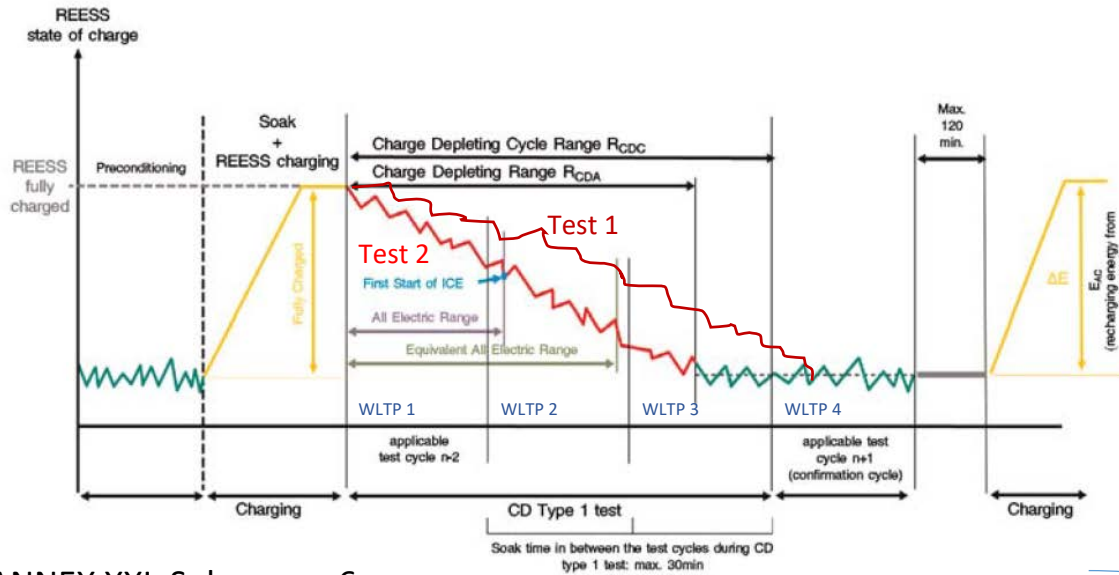


Inconsistency at expected number
of cycles in CD mode for OVC-HEVs

Inconsistency at expected number of cycles in CD mode for OVC-HEVs



	WLTCs in CD mode	Expected vehicle operation?	Test Valid?	Test to be repeated?
			ANNEX XXI, Sub-annex 6, Table A6/2, Figure A6/1	
Test 1	4	✗* / ✓**	✓	YES* / NO**
Test 2	3	✓	✓	NO

ANNEX XXI, Sub-annex 6

1.2.3.4. If after the first test all criteria in row 1 of the applicable Table A6/2 are fulfilled, all values declared by the manufacturer shall be accepted as the type approval value. If any one of the criteria in row 1 of the applicable Table A6/2 is not fulfilled, a second test shall be performed with the same vehicle.

ANNEX XXI, Sub-annex 8, Table A8/8

Output step 2	REEC _i	<p>Determination of the transition and confirmation cycle in accordance with paragraph 3.2.4.4. of this Sub-Annex.</p> <p><u>In the case that more than one charge-depleting test is available for one vehicle, for the purpose of averaging, each test shall have the same transition cycle number n_{veh}.</u></p>	n _{veh}	3
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- In the current Regulation it is unclear which cycles will be used for the averaging calculations.
- This is something not likely to happen, however the specific situation is not currently covered by the Regulation.

Proposal for amendments - ANNEX XXI, Sub-annex 6 (void test)

- 1.2.3.2. Depending on the vehicle type, the manufacturer shall declare as applicable the total cycle value of the CO₂ mass emission, the electric energy consumption, fuel consumption for NOVC-FCHV as well as PER and AER in accordance with Table A6/1.
- Also for OVC-HEVs, the manufacturer shall declare the expected transition cycle number +optionally update Table A6/1, A6/2 ????
- 1.2.3.4. If after the first test all criteria in row 1 of the applicable Table A6/2 are fulfilled, all values declared by the manufacturer shall be accepted as the type approval value. If any one of the criteria in row 1 of the applicable Table A6/2 is not fulfilled, a second test shall be performed with the same vehicle.
- For OVC-HEVs, if the actual transition cycle number does not match with the declared one, the test shall be voided and shall be repeated.

Backup

ANNEX XXI, Sub-annex 6

- 1.2.3. Determination of total cycle values
- 1.2.3.1. If during any of the tests a criteria emissions limit is exceeded, the vehicle shall be rejected.
- 1.2.3.2. Depending on the vehicle type, the manufacturer shall declare as applicable the total cycle value of the CO₂ mass emission, the electric energy consumption, fuel consumption for NOVC-FCHV as well as PER and AER in accordance with Table A6/1.
- 1.2.3.3. The declared value of the electric energy consumption for OVC-HEVs under charge-depleting operating condition shall not be determined in accordance with Figure A6/1. It shall be taken as the type approval value if the declared CO₂ value is accepted as the approval value. If that is not the case, the measured value of electric energy consumption shall be taken as the type approval value.
- 1.2.3.4. If after the first test all criteria in row 1 of the applicable Table A6/2 are fulfilled, all values declared by the manufacturer shall be accepted as the type approval value. If any one of the criteria in row 1 of the applicable Table A6/2 is not fulