 98/70/EC and also both a cetane number not less than 45 and	It shall be: 1.2.2. […] and an Fatty-Acid Methyl Ester ('FAME') content not greater than 7,0 % v/v. […] cetane number not less than 45 and an FAME content not greater than 7,0 % v/v. 1.2.2.1. (c) In the case of diesel (non-road gas-oil),	Accepted

Template for corrections DA on test methods

Compilation by SWGs chairs Replies by CION	Proposal	indicates who tabled this proposal
	To be assessed	means to be assessed and possibly corrected by amending act
	OK	means to be corrected by the OJ Pub. Office

Article or Annex #	Appendix #	Section, paragraph, figure or equation #	Error/comment	Proposed correction (include name of file if attaching mark-up of correction or other separate document)	EC observations
			FAME not greater than 7,0 % v/v. Rationale: The value of 7% was selected on basis that this would be the maximum value for the 'standard' fuel range across the EU enabling the end-user to operate the engine on 'normal' diesel/non-road gas-oil. In case the manufacturer wants to permit the end-user to use other fuels with a higher proportion of FAME (eg 20%, 30% or even 100%) the manufacturer must perform an additional demonstration that the limits are still respected on the other fuel. What we have overlooked is that in France the National legislation on diesel fuel uses a maximum value of 8% instead of 7%. This was recently highlighted to us as a concern by SNCF although the issue affects all diesel engine type-approvals, not just those for rail. This means that if the manufacturer obtains a type-approval for the standard fuel range specified in the delegated act then according to 2017/654 that engine cannot be used with the normal diesel fuel in France. Consequently either the end user must ignore the 7% limit, or the standard fuel range approval becomes useless for France and the manufacturer must in every case always conduct the standard test on up to 7% FAME plus an additional demonstration using 8% FAME. This would be disproportionate and defeats the objective of having a standard fuel range type-approval. In practice the emissions difference between 7% and 8% FAME is likely to be less than the test-to-test variability, so the difference may not even be measurable. I strongly recommend that Commission raise the upper value for the standard fuel range to 8% to avoid an unnecessary conflict with French national diesel fuel requirements.	Directive 98/70/EC and also both a cetane number not less than 45 and FAME not greater than 7,0 % v/v.	
Annex I		1.2.2.1	The words '…at the moment of EU type-approval…' are inappropriate and undermine purpose of paragraph. 1.2.2.1 needs to apply for all engines produced, not only at moment	Revise text to remove '…at the moment of EU type approval…'	Accepted to redraft as: The engine manufacturer shall not indicate at ~~the~~

Template for corrections DA on test methods

Compilation by SWGs chairs Replies by CION	Proposal	indicates who tabled this proposal
	To be assessed	means to be assessed and possibly corrected by amending act
	OK	means to be corrected by the OJ Pub. Office

Article or Annex #	Appendix #	Section, paragraph, figure or equation #	Error/comment	Proposed correction (include name of file if attaching mark-up of correction or other separate document)	EC observations
			of type-approval.		~~moment of EU type-approval~~ **any time** that an engine
Annex I		2.4.1.	The sentence is a heading the word "For" should be deleted.	It shall read as: 2.4.1. ~~For e~~Engines fuelled with CNG and designed for operation on either the range of H-gases or on the range of L-gases	DE proposal Accepted
Annex I		2.4.1.4	Redundant paragraph: "On delivery to the customer the engine shall bear a label as specified in Annex III to Regulation (EU) 2016/1628 stating for which range of gases the engine is EU type-approved." Rationale: Annex III to Regulation (EU) 2016/1628 Should be Annex III to the RAR. The fuel type is indicated in the engine type/or family type-approval number, which is part of the "standard marking". This whole paragraph should be simply deleted as redundant.	Point 2.4.1.4.to be deleted.	Accepted
Annex I		2.5.1. & 2.5.2.	The headings are de facto the same. The only difference is the word "liquid biomethane", which is not included in 2.5.2 2.5.1. Fuel-specific engine fuelled with liquefied natural gas/liquefied biomethane (LNG) 2.5.2. Fuel-specific engine fuelled with Liquefied Natural Gas (LNG)	If 2.5.1., as set out in 2.5.1.1, is to be a special case as opposed to 2.5.2, this must be expressed more clearly, e.g. 2.5.1. Requirements for a fuel-specific engine operated with liquid natural gas / liquid biomethane (LNG) based on liquid biomethane"	DE proposal Accepted to correct as follows: Words „dual-fuel" are missing from title of 2.5.2. 2.5.2. Fuel-specific dual-fuel engine fuelled with Liquefied Natural Gas (LNG)
Annex I		2.5.2.1.	This sentence is confusing: For a dual-fuel engine family the engines shall be calibrated for a specific LNG gas composition resulting in a λ -shift factor not differing by more than 3 % from the λ -shift factor of the G20 fuel specified in Annex IX, and the ethane content of	To be redrafted as: For a dual-fuel engine family where the engines ~~shall be~~are calibrated for a specific LNG gas composition resulting in a λ -shift factor not differing by more than 3 % from the λ -shift factor of the G20 fuel specified in	Accepted

Compilation by SWGs chairs Replies by CION	Proposal	indicates who tabled this proposal
	To be assessed	means to be assessed and possibly corrected by amending act
	OK	means to be corrected by the OJ Pub. Office

Article or Annex #	Appendix #	Section, paragraph, figure or equation #	Error/comment	Proposed correction (include name of file if attaching mark-up of correction or other separate document)	EC observations
			which does not exceed 1,5 %, the parent engine shall only be tested on the G20 reference gas fuel, or on the equivalent fuel created using an admixture of pipeline gas with other gases, as specified in Appendix 1 of Annex IX.	Annex IX, and the ethane content of which does not exceed 1,5 %, the parent engine shall only be tested on the G20 reference gas fuel, or on the equivalent fuel created using an admixture of pipeline gas with other gases, as specified in Appendix 1 of Annex IX.	
Annex II		3.3.2.	3.3.2. The initial assessment and verification of product conformity arrangements may also be carried out by the approval authority of another Member State, or the appointed body designated for this purpose by the approval authority.	Should read as: 3.3.2. The initial assessment and verification of product conformity arrangements may also be carried out in cooperation with the approval authority of another Member State, or the appointed body designated for this purpose by the approval authority.	PT proposal Accepted
Annex II		6.2.3	In order to be consistent with Article 7(2) of the implementing act where an existing RLL test report is submitted to obtain a Stage V type approval it should be permitted to use the same version of 'F' cycle for conformity of production of those engines type-approved on that cycle.	Insert new point 6.2.3.1. '6.2.3.1. In the case of engines of category RLL where an existing test report is used for type-approval in accordance with Article 7(2) of Commission Implementing Regulation (EU) 2016/CCC on administrative requirements, the per cent load and power and the weighting factor for the mode number (mode no) of the F cycle for the purpose of this Annex may be the same as that used for the type-approval test.'	EUROMOT proposal Accepted in order to align with the acceptance of RLL old test reports to reduce the burden on the manufacturers. The following new point is added: 6.2.3.1. Notwithstanding point 6.2.3., in the case of engines of category RLL where an existing test report is used for type-approval in accordance with Article 7(2) of Commission Implementing Regulation (EU) 2017/656, the per cent load and power and the weighting factor for the mode number (mode no) of the F cycle for the purpose of this Annex may be the

Compilation by SWGs chairs Replies by CION	Proposal	indicates who tabled this proposal
	To be assessed	means to be assessed and possibly corrected by amending act
	OK	means to be corrected by the OJ Pub. Office

Article or Annex #	Appendix #	Section, paragraph, figure or equation #	Error/comment	Proposed correction (include name of file if attaching mark-up of correction or other separate document)	EC observations
					same as that used for the type-approval test.
Annex III		1.5. & 3.1.2. & 2.4.6.	Questions: 1. Does the "relative sub-family of engine families ..." mean "... sub-family of engine types of an engine family ..."? (See also definition 9 "Engine family" in Article 3 of Regulation 2016/1628) 2. How and where is the labelling for this new family type? In the RAR implementing act no marking seems to be provided for this (see Annex V). For DE Komments, see document: Anmerkungen BMVI zu Dokument ST 15755-16Add1 Stand 2017-01-20		DE proposal Not accepted. There is no labelling. This exists only for purpose of conducting tests and is documented in type-approval information folder. These terms refer to broader groups of engine families which share a common technical characteristic (e.g. after-treatment system or NOx control system)
Annex III		Section 3	Question: How are engine types, engine families without an exhaust after-treatment system treated (for example, IWA and IWP engines <300kW)? It is not clear enough which provisions of point 3 apply to these engines.	Maybe an introductory sentence in number 3 would help to determine which requirements apply in addition to engines without exhaust gas after-treatment system: Alternatively, the following wording could be used: " For engines without an exhaust after-treatment system, only the requirements of points XXXX shall apply."	DE proposal For engines without after-treatment system, those provisions applicable to engines fitted WITH after-treatment system DO NOT apply. Nevertheless, it could be better drafted to make it clearer which requirements apply to engines without after-treatment system. A review of section 3 has been carried out. See document:

Template for corrections DA on test methods

Compilation by SWGs chairs Replies by CION	Proposal	indicates who tabled this proposal
	To be assessed	means to be assessed and possibly corrected by amending act
	OK	means to be corrected by the OJ Pub. Office

Article or Annex #	Appendix #	Section, paragraph, figure or equation #	Error/comment	Proposed correction (include name of file if attaching mark-up of correction or other separate document)	EC observations
					2017-654_Annex III_Point 3_DF_20170503
Annex III		3.2.5.2 last paragraph	Insert missing text '…or group of engine families…' Where emission values are used for engine families in the same engine-after-treatment family but with different emission durability periods, then […]	'Where emission values are used for engine families in the same engine-after-treatment family or group of engine families but with different emission durability periods, then…'	Accepted as redrafted: 'Where emission values are used for engine families in the same group of engine families or engine-after-treatment family but with different emission durability periods, then…'
Annex III		3.2.6.1	Point 3.2.6.1 Clearly points to multiplicative deterioration factors. Paragraphs 1 and 2 contradict paragraph 3 "For PN, either an additive deterioration factor of 0.0 ....". Therefore sentence 3 would have to be supplemented or it would deviate from paragraph 2 ...." Alternatively, the word "additive" in sentence 3 could be deleted.		DE proposal Agree that it can be better drafted to make it clearer, but "additive" should not be deleted. Accepted to insert a new sub-point as follows: 3.2.6.1.1. Notwithstanding point 3.2.6.1., for PN, either an additive DF of 0,0 or a multiplicative DF of 1,0 may be used, in conjunction with the results of previous DF testing that did […]
Annex III		3.4.1.3.	Wrong reference: The approval authority shall not refuse to approve maintenance requirements that are reasonable and	Shall read: The approval authority shall not refuse to approve maintenance requirements that are reasonable and	Accepted

Compilation by SWGs chairs Replies by CION	Proposal	indicates who tabled this proposal
	To be assessed	means to be assessed and possibly corrected by amending act
	OK	means to be corrected by the OJ Pub. Office

Article or Annex #	Appendix #	Section, paragraph, figure or equation #	Error/comment	Proposed correction (include name of file if attaching mark-up of correction or other separate document)	EC observations
			technically necessary, including but not limited to those identified in point 1.6.1.4.	technically necessary, including but not limited to those identified in point 3.4.1.4.	
Annex IV		2.2 – 2.3	The BECS & AECS requirements do not appear to accommodate the requirements of engines only subject to NRSC that are not tested on a transient cycle.	Suggest to make a minor modification to ensure engine transient emission control strategies are permitted	EUROMOT proposal To be discussed See document: 2017-654_Annex_IV_20170727
Annex IV		2.3.1.	Duplication mistake: 2.3.1. An auxiliary emission control strategy may be activated by an engine or a non-road mobile non-road mobile machinery, provided that the auxiliary emission control strategy:	It should read as: 2.3.1. An auxiliary emission control strategy may be activated by an engine or a non-road mobile machine, provided that the auxiliary emission control strategy:	DE proposal Accepted as proposed.
Annex IV	1	2.2.1	Incorrect section reference. It is only the operating conditions in section 2.2.1 that do not apply for reagent level monitoring, not the entire section 2. This section 2 does not apply to monitoring	It should read as: This point 2.2.1 does not apply to monitoring Re-word by moving statement on reagent monitoring to start of section:	Accepted For all amendments relating to Appendix 1, see document: 2017-654_Annex_IV_Appendix 1_20170607
Annex IV	1	2.3.1.	Wrong reference: The references to points 2.3.2 and 2.3.3 do not seem to be correct. 2.3.2. should be replaced by 2.3.2.2 and 2.3.2.3., and point 2.3.3 regulates only a sub-range of non-heated systems. While 2.3.2.1 should apply to heated and unheated systems (as indicated in section 2.3.3.2).	It is permitted to use a heated or a non-heated reagent tank and dosing system. A heated system shall meet the requirements of point 2.3.2. A non-heated system shall meet the requirements of point 2.3.3..	DE proposal Accepted as follows: There is a wrong numbering issue: 2.3.2.3. shall be 2.3.2.2.4. and 2.3.3. shall be 2.3.2.3. and the subsequent point shall

Compilation by SWGs chairs Replies by CION	Proposal	indicates who tabled this proposal
	To be assessed	means to be assessed and possibly corrected by amending act
	OK	means to be corrected by the OJ Pub. Office

Article or Annex #	Appendix #	Section, paragraph, figure or equation #	Error/comment	Proposed correction (include name of file if attaching mark-up of correction or other separate document)	EC observations
					be: 2.3.2.3.1. instead of 2.3.3.1. 2.3.2.3.2. instead of 2.3.3.2. Reference to section 2 in 2.3.2.2 should be reference to section 2.3.2. Finally, we agree that the references to points 2.3.2 and 2.3.3 in point 2.3.1. should be replaced by 2.3.2.2. and 2.3.2.3.,
Annex IV	1	2.4.3.	Question: If the DTC errors are erased, how should be possible a longer-term diagnosis of the system? DTC errors should be stored for a long period of time. This would allow for an analysis of "what errors, how often and in what context (also) to each other'. In addition, erasing errors without further action is not in accordance with points 11.2.2.1 et seq. and 11.4.		DE proposal Not accepted. It shall be possible to erase faults with a maintenance tool after diagnosis in order to check if the repair has worked out, or if fault re-appears. The text is copy-pasted of HDV legislation.
Annex IV	1	3.1. & 4.1. & 5.1. & 7.1.	Replace machinery by non-road mobile machine The manufacturer shall furnish or cause to be furnished to all end-users of new engines or machines	Shall read as: The manufacturer shall furnish or cause to be furnished to all end-users of new engines or non-road mobile machinery	DE proposal Accepted for 3.1. Additionally Annex XV sets out obligations of OEM not manufacturer and applies to non-road mobile machinery rather than

Compilation by SWGs chairs Replies by CION	Proposal	indicates who tabled this proposal
	To be assessed	means to be assessed and possibly corrected by amending act
	OK	means to be corrected by the OJ Pub. Office

Article or Annex #	Appendix #	Section, paragraph, figure or equation #	Error/comment	Proposed correction (include name of file if attaching mark-up of correction or other separate document)	EC observations
					engines. It should be as follows: The OEM shall provide to all end-users of new non-road mobile machinery written instructions about the emission control system and its correct operation in accordance with Annex XV. Already corrected in 4.1, 5.1 & 7.1
Annex IV	1	7.1.1.1.	Wrong reference: 7.1.1.1. The correct value of CDmin shall be demonstrated during EU type-approval by the procedure defined in section 13 and recorded in the extended documentation package as specified in section 8 of Annex I.	Shall be: 7.1.1.1. The correct value of CDmin shall be demonstrated during EU type-approval by the procedure defined in section 13 and recorded in the extended documentation package as specified in section 8 of Annex I to Implementing Regulation (EU) 2017/656.	Accepted as redfrafted: The ~~correct~~ value of CD_{min} specified by the manufacturer shall be ~~demonstrated~~ used during ~~EU type-approval by the procedure defined~~ the demonstration set out in section 13 and recorded in Part C of the information document ~~extended documentation package as~~ specified in ~~section 8 of~~ Annex I of Implementing Regulation (EU) 2017/656.
Annex IV	1	10.2.1.	Wrong wording: 10.2.1. The demonstration that the monitoring systems for other members of the NCD family are similar may be performed by presenting to the approval authorities such elements as algorithms, functional analyses, etc.	Shall read: 10.2.1. The demonstration that the monitoring systems for other members of the NCD engine family are similar may be performed by presenting to the approval authorities such elements as algorithms, functional analyses, etc.	Accepted

Template for corrections DA on test methods

Compilation by SWGs chairs Replies by CION	Proposal	indicates who tabled this proposal
	To be assessed	means to be assessed and possibly corrected by amending act
	OK	means to be corrected by the OJ Pub. Office

Article or Annex #	Appendix #	Section, paragraph, figure or equation #	Error/comment	Proposed correction (include name of file if attaching mark-up of correction or other separate document)	EC observations
Annex IV	1	10.2.3.	Wrong punctuation: The reference to 10.2.1 seems to be wrong as no provisions on type approval are set out in 10.2.1. In the case where engines of an engine family belong to an NCD engine family that has already been EU type-approved according to point 10.2.1. (Figure 4.3.), the compliance	It shall read as: In the case where engines of an engine family belong to an NCD engine family that has already been EU type-approved, according to point 10.2.1. (Figure 4.3.) the compliance	DE proposal To be corrected as proposed. The comma is moved to correct the meaning of the sentence.
Annex IV	1	Table 4.1.	Low-level inducement activation specified in the cell makes reference to point 10.4. and “severe inducement system” makes reference to 10.4.6. but, Points 10.4.1 to 10.4.4 apply to both of them.	Replace the severe inducement reference by 10.4 or the low inducement by 10.4.5. Warning system activation specified in point 10.3. Low-level inducement activation specified in point 10.4. Severe inducement activation specified in point 10.4.~~6.~~	DE proposal Accepted. To be corrected as follows: It should be 10.4. for both of them
Annex IV	1	10.3.1.	The compliance of the warning system activation shall be demonstrated by performing two tests: lack of reagent, and one failure category considered in sections 7. to 9.. Why only two tests are required? This seems clearly insufficient, given that reference is made to a total of 4 areas o Lack of reagent o Errors from 7 to 9		DE proposal Not accepted. Policy decision agreed by QSG and consistent with HDV legislation. The approval authority chooses a number of items to check, but it is not practical / proportionate to check all items.
Annex IV	2	Sections 2, 3, and 4	DE Comments For DE Komments, see document: Anmerkungen BMVI zu Dokument ST 15755-16Add1 Stand 2017-01-20		Accepted For all amendments to Appendix 2, see document: 2017-654_Annex_IV_Appendix

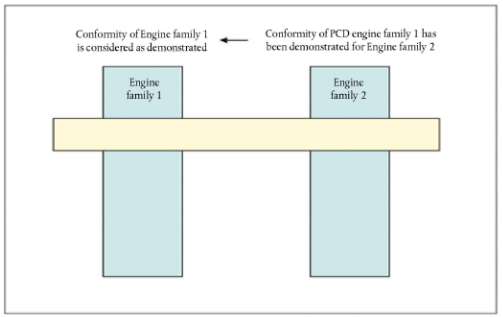
Template for corrections DA on test methods

Compilation by SWGs chairs Replies by CION	Proposal	indicates who tabled this proposal
	To be assessed	means to be assessed and possibly corrected by amending act
	OK	means to be corrected by the OJ Pub. Office

Article or Annex #	Appendix #	Section, paragraph, figure or equation #	Error/comment	Proposed correction (include name of file if attaching mark-up of correction or other separate document)	EC observations
					2_20170607
Annex IV	4	2.3.2.3.	Wrong reference: 2.3.2.3. In cases where more than the period of running time indicated in Table 1 is required for the monitors to accurately detect	It shall read: 2.3.2.3. In cases where more than the period of running time indicated in Table 4.5 is required for the monitors to accurately detect	Accepted For all amendments to Appendix 4, see document: 2017-654_Annex_IV_Appendix 4_20170607
Annex IV	4	3.	This is, in fact, additional requirements. 3. Maintenance requirements	The title should therefore begin as follows: 3. Additional requirements	DE proposal Not accepted. The text is consistent with App 1 to Annex IV. The information for the end-user is related with the correct operation of the emissions control system (which includes maintenance).

Template for corrections DA on test methods

Compilation by SWGs chairs Replies by CION	Proposal	indicates who tabled this proposal
	To be assessed	means to be assessed and possibly corrected by amending act
	OK	means to be corrected by the OJ Pub. Office

Article or Annex #	Appendix #	Section, paragraph, figure or equation #	Error/comment	Proposed correction (include name of file if attaching mark-up of correction or other separate document)	EC observations
Annex IV	4	9.2.1. Figure 4.8	insert missing text 'PCD Engine family 1' in the horizontal bar of Figure 4.8	*Figure 4.8* **Previously demonstrated conformity of a PCD engine family** 	Accepted
Annex IV	4	9.3.3.6.2. (a)	Imprecise terminology (a) the requested test-cycle results in a monitor that will run in real world driving; and Rationale: NRMM are not driven, they operate	Use defined terminology (a) the requested test-cycle results in a monitor that will run in real world operation; and	Accepted
Annex V		Point 1 last paragraph	The installation instructions provided by the manufacturer to the OEM in accordance with Annex XIV shall identify the upper and lower boundaries of the applicable control area and shall include a statement to clarify that the OEM shall not install the engine in such a way that it constrains the engine to operate permanently at only speed and load points outside of the control area for the torque curve corresponding to the approved engine type or engine family.	The installation instructions provided by the manufacturer to the OEM in accordance with Annex XIV shall identify the upper and lower boundaries of the applicable control area and shall include a statement to clarify that the OEM shall not install the engine in such a way that it constrains the engine to operate permanently at only combinations of speed and ~~load~~torque ~~points~~ outside of the control area for the torque curve corresponding to the approved engine type or engine family.	Accepted as proposed For all amendments to Annex V, see document: 2017-654_Annex_V_20170831
Annex V		Section 1 para 3	Imprecise terminology '…the emissions sampled at any randomly selected point…'	Use defined terminology '…the emission of gaseous and particulate pollutants sampled at any randomly selected point…'	Accepted as proposed

Template for corrections DA on test methods

Compilation by SWGs chairs Replies by CION	Proposal	indicates who tabled this proposal
	To be assessed	means to be assessed and possibly corrected by amending act
	OK	means to be corrected by the OJ Pub. Office

Article or Annex #	Appendix #	Section, paragraph, figure or equation #	Error/comment	Proposed correction (include name of file if attaching mark-up of correction or other separate document)	EC observations
V		3	Clarify meaning of 'random'	Insert clarification based upon text in heavy-duty Euro VI '	EUROMOT proposal Accepted as follows in alignment with the HDV requirements: 3.1. For the purpose of the random selections required in point 3, acknowledged statistical methods of randomization shall be used.
V		4	Changes to the test procedure may be required in order to address regeneration of the after-treatment system during the random point demonstration test	EUROMOT proposes to work with Commission/JRC to determine appropriate technical changes	EUROMOT proposal To be discussed See document: 2017-654_Annexes V&VI_NTE control area_20170426
Annex V		4 (f)	Incorrect cross references. It should be to 'equations 7-67 or 7-134' for particulate calculations the multiple filter method shall be used; for summation calculations, N_{mode} in equation (7-64) shall be set to 1 and a weighting factor of 1 shall be used.	for particulate calculations the multiple filter method shall be used; for summation calculations, N_{mode} in equations (7-67) or (7-134) shall be set to 1 and a weighting factor of 1 shall be used.	Accepted
Annex V		7.7.2.3.1.	Paragraph 7.7.2.3.1. does not exist, is seems that it should be replaced by point (b) of paragraph 7.7.2.3. Paragraph 7.7.2.3.1. should also be deleted from the calculations annex where it is mentioned. Best regards Giorgio and Adolfo		Accepted. The reference has been corrected all over the text.

Template for corrections DA on test methods

Compilation by SWGs chairs Replies by CION	Proposal	indicates who tabled this proposal
	To be assessed	means to be assessed and possibly corrected by amending act
	OK	means to be corrected by the OJ Pub. Office

Article or Annex #	Appendix #	Section, paragraph, figure or equation #	Error/comment	Proposed correction (include name of file if attaching mark-up of correction or other separate document)	EC observations
			"7.7.2.3 Denormalization of engine torque The torque values in the engine dynamometer schedule of Appendix 3 of Annex XVII. are normalized to the maximum torque at the respective speed. The torque values of the reference cycle shall be denormalized, using the mapping curve determined according to point 7.6.2, by means of equation (6-16): T ref¼%torque ◆ max:torque100 (6-16) for the respective reference speed as determined in point 7.7.2.2 Where: Tref is the reference torque for the respective reference speed max.torque is the maximum torque for the respective test speed taken from the engine mapping performed in accordance with point 7.6.2 adjusted where necessary in accordance with point 7.7.2.3.1 %torque is the value of NRTC or LSI-NRTC normalized torque taken from Appendix 3 of Annex XVII (a) Declared minimum torque A minimum torque that is representative of in-use operation may be declared. For example, if the engine is typically connected to a non-road mobile machinery that does not operate below a certain minimum torque, this torque may be declared and used for any load point that would otherwise fall below this value. (b) Adjustment of engine torque due to auxiliaries fitted for the emissions test Where auxiliaries are fitted in accordance with Appendix 2 there shall be no adjustment to the maximum torque for the respective test speed taken from the engine mapping performed according to point 7.6.2. Where, according to points 6.3.2 or 6.3.3 necessary auxiliaries that should have been fitted for the test are not installed, or auxiliaries that should have been removed for the test are installed, the value of Tmax shall be adjusted by means of equation (6-17…"		
Annex VI		1.	Suggestion to announce the official title of GTR No. 11 at least once. Use official abbreviation of UNwp29 = "GTR No.	The text should read:	AT proposal

Template for corrections DA on test methods

Compilation by SWGs chairs Replies by CION	Proposal	indicates who tabled this proposal
	To be assessed	means to be assessed and possibly corrected by amending act
	OK	means to be corrected by the OJ Pub. Office

Article or Annex #	Appendix #	Section, paragraph, figure or equation #	Error/comment	Proposed correction (include name of file if attaching mark-up of correction or other separate document)	EC observations
			11" an not unofficial one. Replace: the numbering of this Annex is consistent with the numbering of the NRMM gtr 11 and UN R 96-03. However, some points of the NRMM gtr 11	the numbering of this Annex is consistent with the numbering of the Global technical regulation No. 11 on Engine Emissions from agricultural and forestry tractors and from non-road mobile machinery (GTR No.11) and UN R 96-03, Annex 4B. However, some points of the GTR No 11.	Accepted. Both of them are mentioned for the first time in Recital (6). Therefore, the whole name shall be indicated there and only the acronym inserted here.
Annex VI		5.1.	The measured values of gaseous and particulate pollutants and of CO_2 exhausted by the engine refer to the brake-specific emissions in grams per kilowatt-hour (g/kWh). What about # per kilowatt-hour for PN?	The measured values of gaseous and particulate pollutants and of CO_2 exhausted by the engine refer to the brake-specific emissions in grams per kilowatt-hour (g/kWh), or number per kilowatt-hour (#/kWh) for PN.	Accepted.
Annex VI		5.1.	Wrong reference: The CO2 shall be measured and reported for all engine sub-categories as required by Article 41(4) of Regulation (EU) 2016/1628. Article 41(4) to be replaced by Article 43(4)	The CO2 shall be measured and reported for all engine sub-categories as required by Article 43(4) of Regulation (EU) 2016/1628.	Accepted.
Annex VI		5.1.	Add missing requirements […] The results, inclusive of - the deterioration factor determined according to Annex III, and - the adjustment factors for infrequent regeneration of the after-treatment system determined according to section 6.6., if relevant, and - the crankcase emissions, determined according to section 6.10., if relevant, shall not exceed the applicable limit values. Justification: make clear in a single paragraph all the correction factors that shall be applied to the measured emissions values before comparing them to the applicable limits. Today these parameters are scattered in different	The results shall not exceed the applicable limit values after they have been adjusted in accordance with the deterioration factor determined according to Annex III and, if applicable, inclusive of: (a) the adjustment factors for infrequent regeneration of the after-treatment system determined according to section 6.6.; and (b) the crankcase emissions, determined according to section 6.10.	Accepted, but to be consistent with Annex VII the DF should always be the final step, particularly as it may be multiplicative. Therefore, it shall be read as follows: The gaseous and particulate pollutants that shall be measured are those for which limit values are applicable to the engine sub-category being tested as set out in Annex II to Regulation (EU) 2016/1628. The results, inclusive of:

Compilation by SWGs chairs Replies by CION	Proposal	indicates who tabled this proposal
	To be assessed	means to be assessed and possibly corrected by amending act
	OK	means to be corrected by the OJ Pub. Office

Article or Annex #	Appendix #	Section, paragraph, figure or equation #	Error/comment	Proposed correction (include name of file if attaching mark-up of correction or other separate document)	EC observations
			positions.		a) The crankcase emissions determined according to section 6.10, if relevant, b) The adjustment factors for infrequent regeneration of the after-treatment system determined according to section 6.6, if relevant; and, c) as the final step of the calculation, the deterioration factor determined according to Annex III, shall not exceed the applicable limit values.
Annex VI	5.2.5.1.1.		Possible misunderstanding: In order to calculate the MTS the transient mapping procedure shall be performed in accordance with point 7.4.. The MTS is then determined from the mapped values of engine speed versus power. MTS shall be calculated by means of equation (6-1), (6-2) or (6-3): Which formula for MTS should be used? How to choose one from the other? Should all be used at the same time?	Indeed there are two methods. The first one is based on equation (6-1) while the second one is based in equations (6-2) and (6-3). Therefore, the text shall read as: The MTS is then determined from the mapped values of engine speed versus power. MTS shall be calculated by means of one of the following options: (a) calculation based upon low speed and high speed values: $MTS = n_{lo} + 0{,}95 \times (n_{hi} - n_{lo})$ (6-1) (b) calculation based upon the longest vector method: $MTS = n_i$ (6-2) with:	Accepted. See document: 2017-654_Annex VI_Point 5.2.5.1.1

Template for corrections DA on test methods

Compilation by SWGs chairs Replies by CION	Proposal	indicates who tabled this proposal
	To be assessed	means to be assessed and possibly corrected by amending act
	OK	means to be corrected by the OJ Pub. Office

Article or Annex #	Appendix #	Section, paragraph, figure or equation #	Error/comment	Proposed correction (include name of file if attaching mark-up of correction or other separate document)	EC observations
				[…] ~~(c)~~ If there is only one speed at which the value of (n_{2normi} + P_{2normi}) is equal to 98 % of the maximum value of (n_{2normi} + P_{2normi}): […] Linear interpolation shall be used between the mapped values to determine: ~~(a)~~ (i) the speeds where power is equal to 98 % of Pmax. If there is only one speed at which power is equal to 98 % of Pmax, nPmax shall be the speed at which Pmax occurs; ~~(b)~~ (ii) the speeds where	
Annex VI	5.2.5.1.1.	Equations 6-3 and 6-4	The equals in the explanation shall be deleted: *n* =is the engine speed	They shall read as: *n* is the engine speed CHECK THE WHOLE TEXT!!	Accepted.
Annex VI	5.2.5.6		The reference in the second paragraph points to the wrong article: 'Where the governor installed on the engine is used the 100 % speed shall be the engine governed speed as defined in Article 2(24).'	Revise to Article 1(24)	Accepted.
Annex VI		6.2. (a)	Wrong numbering. The (a) is not needed: (a) A charge-air cooling system with	It shall read as: A charge-air cooling system with	Accepted.
Annex VI		6.2. (a) (a) and (b)	Use K instead of ºC (a) a coolant temperature of at least 20 °C shall (b) to achieve an air temperature within ± 5 °C	It shall read as: (a) a coolant temperature of at least 293 K shall (b) to achieve an air temperature within ± 5 ºK	Accepted.
Annex VI		6.3.1.	Wrong reference: The basis of specific emissions measurement is uncorrected	Right reference is Article 3(25)	Accepted.

Compilation by SWGs chairs Replies by CION	Proposal	indicates who tabled this proposal
	To be assessed	means to be assessed and possibly corrected by amending act
	OK	means to be corrected by the OJ Pub. Office

Article or Annex #	Appendix #	Section, paragraph, figure or equation #	Error/comment	Proposed correction (include name of file if attaching mark-up of correction or other separate document)	EC observations
			net power as defined in Article 3(23) of Regulation (EU) 2016/1628		
Annex VI		6.3.3.	Incorrect cross reference 7.7.2.3.1	It should be 7.7.2.3. (b)	Accepted
Annex VI		6.3.4.	Text duplicated from paragraphs 6.3.2. and 6.3.3. Delete 6.3.4. Determination of auxiliary power The power absorbed by the auxiliaries/equipment needs only be determined, if: (a) Auxiliaries/equipment required according to Appendix 2, are not fitted to the engine; and/or (b) Auxiliaries/equipment not required according to Appendix 2, are fitted to the engine. The values of auxiliary power and the measurement/calculation method for determining auxiliary power shall be submitted by the engine manufacturer for the whole operating area of the applicable test cycles, and approved by the approval authority.	It shall read as: 6.3.4. Determination of auxiliary power Where applicable, the values of auxiliary power and the measurement/calculation method for determining auxiliary power shall be submitted by the engine manufacturer for the whole operating area of the applicable test cycles, and approved by the approval authority.	Accepted.
Annex VI		Figure 6.4	Figure has become corrupted with many elements missing	Correct figure as originally drafted	Accepted. It will be replaced by a correct figure.
Annex VI		6.6.2.3.	Obligation for? The exact procedure to determine this frequency shall be agreed by the type approval or certification authority based upon good engineering judgement.	Shall read as: The exact procedure to determine this frequency shall be agreed by the type approval based upon good engineering judgement. It's only the type-approval authority. "Certification authority" is not defined in the Regulation. It shall not be agreed with the technical service (if technical service is deemed to be the "certification authority")	AT proposal Accepted as follows: The exact procedure to determine this frequency shall be agreed by the approval authority based upon good engineering judgement.
Annex VI		6.6.2.3.	The title is wrong.	It shall read as:	Accepted

Template for corrections DA on test methods

Compilation by SWGs chairs Replies by CION	Proposal	indicates who tabled this proposal
	To be assessed	means to be assessed and possibly corrected by amending act
	OK	means to be corrected by the OJ Pub. Office

Article or Annex #	Appendix #	Section, paragraph, figure or equation #	Error/comment	Proposed correction (include name of file if attaching mark-up of correction or other separate document)	EC observations
		Figure 6.1	*Figure 6.1* **Scheme of infrequent (periodic) regeneration with *n* number of measurements and n_r number of measurements during regeneration.**	*Figure 6.1* **Scheme of infrequent regeneration with *n* number of measurements and n_r number of measurements during regeneration.**	
Annex VI		6.6.2.3	'W' in equation 6-9 should be a subscript	$\bar{e}_w = \frac{n \cdot \bar{e} + n_r \cdot \bar{e}_r}{n + n_r}$	Accepted
Annex VI		6.6.2.3	Missing bar above letter 'e' in equations that denotes 'average'	$k_{ru,m} = \frac{\bar{e}_w}{\bar{e}}$ $k_{rd,m} = \frac{\bar{e}_w}{\bar{e}_r}$ $k_{ru,a} = \bar{e_w} - \bar{e}$ $k_{rd,a} = \bar{e_w} - \bar{e_r}$	Accepted
Annex VI		6.6.2.4 (b)	Wrong reference: Upon request by the manufacturer, the approval authority may account for regeneration events differently than is provided in paragraph (a). However, this option only applies to events that occur extremely infrequently, and which cannot be practically addressed using the adjustment factors described in paragraph (a).	Shall be as: Upon request by the manufacturer, the approval authority may account for regeneration events differently than is provided in paragraph (a). However, this option only applies to events that occur extremely infrequently, and which cannot be practically addressed using the adjustment factors described in point 6.6.2.3.'	Accepted
Annex VI		7.3.1.1.	The title is not clear enough and shall be amended:	It shall read as: 7.3.1.1. General requirements for preconditioning the	Accepted

Compilation by SWGs chairs Replies by CION	Proposal	indicates who tabled this proposal
	To be assessed	means to be assessed and possibly corrected by amending act
	OK	means to be corrected by the OJ Pub. Office

Article or Annex #	Appendix #	Section, paragraph, figure or equation #	Error/comment	Proposed correction (include name of file if attaching mark-up of correction or other separate document)	EC observations
			7.3.1.1. Preconditioning	sampling system and the engine	
Annex VI		7.3.1.1.	It is proposed to clarify that after-treatment may be regenerated prior to commencing the cycle-specific pre-conditioning for emission test.	Insert new paragraph after existing 2nd paragraph. Prior to commencing preconditioning the engine may be operated in a manner to ensure that, where installed, any after-treatment has been regenerated, and, where applicable, the soot load in the particulate after-treatment has been re-established.	EUROMOT proposal Accepted to amend as follows: Engines fitted with an after-treatment system may be operated prior to cycle-specific preconditioning set out in points 7.3.1.1.1 to 7.3.1.1.4, so that the after-treatment system is regenerated and, where applicable, the soot load in the particulate after-treatment system is re-established.
Annex VI		7.3.1.1.5.	Wrong numbering: 7.3.1.1.5. shall be 7.3.1.2.	The whole section 7.3.1.1 shall be renumbered after the new point 7.3.1.2 and the references in other parts of the DA shall be corrected as well: Points 7.3.1.1.1. and 7.8.3.1. the reference to 7.3.1.2. is correct Points 8.1.8.5.1. (a)(iv) and 8.1.8.5.4. Annex VII point 3.3.4. the reference to 7.3.1.2. to be amended Point 7.3.1.1 the reference to 7.3.1.4. is correct Point 7.3.1.3.(i) the reference to 7.3.1.4. to be amended Point 7.5(h) the reference to 7.3.1.5. to be amended	Accepted
Annex VI		7.3.1.4.	Use of SHALL NOT instead of MAY NOT discrete-mode NRSC testing, the range of the emission	General comment: “may not” might be misinterpreted in several language	AT proposal Accepted as proposed.

Compilation by SWGs chairs Replies by CION	Proposal	indicates who tabled this proposal
	To be assessed	means to be assessed and possibly corrected by amending act
	OK	means to be corrected by the OJ Pub. Office

Article or Annex #	Appendix #	Section, paragraph, figure or equation #	Error/comment	Proposed correction (include name of file if attaching mark-up of correction or other separate document)	EC observations
			analyzers may not be switched. Also the gains of an analyzer's analogue operational amplifier(s) may not be switched during a test cycle	versions. Therefore use always “shall not” if forbidden. Shall read as: discrete-mode NRSC testing, the range of the emission analyzers shall not be switched. Also the gains of an analyzer's analogue operational amplifier(s) shall not be switched during a test cycle	
Annex VI		7.4.	Wrong reference: 7.4. The EU type-approval test shall be conducted using the appropriate NRSC and, where applicable, NRTC or LSI-NRTC, specified in Article 23 and Annex IV	It shall read: The EU type-approval test shall be conducted using the appropriate NRSC and, where applicable, NRTC or LSI-NRTC, specified in Article 18 and Annex IV	Accepted
Annex VI		7.4.	The last sentence shall be amended: The technical specifications and characteristics of the NRSC, NRTC and LSI-NRTC are laid down in Annex XVII and the method for determination of the load and speed settings for these test cycles set out in section 5.2.	It shall read as: The technical specifications and characteristics of the NRSC, NRTC and LSI-NRTC are laid down in Annex XVII and the method for determination of the ~~load~~ torque, power and speed settings for these test cycles set out in section 5.2. Justification: Article 18 introduces the correlation between limits and test cycles. Load is an undefined term, replace with torque and power.	Accepted
Annex VI		7.4.2.1 last paragraph	Correction to text Brake specific emissions expressed in (g/kWh) shall be determined `….	‘Brake specific emissions expressed in (g/kWh), and, for PN, in (#/kWh), shall be determined…’	
Annex VI		7.5.1.2 (a) and (b)	Correction to text (a) If the engine stalls anywhere during the cold-start NRTC, the test shall be voided; (b) If the engine stalls anywhere during the hot-start NRTC, the test shall be voided. The engine shall be soaked according to point 7.4.2.1(b), and the hot-start run repeated. In this case, the cold-start run does not need to	(a) If the engine stalls anywhere during the cold start run of the NRTC, the entire test shall be voided; (b) If the engine stalls anywhere during the hot start run of the NRTC, only this run shall be voided. The engine shall be soaked according to paragraph 7.8.3., and the hot start run repeated. In this case,	Accepted

Compilation by SWGs chairs Replies by CION	Proposal	indicates who tabled this proposal
	To be assessed	means to be assessed and possibly corrected by amending act
	OK	means to be corrected by the OJ Pub. Office

Article or Annex #	Appendix #	Section, paragraph, figure or equation #	Error/comment	Proposed correction (include name of file if attaching mark-up of correction or other separate document)	EC observations
			be repeated;	the cold start run does not need to be repeated;	
Annex VI		7.6.	Wrong reference: 7.6. nhi is the high speed, as defined in Article 2(12).	It shall read: 7.6 n_{hi} is the high speed, as defined in Article 1(12).	Accepted
Annex VI		7.6.3.1.(b)	Wrong references: (b) […] The power recorded at point (b) shall not exceed the rated power as defined in Article 3(25) of Regulation (EU) 2016/1628 This already point (b)!	It shall read: The power recorded shall not exceed the rated power as defined in Article 3(27) of Regulation (EU) 2016/1628	Accepted
Annex VI		7.7.2.3.	Incorrect cross reference 7.7.2.3.1	It should be 7.7.2.3. (b)	Accepted
VI		7.8.1.2 (b)	Proposed to reduce the minimum sample time when this test procedure is used for the random point demonstration test of Annex V (b) Each mode has a mode length of at least 10 minutes. In each mode the engine shall be stabilised for at least 5 minutes. Gaseous emissions, and, where applicable, PN, shall be sampled for 1 to 3 minutes at the end of each mode and PM emissions shall be sampled according to paragraph (c); Notwithstanding the first sub-paragraph, when either testing spark ignition engines using cycles G1, G2 or G3 or when conducting measurements according to Annex V of this Regulation each mode has a mode length of at least 3 minutes. In this case gaseous emissions, and, where applicable, PN, shall be sampled for at least the last 2 minutes of each mode and PM emissions shall be sampled according to paragraph (c); The mode length and sampling time may be extended to improve accuracy. The mode length shall be recorded and reported.	Permit minimum 3 minute mode length when this test procedure is used for the random point demonstration test of Annex V Each mode has a mode length of at least 10 minutes, except when either testing spark ignition engines using cycles G1, G2 or G3, or when conducting measurements according to Annex V, where each mode has a length of at least 3 minutes. In each mode the engine shall be stabilized for at least 5 minutes and emissions shall be sampled for 1-3 minutes for gaseous emissions and, where there is an applicable limit, PN at the end of each mode, except when either testing spark ignition engines using cycles G1, G2 or G3, or when conducting measurements according to Annex V, where emissions shall be sampled for at least the last 2 minutes of the respective test mode. Extended time of sampling is permitted to improve the accuracy of PM sampling; The mode length shall be recorded and reported.	EUROMOT proposal Accepted

Template for corrections DA on test methods

Compilation by SWGs chairs Replies by CION	Proposal	indicates who tabled this proposal
	To be assessed	means to be assessed and possibly corrected by amending act
	OK	means to be corrected by the OJ Pub. Office

Article or Annex #	Appendix #	Section, paragraph, figure or equation #	Error/comment	Proposed correction (include name of file if attaching mark-up of correction or other separate document)	EC observations
			(c) For PM emissions, the sampling…		
Annex VI		7.8.2.4.	When conducting testing of engines of net power greater than 560 kW the regression line tolerances of Table 6.2. and the point deletion of Table 6.3. may be used.	"net power" is somewhere in the power vs speed diagram. Use defined "reference power" or "maximum net power". It shall read: When conducting testing of engines of reference power greater than 560 kW…	AT proposal Accepted as proposed.
Annex VI		Table 6.3.	Question: Legend missing for this table?	There is no legend for this table. Need to clarify what $T_{maxmappedtorque}$ is.	AT proposal See separate document: 2017-654_Annex_VI_Table 6.3
Annex VI		8.1.2. Table 6.4	8.1.11.4: cooling bath NO_2 penetration (chiller) Rationale: "Cooling bath" has been replaced by "sample dryer" all over the text.	Should be: 8.1.11.4: sample dryer NO_2 penetration (chiller)	Accepted
Annex VI		8.1.2. Table 6.4	Wrong reference: 8.1.12.1. Sample Dryer Verification has no correspondence at this point.	Table 6.4 [see comment below] 8.1.12.1. Sample Dryer Verification has no correspondence at this point. Should be: 8.1.8.5.8. (Not in R96 or gtr!) Sample dryer verification was revised by Commission expert. Content of 8.1.8.5.8 appears correct but it is in the wrong location as it is not part of the CVS and batch sampler verification (propane check) at 8.1.8.5, nor part of flow-related measurements at 8.1.8. Recommend it is moved to new section 8.1.12, that cross reference to 8.1.12.1 in table 6.4 becomes cross reference to 8.1.12 and all other cross references to 8.1.8.5.8 become cross references to 8.1.12. Existing section 8.1.12 (PM measurements) would be re-numbered to 8.1.13, restoring alignment of numbering with GTR 11 and removing need for some of the amendments listed	Accepted the reference has been corrected all over the text

Compilation by SWGs chairs Replies by CION	Proposal	indicates who tabled this proposal
	To be assessed	means to be assessed and possibly corrected by amending act
	OK	means to be corrected by the OJ Pub. Office

Article or Annex #	Appendix #	Section, paragraph, figure or equation #	Error/comment	Proposed correction (include name of file if attaching mark-up of correction or other separate document)	EC observations
				below.	
Annex VI		8.1.2. Table 6.4	Wrong reference: 8.1.12.1. Sample Dryer Verification has no correspondence at this point.	Should be: 8.1.8.5.8. Sample Dryer Verification has no correspondence at this point.	Accepted.
Annex VI		8.1.2. Table 6.4	Wrong reference: 8.1.12.1. Sample Dryer Verification has no correspondence at this point. 8.1.12.1: Sample dryer verification | For thermal chillers: osmotic membranes: after major maintena	Amend cross reference in Table 6.4: 8.1.8.5.8: Sample dryer verification	Accepted.
Annex VI		8.1.2. Table 6.4	Incorrect reference (8.1.13.1) 8.1.13.1: PM balance and weighing | Independent verificatio testing, and after major Zero, span, and referen ing, and after major ma	Amend cross reference in Table 6.4: 8.1.12.1: PM balance and weighing	Accepted
Annex VI		8.1.7.	Obligation for? The engine manufacturer shall apply internal quality procedures traceable to recognised national or international standards. Otherwise the following procedures apply.	This is duty of the technical service conducting the tests and not duty of the audited engine manufacturer. Even if the technical service uses the engine manufacturer's test equipment. Or is the instrument manufacture meant here? Internal quality procedures traceable shall be applied to recognised national or international standards. Otherwise the following procedures apply.	AT proposal Accepted as proposed. Should be a technical requirement independent of who is conducting test

Template for corrections DA on test methods

Compilation by SWGs chairs Replies by CION	Proposal	indicates who tabled this proposal
	To be assessed	means to be assessed and possibly corrected by amending act
	OK	means to be corrected by the OJ Pub. Office

Article or Annex #	Appendix #	Section, paragraph, figure or equation #	Error/comment	Proposed correction (include name of file if attaching mark-up of correction or other separate document)	EC observations
Annex VI		8.1.8.4.1.	Choice for? By the choice of the manufacturer, CFV or SSV may alternatively be removed from its permanent position for calibration as long as the following requirements are met when installed in the CVS	This cannot be in the choice of the engine manufacturer. It must be the choice of the technical service or the decision of the instrument manufacturer. It shall read as: CFV or SSV may alternatively be removed from its permanent position for calibration as long as the following requirements are met when installed in the CVS	AT proposal Accepted as proposed. Should be a technical requirement independent of who is conducting test
Annex VI		8.1.8.5.8.(d)(iv) & (vii)	(iv) The humidified gas temperature downstream of the vessel shall be maintained at least 5 °C above its dew point; (vii) […] corresponding to the sample dryer specifications as determined in point 9.3.2.3.1 plus 2 °C or if the mol fraction […]	Shall read: The humidified gas temperature downstream of the vessel shall be maintained at least 5 K (5 °C) above its dew point; (vii) […] corresponding to the sample dryer specifications as determined in point 9.3.2.3.1 plus 2 K (2 °C) or if the mol fraction […]	Accepted
Annex VI		8.1.9.1.2.	Drafting improvement: simultaneously these other measurements shall be conducted to test the compensation algorithms	Shift “simultaneously” after “conducted" these other measurements shall be conducted simultaneously to test the compensation algorithms	AT proposal Accepted
Annex VI		8.1.9.1.4.(b)	Wrong reference: […] the vessel temperature shall be controlled to generate an H2O level at least as high as the level required in point 9.3.2.3.1.1. Rationale: this paragraph indicates the H2O levels required, while the present paragraph only indicates the sample dryers requirements and types to be used.	Shall read as: […] the vessel temperature shall be controlled to generate an H2O level at least as high as the level required in point 8.1.8.5.8..	Accepted
Annex VI		8.1.10.1.3. (b) and (c)(i) & (c)(ii)	Clarify text: Burn fuel (gas) for FID or fuel for the engine? (b) … With the fuel and airflow	Shall read as: (b) … With the FID fuel and airflow (c)(i) The response at a given FID fuel (c)(ii) … The span and zero response at these FID fuel	AT proposal Accepted

Template for corrections DA on test methods

Compilation by SWGs chairs Replies by CION	Proposal	indicates who tabled this proposal
	To be assessed	means to be assessed and possibly corrected by amending act
	OK	means to be corrected by the OJ Pub. Office

Article or Annex #	Appendix #	Section, paragraph, figure or equation #	Error/comment	Proposed correction (include name of file if attaching mark-up of correction or other separate document)	EC observations
			(c)(i) The response at a given fuel (c)(ii) … The span and zero response at these fuel flows shall be recorded	flows shall be recorded	
Annex VI		8.1.10.3.	8.1.10.3. Non-methane cutter penetration is not present. Rationale? 8.1.10.3 has only title but no text (reserved). On the other hand there is reference to this cutter in 8.1.10.2.4. (a) and this paragraph is then referred to in many other paragraphs.	It is correct that non-methane cutter penetration is not present in table 6.4. Non-methane HC measurement procedures were removed from the DA by Commission expert because there is no requirement to measure non-methane HC for 2016/1628 (similarly non-methane HC is not measured in R96). Correspondingly the sentence 'CH4 span reference gases shall be selected for FIDs calibrated on CH4 with a non-methane cutter.' should be removed from 8.1.10.2.4. (a) leaving only reference to C3H8 span gasses in this paragraph. However, because CH4 calibration gases are nonetheless still used in calibration of a THC FID point 9.5.1.1 should be modified by restoring sub-point (c) (i) per GTR11 as follows: 'CH4, balance purified synthetic air and/or N2 (as applicable);'	Accpeted. The reference has been deleted.
Annex VI		8.1.11.3.4. indent (g) & 9.5.1.1. indent (a)(i)	"at the standard"	Could you please explain the meaning of 'at the standard'? Does this refer to standard conditions? Standard values?	Accepted to be improved: At the standard shall be drafted as: "at the emission limit value"
Annex VI		8.1.11.4.2.	Update wording: […] liquid water remaining in an improperly designed cooling bath can remove NO2 from the sample. […] Rationale: "Cooling bath" has been replaced by "sample dryer" all over the text.	Shall read as: […] liquid water remaining in an improperly designed sample dryer can remove NO2 from the sample. […]	Accepted

Template for corrections DA on test methods

Compilation by SWGs chairs Replies by CION	Proposal	indicates who tabled this proposal
	To be assessed	means to be assessed and possibly corrected by amending act
	OK	means to be corrected by the OJ Pub. Office

Article or Annex #	Appendix #	Section, paragraph, figure or equation #	Error/comment	Proposed correction (include name of file if attaching mark-up of correction or other separate document)	EC observations
Annex VI		8.1.12.1.4.(g) & (j)	Wrong reference: (g) The recorded ambient conditions shall be used to correct results for buoyancy as described in point 8.1.13.2. The buoyancy-corrected mass of each of the references shall be recorded; (j) If any of the reference masses change by more than that allowed under this point 8.1.13.1.4, all PM results that were determined between the two times that the reference masses were determined shall be invalidated. If reference PM sample media is discarded in accordance with paragraph (i) of this point, at least one reference mass difference that meets the criteria set out in point 8.1.13.1.4 shall be available. Otherwise, all PM results that were determined between the two times that the reference media (e.g. filters) masses were determined shall be invalidated. Rationale: 8.1.13.2 does not exist.	Shall read as: (g) The recorded ambient conditions shall be used to correct results for buoyancy as described in point 8.1.12.2. The buoyancy-corrected mass of each of the references shall be recorded; (j) If any of the reference masses change by more than that allowed under this point 8.1.12.1.4, all PM results that were determined between the two times that the reference masses were determined shall be invalidated. If reference PM sample media is discarded in accordance with paragraph (i) of this point, at least one reference mass difference that meets the criteria set out in point 8.1.12.1.4 shall be available. Otherwise, all PM results that were determined between the two times that the reference media (e.g. filters) masses were determined shall be invalidated.	Accepted
Annex VI		8.1.12.1.4 (g)	Incorrect cross reference 8.1.13.2	It should be 8.1.12.2	Accepted
Annex VI		8.1.12.1.4 (j)	Incorrect cross reference 8.1.13.1.4 (in two places)	Both should be 8.1.12.1.4	Accepted
Annex VI		8.2.3.5.	Otherwise is might be the entire filter mass or something else However, if a mass of 400 µg or more is expected	Shall read as: However, if a PM mass of 400 µg or more is expected	AT proposal Accepted
Annex VI		8.2.3.7.	Wrong reference: 8.2.3.7. Buoyancy correction The measured weight shall be corrected for buoyancy as described in point 8.1.13.2. Rationale: Point 8.1.13 does not exist.	Shall read as: 8.2.3.7. Buoyancy correction The measured weight shall be corrected for buoyancy as described in point 8.1.12.2.	Accepted

Template for corrections DA on test methods

Compilation by SWGs chairs Replies by CION	Proposal	indicates who tabled this proposal
	To be assessed	means to be assessed and possibly corrected by amending act
	OK	means to be corrected by the OJ Pub. Office

Article or Annex #	Appendix #	Section, paragraph, figure or equation #	Error/comment	Proposed correction (include name of file if attaching mark-up of correction or other separate document)	EC observations
Annex VI		8.2.3.7	Incorrect cross reference 8.1.13.2	It should be 8.1.12.2	Accepted
Annex VI		8.2.4.1.	8.2.4.1. Periodic verification It shall be assured that the weighing and PM-stabilization environments have met the periodic verifications in point 8.1.13.1. Rationale: Point 8.1.13 does not exist.	Shall read as: 8.2.4.1. Periodic verification It shall be assured that the weighing and PM-stabilization environments have met the periodic verifications in point 8.1.12.1.	Accepted
Annex VI		8.2.4.1	Incorrect cross reference 8.1.13.1	It should be 8.1.12.1	Accepted
Annex VI		8.1.10.2.4 (a)	Second sentence to be removed. Non-methane HC not measured in this regulation.	Remove the following: 'CH4 span reference gases shall be selected for FIDs calibrated on CH4 with a non-methane cutter.'	Accepted
Annex VI		9.2.1. (c) (i)	Wrong reference: For removing background PM, the diluent shall be filtered with high-efficiency particulate air (HEPA) filters that have an initial minimum collection efficiency specification of 99,97 % (see Article 2(19) for procedures related to HEPA-filtration efficiencies); Rationale: Reference to Article 2(19) is not correct.	Shall read as: For removing background PM, the diluent shall be filtered with high-efficiency particulate air (HEPA) filters that have an initial minimum collection efficiency specification of 99,97 % (see Article 1(19) for procedures related to HEPA-filtration efficiencies);	Accepted
Annex VI		9.2.2. (g)	Wrong reference: For PM sampling, the already proportional flow coming from CVS goes through secondary dilution (one or more) to achieve the requested overall dilution ratio as shown in Figure 9.2. and set out in point 9.2.3.2.;	Shall read as: For PM sampling, the already proportional flow coming from CVS goes through secondary dilution (one or more) to achieve the requested overall dilution ratio as shown in Figure 6.7. and set out in point 9.2.3.2.;	Accepted
Annex VI		9.2.3.1.	Wrong reference: […] and point 8.1.4.5 as well as Table 8.2 (linearity verification) and point 8.1.8.5.7 (verification) for constant dilution PFD.	Shall read as: […] and point 8.1.4.5 as well as Table 6.5 (linearity verification) and point 8.1.8.5.7 (verification) for constant dilution PFD.	Accepted
Annex VI		9.3.2.1.1	Wrong terminology: When used in accordance with point 9.3.1.1.1, the internal volume of the mixing chamber shall not be less than ten times	It shall read as: When used in accordance with point 9.3.1.1.1, the internal volume of the mixing chamber shall not be less	Accepted For this amendment in the three acts, see document:

Template for corrections DA on test methods

Compilation by SWGs chairs Replies by CION	Proposal	indicates who tabled this proposal
	To be assessed	means to be assessed and possibly corrected by amending act
	OK	means to be corrected by the OJ Pub. Office

Article or Annex #	Appendix #	Section, paragraph, figure or equation #	Error/comment	Proposed correction (include name of file if attaching mark-up of correction or other separate document)	EC observations
			the cylinder displacement swept volume of the engine under test. The mixing chamber shall be coupled as closely as possible to the engine silencer and shall have a minimum inner surface temperature of 452 K (179 °C). The manufacturer may specify the design of the mixing chamber.	than ten times the individual cylinder swept volume of the engine under test. The mixing chamber shall be coupled as closely as possible to the engine silencer and shall have a minimum inner surface temperature of 452 K (179 °C). The manufacturer may specify the design of the mixing chamber.	Swept_volume_20170607
Annex VI		9.3.2.3.1.1.	This may be demonstrated by (a) measuring the temperature at the outlet of the sample dryer; (b) measuring humidity at a point just upstream of the CLD; performing the verification procedure in point 8.1.8.5.8..	Add “and” or add “or”. Otherwise it’s not clear. Shall read as: This may be demonstrated by either: (a) measuring the temperature at the outlet of the sample dryer; or (b) measuring humidity at a point just upstream of the CLD; or (c) performing the verification procedure in point 8.1.8.5.8..	AT proposal Accepted
Annex VI		9.2.3.3.	Wrong reference: The system may be used also for a previously diluted exhaust gas where, via a constant dilution-ratio, an already proportional flow is diluted (see Figure 9.2). This is the way of performing secondary dilution from a CVS tunnel to achieve the necessary overall dilution ratio for PM sampling.	Shall read as: The system may be used also for a previously diluted exhaust gas where, via a constant dilution-ratio, an already proportional flow is diluted (see Figure 6.7). This is the way of performing secondary dilution from a CVS tunnel to achieve the necessary overall dilution ratio for PM sampling.	Accepted
Annex VI		9.4.1.2. & 9.4.1.3. & 9.5.1.2. (b)	Obligation for? Replace: type approval or certifying authority	By: approval authority We are in the field of type-approval and not of certification.	AT proposal Accepted as proposed.
Annex VI		9.3.3.4.3.	Better wording to avoid misinterpretations tolerance, as measured anywhere within 200 mm upstream or 200 mm downstream of the PM storage media.	Shall read as: tolerance, as measured anywhere within 200 mm upstream or 200 mm downstream of the PM filter	AT proposal Accepted

Template for corrections DA on test methods

Compilation by SWGs chairs Replies by CION	Proposal	indicates who tabled this proposal
	To be assessed	means to be assessed and possibly corrected by amending act
	OK	means to be corrected by the OJ Pub. Office

Article or Annex #	Appendix #	Section, paragraph, figure or equation #	Error/comment	Proposed correction (include name of file if attaching mark-up of correction or other separate document)	EC observations
				media.	
Annex VI		9.4.5.3.2.	Wrong reference: For the purpose of controlling of a partial flow dilution system to extract a proportional raw exhaust gas sample, a flow meter response time faster than indicated in Table 9.3 is required.	Shall read as: For the purpose of controlling of a partial flow dilution system to extract a proportional raw exhaust gas sample, a flow meter response time faster than indicated in Table 6.8 is required.	Accepted
Annex VI		9.4.6.	Wrong reference: The NDIR-based system shall meet the calibration and verifications set out in point 8.1.8.1.	Shall read as: The NDIR-based system shall meet the calibration and verifications set out in point 8.1.9.1, or 8.1.9.2, as applicable.	Accepted
Annex VI		9.4.12.	Agreed text in draft v3.2 has not been implemented. Should refer to Appendix 4. A FTIR (Fourier transform infrared) analyser, NDUV or laser infrared analyser may be used in accordance with the instrument supplier's instructions.	Shall read as: A FTIR (Fourier transform infrared) analyser, NDUV or laser infrared analyser may be used in accordance with Appendix 4.	Accepted.
Annex VI		9.5.1.1. (a) (i)	Wrong wording and wrong numbering: 2 % contamination, measured relative to the mean concentration expected at the standard. For example, if a CO concentration of 100,0 µmol/mol is expected, then it would be allowed to use a zero gas with CO contamination less than or equal to 2,000 µmol/mol; (NOT 2 000 as it is now). Rationale: 2% of 100 is 2, not 2000.	Shall read as: 2 % contamination, measured relative to the mean concentration expected at the emission limit value. For example, if a CO concentration of 100,0 µmol/mol is expected, then it would be allowed to use a zero gas with CO contamination less than or equal to 2,000 µmol/mol;	Accepted
Annex VI		9.5.1.1. (a) (iii) Table 6.9	Wrong numbering: CO2 contamination limit ≤ 1 µmol/mol for purified synthetic air (shall be10 µmol/mol) Rationale: this value appears both in gtr 11 and R 49	Shall read as: CO2 contamination limit ≤ 10 µmol/mol for purified synthetic air	Accepted
Annex VI		9.5.1.1 (c) (i)	Insert following from GTR 11 to complete list of calibration gases	Insert gas in sub-point (c) (i) per GTR11 as follows: 'CH_4, balance purified synthetic air and/or N_2 (as	Accepted

Compilation by SWGs chairs Replies by CION	Proposal	indicates who tabled this proposal
	To be assessed	means to be assessed and possibly corrected by amending act
	OK	means to be corrected by the OJ Pub. Office

Article or Annex #	Appendix #	Section, paragraph, figure or equation #	Error/comment	Proposed correction (include name of file if attaching mark-up of correction or other separate document)	EC observations
				applicable);'	
Annex VI	1	Figure 6.10	Figure has not reproduced correctly in published regulation	Re-print figure correctly	Accepted.
Annex VI	1	1.3.4.	Wrong reference: For particle number measurement, exhaust gas mass flow rate, determined according to any of the methods described in points 8.4.1.3 to 8.4.1.7 of this Annex Rationale: It seems to forgot to change the point number while copy and paste UN R49 Annex4.	It shall read as: For particle number measurement, exhaust gas mass flow rate, determined according to any of the methods described in points 2.1.6.1. to 2.1.6.4. of Annex VII	Accepted
Annex VI	1	2.1.3.3.3.	Wrong reference: Control heated stages to constant nominal operating temperatures, within the range specified in point 2.1.4.3.2, to a tolerance of ± 10 °C. Provide an indication of whether or not heated stages are at their correct operating temperatures Rationale: There is no 2.1.4.3.2. Comparing UN R49 Annex4, it seems that 2.1.3.3.2. is correct.	It shall read as: Control heated stages to constant nominal operating temperatures, within the range specified in point 2.1.3.3.2, to a tolerance of ± 10 °C. Provide an indication of whether or not heated stages are at their correct operating temperatures	Accepted
Annex VI	3	3. second paragraph	by the torque value from the ECU is not less than 0,93 (i.e a difference of 7 %)	It shall read: by the torque value from the ECU is not less than 0,93 (i.e a maximum difference of 7 %) For clarification	AT proposal Accepted.
Annex VI	4	3.4.1	Typo: The difference between the pre-test and post-test results shall be less than 2 %t of full scale.	It shall read: The difference between the pre-test and post-test results shall be less than 2 % of full scale.	Accepted
Annex VI	4	4.1	"The linearity verification in accordance with point 8.1.4. of this Annex shall be performed at least at the minimum frequency set out in Table 6.4. of this Annex." Table 6.4. of Annex 6 indicates the frequency of Gas analysers and FTIR, but it is unclear what applies to Laser Infrared analysers (such as TDL and QCL) used for	Include Laser Infrared analysers used for measurement of ammonia (such as TDL and QCL) in Table 6.4. of Annex 6.	Not accepted Laser infrared analysers are a type of gas analyser. All gas analysers are to be checked within 35 days.

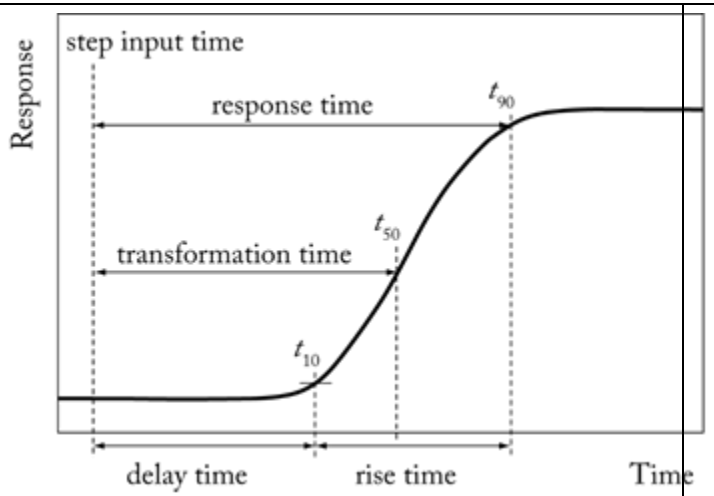
Template for corrections DA on test methods

Compilation by SWGs chairs Replies by CION	Proposal	indicates who tabled this proposal
	To be assessed	means to be assessed and possibly corrected by amending act
	OK	means to be corrected by the OJ Pub. Office

Article or Annex #	Appendix #	Section, paragraph, figure or equation #	Error/comment	Proposed correction (include name of file if attaching mark-up of correction or other separate document)	EC observations
			measurement of ammonia. We are using Siemens LDS 6 In-situ (Euro VI-compliant), which is a diode laser gas analyser (TDL). Is this considered to be a gas analyser (with 35 days) or FTIR analyser (with 370 days)?		
Annex VI	4	4.2.7.	The expiration date of the calibration gases stated by the manufacturer shall be recorded.	Shall read as: The expiration date of the calibration gases shall be recorded. It cannot be the engine manufacturer	AT proposal Accepted as proposed. Should be a technical requirement independent of who is performing task
Annex VI	4	4.2.8 (j)	*"Analyser shall have combined interference within ± 2 % of the flow-weighted mean concentration of NH3 expected at the emission limit."* Is it necessary to use a limit value which is so complicated to calculate? Why don't use the expected arithmetic mean concentration (instead of the flow-weighted mean) or a fixed value?	Simplify the system requirements (limit value for combined interference) for the interference verification for laser infrared analysers.	Accepted to modify text to remove 'flow-weighted' and refer directly to the mean values concerned as follows: Analyser shall have combined interference within ± 2 % of the applicable mean value of ammonia (NH_3) specified in point 3.4 of Annex IV.
Annex VI	5	figure 6-11	Could you explain what "step input time" means? I interpret it as the precise moment when the step input occurs, is this correct?	You are right; an explanatory definition should be added.	Accepted to insert a new point 2.5.: 2.5. Step input time is the time at which there is a change in the parameter being measured.

Template for corrections DA on test methods

Compilation by SWGs chairs Replies by CION	Proposal	indicates who tabled this proposal
	To be assessed	means to be assessed and possibly corrected by amending act
	OK	means to be corrected by the OJ Pub. Office

Article or Annex #	Appendix #	Section, paragraph, figure or equation #	Error/comment	Proposed correction (include name of file if attaching mark-up of correction or other separate document)	EC observations
					
Annex VII		2.1.	raw gaseous emissions Could you please explain if this means rather "emissions of raw exhaust gas" or "emissions of gaseous components in the raw exhaust"?		Accepted to improve drafting. It shall read: Measurement of gaseous emissions in raw exhaust gas The same applies to point 3.5. of Annex VII
Annex VII		2.1.1. Equation (7-1)	Wrong equation (7-1): $q_{mgas,i}$¼k_h k u_{gas} $k_{mew,i}$ $c_{gas,i}$ 3 600	It shall read: $q_{mgas,i} = k_h \cdot k \cdot u_{gas} \cdot q_{mew,i} \cdot c_{gas,i} \cdot 3600$	Accepted
Annex VII		2.1.3.	molar to carbon hydrogen ratio Should this be "molar carbon to hydrogen ratio"?		Accepted to amend it to be consistent with the rest of the Annex. It Shall read as: molar hydrogen ratio

Template for corrections DA on test methods

Compilation by SWGs chairs Replies by CION	Proposal	indicates who tabled this proposal
	To be assessed	means to be assessed and possibly corrected by amending act
	OK	means to be corrected by the OJ Pub. Office

Article or Annex #	Appendix #	Section, paragraph, figure or equation #	Error/comment	Proposed correction (include name of file if attaching mark-up of correction or other separate document)	EC observations
Annex VII		2.1.6.4.	dry CO2 concentration in the raw exhaust What is the difference to "concentration of CO2 in the raw exhaust gas on a dry basis"? (p. 244 and others)		Yes, it is the same concept but we prefer to leave this slight inconsistency as everybody knows what we are referring to.
VII		2.1.6.4	The source of w_C is not clear	Add cross-reference w_C = carbon content of fuel [% mass] (see equation 7-82 of point 3.3.3.1 or table 7.3)	EUROMOT proposal Accepted as proposed
VII		EQ (7-13)	Incorrect values used for the molar masses of carbon and sulphur within equation	Replace 12,001 with 12,011 Replace 32,0065 with 32,065	EUROMOT proposal Accepted as proposed
VII		2.2.3	The source of the molar mass of dilution air and molar mass of raw exhaust gas is not clear	Add cross-references $M_{da,w}$ = molar mass of dilution air [g/mol] (see equation (7-144) of point 3.9.3) $M_{r,w}$ = molar mass of raw exhaust gas [g/mol] (see Appendix 2 point 5)	EUROMOT proposal Accepted as proposed
Annex VII		2.3.1.	Wrong reference: The particulate mass shall be calculated after buoyancy correction of the particulate sample mass according to point 8.1.12.2.5.	Should be: '…point 8.1.12.2.5 of Annex VI.'	Accepted
Annex VII		2.3.1.1.2 equation 7-46	Error in equation 7-46	$q_{medf,i} = q_{mew,i} \cdot r_{d,i}$	Accepted
Annex VII		2.4.1.1 equation 7-59	Missing multipliers (dots) in equation 7-59	$W_{act} = \sum_{i=1}^{N} P_i \cdot \Delta t_i = \frac{1}{f} \cdot \frac{1}{3600} \cdot \frac{1}{10^3} \frac{2 \cdot \pi}{60} \sum_{i=1}^{N} (n_i \cdot T_i)$	Not accepted the equation is correct
Annex VII		2.4.1.1 equation 7-	Missing information under equation 7-59 Δt_i = the measurement interval [s]	Δt_i = the measurement interval [s]	Accepted

Template for corrections DA on test methods

Compilation by SWGs chairs Replies by CION	Proposal	indicates who tabled this proposal
	To be assessed	means to be assessed and possibly corrected by amending act
	OK	means to be corrected by the OJ Pub. Office

Article or Annex #	Appendix #	Section, paragraph, figure or equation #	Error/comment	Proposed correction (include name of file if attaching mark-up of correction or other separate document)	EC observations
		59		Will be inserted	
Annex VII		2.4.1.1	Incorrect cross reference 7.7.2.3.2	It should be 7.7.2.3. (b)	Accepted
Annex VII		2.4.1.2 eq (7-64)	Replace: P_i = engine power for the mode i [kW] with (see points 6.3 and 7.7.1.3 of Annex VI)	With the following: P_i = engine power for the mode i [kW] calculated by adding to the measured power P_{meas} [kW] the power required to drive auxiliaries P_{AUX} [kW] determined according to equation (6-8) of Annex VI. ($P_i = P_{meas} + P_{AUX}$)	Accepted as proposed
Annex VII		2.4.2	Missing information under each of equations 7-64, 7-66 & 7-67	N_{mode} = number of modes in applicable discrete-mode NRSC	Accepted only for 7-64, in the others this term does not appear
Annex VII		2.4.2.2	N in equations 7-66 and 7-67 is missing subscript 'mode' in equations	$e_{\mathrm{PM}} = \frac{q_{m\mathrm{PM}}}{\sum N_{mode}}$ $e_{\mathrm{PM}} = \frac{\sum_{i=1}^{N_{mode}}(q_{m\mathrm{PM}i} \cdot WF_i)}{\sum N_{mode}}$	Accepted
Annex VII		2.4.2.2 eq (7-67) & (7-68)	Replace: P_i = engine power for the mode i [kW] with (see points 6.3 and 7.7.1.3 of Annex VI)	With the following: P_i = engine power for the mode i [kW] calculated by adding to the measured power P_{meas} [kW] the power required to drive auxiliaries P_{AUX} [kW] determined according to equation (6-8) of Annex VI. ($P_i = P_{meas} + P_{AUX}$)	Accepted as proposed
Annex VII		3.3.5.	'A certain flow-weighted mean concentration of an emission at its standard might be already expected based on previous	Could you please explain the meaning of 'at its standard'? Does this refer to standard conditions?	Accepted to be improved:

Compilation by SWGs chairs Replies by CION	Proposal	indicates who tabled this proposal
	To be assessed	means to be assessed and possibly corrected by amending act
	OK	means to be corrected by the OJ Pub. Office

Article or Annex #	Appendix #	Section, paragraph, figure or equation #	Error/comment	Proposed correction (include name of file if attaching mark-up of correction or other separate document)	EC observations
			testing with similar engines or testing with similar equipment and instruments.'	Standard values?	At the standard shall be drafted as: "at the emission limit value"
Annex VII		3.5.3. (b) Equation (7-113)	Typographic error Equation (7-113)	It shall read: $\dot{n}_{exh} = \frac{\dot{m}_{fuel} \cdot w_C \cdot \left(1 + x_{H2Oexhdry}\right)}{M_C \cdot x_{Ccombdry}}$	Accepted
Annex VII		3.6.1	Incorrect sub-section numbering	(a) Continuous sampling, varying flow rate, shall be calculated by means of equation (7-106): … (b) Continuous sampling, constant flow rate, shall be calculated by means of equation (7-107): … (c) Batch sampling, regardless the flow rate is varying or constant, shall be calculated by means of equation (7-108): … (d) In case of diluted exhaust gas calculated values for mass of the pollutants shall be corrected by subtracting the mass of background emissions, due to dilution air:	Accepted
Annex VII		3.6.3(b)(ii) and (iii)	Wrong reference: (ii) SSV molar flow rate. Based on the C_d versus $Re_\#$ equation determined according to Appendix 1, (iii) CFV molar flow rate. To calculate the molar flow rate through one venturi or one combination of venturis, its	'…determined according to point 8.1.8.4 of Annex VI…'	Accepted

Template for corrections DA on test methods

Compilation by SWGs chairs Replies by CION	Proposal	indicates who tabled this proposal
	To be assessed	means to be assessed and possibly corrected by amending act
	OK	means to be corrected by the OJ Pub. Office

Article or Annex #	Appendix #	Section, paragraph, figure or equation #	Error/comment	Proposed correction (include name of file if attaching mark-up of correction or other separate document)	EC observations
			respective mean Cd and other constants, determined according to Appendix 1		
Annex VII		3.8.1.1	Missing multipliers (dots) in equation 7-126	$W_{act} = \sum_{i=1}^{N} P_i \cdot \Delta t_i = \frac{1}{f} \cdot \frac{1}{3600} \cdot \frac{1}{10^3} \frac{2 \cdot \pi}{60} \sum_{i=1}^{N} (n_i \cdot T_i)$	Accepted
Annex VII		3.8.1.1	Incorrect cross reference 7.7.2.3.2	It should be 7.7.2.3. (b)	Accepted
Annex VII		3.8.1.1	Missing information under equation 7-126	Δt_i = the measurement interval [s]	Accepted
Annex VII		3.8.1.2 eq 7-131	Replace: P_i = engine power for the mode i [kW] with (see points 6.3 and 7.7.1.3 of Annex VI)	With the following: P_i = engine power for the mode i [kW] calculated by adding to the measured power P_{meas} [kW] the power required to drive auxiliaries P_{AUX} [kW] determined according to equation (6-8) of Annex VI. ($P_i = P_{meas} + P_{AUX}$)	Accepted as proposed
Annex VII		3.8.2	Missing information under each of equations 7-131, 7-133 & 7-134	N_{mode} = number of modes in applicable discrete-mode NRSC	Accepted
Annex VII		3.8.2.2	N in equations 7-133 and 7-134 is missing subscript 'mode' in equations	$e_{PM} = \frac{\dot{m}_{PM}}{\sum_{i=1}^{N_{mode}} (\dot{m}_{PMi} \cdot WF_i)}$ $e_{PM} = \frac{\sum_{i=1}^{N_{mode}} (\dot{m}_{PMi} \cdot WF_i)}{\sum_{i=1}^{N_{mode}} (\dot{m}_{PMi} \cdot WF_i)}$ EDITORIAL NOTE: These equations are NOT identical to 7-66 and 7-67	Accepted
Annex VII		3.8.2.2 eq 7-133 & 7-134	Replace: P_i = engine power for the mode i [kW] with (see points 6.3 and 7.7.1.3 of Annex VI)	With the following: P_i = engine power for the mode i [kW] calculated by adding to the measured power P_{meas} [kW] the power required to drive auxiliaries P_{AUX} [kW] determined according to equation (6-8) of Annex VI. (P_i	Accepted as proposed

Compilation by SWGs chairs Replies by CION	Proposal	indicates who tabled this proposal
	To be assessed	means to be assessed and possibly corrected by amending act
	OK	means to be corrected by the OJ Pub. Office

Article or Annex #	Appendix #	Section, paragraph, figure or equation #	Error/comment	Proposed correction (include name of file if attaching mark-up of correction or other separate document)	EC observations
				= P_{meas} + P_{AUX})	
Annex VII		3.9.3	Missing square root in equation 7-140	$C_d = \dot{n}_{ref} \cdot \frac{\sqrt{Z \cdot M_{mix} \cdot R \cdot T_{in}}}{C_f \cdot A_t \cdot p_{in}}$	Accepted
Annex VII		3.9.3. (a) Equation (7-140)	Typographic error Equation (7-140)	It shall read: $C_d = \dot{n}_{ref} \cdot \frac{\sqrt{Z \cdot M_{mix} \cdot R \cdot T_{in}}}{C_f \cdot A_t \cdot p_{in}}$	Accepted
Annex VII		3.9.5.	"In the case where a combination of venturis is calibrated, the sum of the active venturi throat areas is used as At, the square root of the sum of the squares of the active venturi throat diameters as dt, and the ratio of the venturi throat to inlet diameters as the ratio of the venturi throat to inlet diameters as the ratio of the square root of the sum of the active venture throat diameters (dt) to the diameter of the common entrance to all of the venturis (D). " 1) The highlighted part seems to be superfluous because it seems to repeat what is already there. Is that so? 2) Also, should the elements not be reversed: the ratio of the square root of the sum of the active venture throat diameters (dt) to the diameter of the common entrance to all of the venturis [is used] as the ratio of the venturi throat to inlet diameters?	is the ratio of the square root of the sum of the active venture throat diameters (d_t) to the diameter of the common entrance to all of the venturis (D). To determine the C_d for a single venturi or a single combination of venturis, the following steps shall be performed	1) Accepted Yes, you are right that the sentence is duplicated. It shall be corrected in the next version of the text. 2) A drafting improvement shall read as: In the case where a combination of venturis is calibrated, the sum of the active venturi throat areas is used as A_t, the square root of the sum of the squares of the active venturi throat diameters as d_t, and the ratio of the venturi throat to inlet diameters is the ratio of the square root of the sum of the active venturi throat diameters (d_t) to the diameter of the common

Template for corrections DA on test methods

Compilation by SWGs chairs Replies by CION	Proposal	indicates who tabled this proposal
	To be assessed	means to be assessed and possibly corrected by amending act
	OK	means to be corrected by the OJ Pub. Office

Article or Annex #	Appendix #	Section, paragraph, figure or equation #	Error/comment	Proposed correction (include name of file if attaching mark-up of correction or other separate document)	EC observations
					entrance to all of the venturis (D).
Annex VII		3.9.5.	Numbering starts with an (a) but there's no (b), (c) etc. although under point 3.9.5(a)(viii) (next page) there's a reference to the 'steps set out in paragraph (e)(4) to (8) of this point'. The same error exists in both R96 and GTR11 which were the source. The cross reference 'paragraph (e)(4) to (8)' is the original numbering in the US 40CFR1065 text from which this originated many years ago and was the source for GTR 11..	Solution: The whole point 3.9.5. shall be renumbered as -- (a) (b) (c) (d) (e) (f) (g) (h) and the last sub-point should read: (h) If the standard deviation of the remaining C_d still exceeds 0,3 % of the mean of the remaining C_d values, the steps set out in paragraph (d) to (g) of this point shall be repeated.	CION proposal Accepted as proposed
Annex VII	3	5 (a) & (b)	Wrong reference to Table 7.9 and Table 7.10 which do not exist	You are right tables 7.9 and 7.10 do not exist. I will check the right reference to be corrected in the next revision of the text.	Accepted to be inserted in the text
Annex VII	5	2.2 eq 7-178	Replace: P_i = engine power for the mode i [kW] with (see points 6.3 and 7.7.1.3 of Annex VI)	With the following: P_i = engine power for the mode i [kW] calculated by adding to the measured power P_{meas} [kW] the power required to drive auxiliaries P_{AUX} [kW] determined according to equation (6-8) of Annex VI. ($P_i = P_{meas} + P_{AUX}$)	Accepted as proposed
Annex VII	5	Point 2.3.	Wrong reference: The final NRTC and weighted average NRTC test results shall be rounded in one step to three significant figures in accordance with ASTM E 29–06B.	It shall read: The final NRSC and weighted average NRTC test results shall be rounded in one step to three significant figures in accordance with ASTM E 29–06B.	Accepted
Annex VII	6	Equation (7-180)	Subscript missing: $c_{NH3} = (0,1 \times c_{NH3,cold}) + (0,9 \times c_{NH3,hot})$ (7-180)	Shall be: $c_{NH3} = (0,1 \times c_{NH3,cold}) + (0,9 \times c_{NH3,hot})$ (7-180)	CION proposal Accepted as proposed
Annex VIII		4.2.2.2.	The connection and method for reading the information should be included in the information document	Add last paragraph as follows: A description of the connection for, and method to read,	Accepted

Compilation by SWGs chairs Replies by CION	Proposal	indicates who tabled this proposal
	To be assessed	means to be assessed and possibly corrected by amending act
	OK	means to be corrected by the OJ Pub. Office

Article or Annex #	Appendix #	Section, paragraph, figure or equation #	Error/comment	Proposed correction (include name of file if attaching mark-up of correction or other separate document)	EC observations
				these records shall be included in the information folder as set out in Part A of Annex I of Implementing Regulation (EU) 2017/656.	
Annex VIII		4.5.1(b)	Incorrect cross references In case of a Type 2 engine, the resulting difference between the highest and the lowest maximum GER_{cycle} within the family shall never exceed the % specified in point 3.1.1, except as permitted by point 3.2.1.	'In case of a Type 2 engine, the resulting difference between the highest and the lowest maximum GER_{cycle} within the family shall never exceed the range set out in point 2.4.15 of Annex IX to Commission Implementing Regulation (EU) 2017/656, except as permitted by point 3.1.'	Accepted
Annex VIII		6.	The demonstration of the additional requirements applying to the dual fuel engine should be included in the information document	Propose new section 6.8 as follows: 6.8. Documentation of the demonstration A test report shall be created that documents the demonstrations conducted to comply with section 6, The report shall be included in the information folder as set out in Part A of Annex I of Implementing Regulation (EU) 2017/656 and document all demonstrations not included elsewhere in the information folder.	Accepted.
Annex VIII		6.4.1	Incorrect cross reference (paragraph 3.1.1) The manufacturer shall present the approval authority with evidence showing that the GER_{cycle} span of all members of the dual-fuel engine family remains within the % specified in point 3.1.1, or in the case of engines…	'…remains within the range set out in point 2.4.15 of Annex IX to Commission Implementing Regulation (EU) 2017/656, or in the case of engines…'	Accepted
Annex VIII	2	7.1.3.2.1	Incorrect cross reference (7.1.3.2.1(a)) In the case that the exact equations are applied to calculate instantaneous values of u_{gas} in accordance with paragraph 7.1.3.2.1(a) then, when calculating	'…in accordance with paragraph 7.1.3.2(a) then, when calculating the mass per test of…'	Accepted
Annex VIII	2	7.1.3.3	Typographic error: Should be 0,3 s not 0 s.	Replace with following: …and the partial flow system exceeds 0,3 s, look-ahead control…	Accepted.

Template for corrections DA on test methods

Compilation by SWGs chairs Replies by CION	Proposal	indicates who tabled this proposal
	To be assessed	means to be assessed and possibly corrected by amending act
	OK	means to be corrected by the OJ Pub. Office

Article or Annex #	Appendix #	Section, paragraph, figure or equation #	Error/comment	Proposed correction (include name of file if attaching mark-up of correction or other separate document)	EC observations
Annex VIII	2	7.1.3.4	Incorrect cross references (9.4.1.6.3 and 9.4.1.6.3.3) The flow meter referred to in points 9.4.1.6.3 and 9.4.1.6.3.3 of Annex VI shall not be sensitive to the changes in exhaust gas composition and density	'The flow meter referred to in points 9.4.5.3 and 9.4.5.4 of Annex VI shall not …'	Accepted
Annex VIII	2	7.1.4.1	Delete superfluous incorrect cross reference (5.2.5) 7.1.4.1. Determination of the background corrected concentrations (point 5.2.5)	Determination of the background corrected concentrations ...	Accepted
Annex VIII	2	7.1.5.2	Divide existing section 7.1.5.2 into two parts inserting section number 7.1.5.3 in second half (this also fixes issue with several other cross-references to this point)	7.1.5.3. Calculation of the molar ratios of H, C, S, N and O related to C for the fuel mixture	Accepted
Annex IX	2	point 2 just before Equation 9-5	The value of Sλ may be determined from the ratio of the stoichiometric composition of oxygen and methane to the ratio of the stoichiometric composition of oxygen and the fuel blend supplied to the engine, as set out in equation (9-5):	determined from the ratio of the ratio of the stoichiometric composition	Accepted as proposed
Annex XIII		1(1) & 1(2)	Missing footnotes to legislation inserted for the first time: Regulation (EC) No 595/2009 and UNECE Regulation No 49.06 series of amendments	Insert missing footnotes.	CION proposal Accepted as proposed
Annex XIII		1.(1)	Automatic equivalence of HDV engines as IWWV engines without need of checking by a technical service: les autorités françaises souhaitent obtenir la possibilité de reconnaître par équivalence automatique et directe, pour une utilisation sur des bateaux de navigation intérieure, les moteurs de poids lourds conformes à la norme Euro VI (incluant le dispositif de post-traitement) dont la réception est délivrée en conformité avec le règlement (CE) n°595/2009, c'est-à-dire sans recourir à des adaptations des moteurs ni à des tests de réception supplémentaires. Or la rédaction actuelle de l'annexe XIII du projet de règlement délégué ne le permet pas.	Ainsi, afin de supprimer une barrière technique qui empêcherait les transporteurs fluviaux, notamment les petites entreprises, d'équiper leurs bateaux de moteurs très peu polluants à un coût acceptable, les autorités souhaitent que soient apportées ultérieurement des modifications au règlement délégué relatif aux prescriptions techniques.	Proposal for future amendment.

Template for corrections DA on test methods

Compilation by SWGs chairs Replies by CION	Proposal	indicates who tabled this proposal
	To be assessed	means to be assessed and possibly corrected by amending act
	OK	means to be corrected by the OJ Pub. Office

Article or Annex #	Appendix #	Section, paragraph, figure or equation #	Error/comment	Proposed correction (include name of file if attaching mark-up of correction or other separate document)	EC observations
Annex XV		3 (15) (a)	Value amemdment: […] where the engine is to be operated within the Union on diesel or non-road gas-oil, a statement indicating that a fuel with sulphur content not greater than 10 mg/kg (20 mg/kg at point of final distribution) cetane number not less than 45 and an FAME content not greater than 7 % v/v shall be used. Rationale: The value of 7% was selected on basis that this would be the maximum value for the 'standard' fuel range across the EU enabling the end-user to operate the engine on 'normal' diesel/non-road gas-oil. In case the manufacturer wants to permit the end-user to use other fuels with a higher proportion of FAME (eg 20%, 30% or even 100%) the manufacturer must perform an additional demonstration that the limits are still respected on the other fuel. What we have overlooked is that in France the National legislation on diesel fuel uses a maximum value of 8% instead of 7%. This was recently highlighted to us as a concern by SNCF although the issue affects all diesel engine type-approvals, not just those for rail. This means that if the manufacturer obtains a type-approval for the standard fuel range specified in the delegated act then according to 2017/654 that engine cannot be used with the normal diesel fuel in France. Consequently either the end user must ignore the 7% limit, or the standard fuel range approval becomes useless for France and the manufacturer must in every case always conduct the standard test on up to 7% FAME plus an additional demonstration using 8% FAME. This would be disproportionate and defeats the objective of having a standard fuel range type-approval. In practice the emissions difference between 7% and 8% FAME is likely to be less than the test-to-test variability, so the difference may not even be measurable. I strongly recommend that Commission raise the upper value	Shall be: […] where the engine is to be operated within the Union on diesel or non-road gas-oil, a statement indicating that a fuel with sulphur content not greater than 10 mg/kg (20 mg/kg at point of final distribution) cetane number not less than 45 and an FAME content not greater than 8 % v/v shall be used.	Accepted

Template for corrections DA on test methods

Compilation by SWGs chairs Replies by CION	Proposal	indicates who tabled this proposal
	To be assessed	means to be assessed and possibly corrected by amending act
	OK	means to be corrected by the OJ Pub. Office

Article or Annex #	Appendix #	Section, paragraph, figure or equation #	Error/comment	Proposed correction (include name of file if attaching mark-up of correction or other separate document)	EC observations
			for the standard fuel range to 8% to avoid an unnecessary conflict with French national diesel fuel requirements.		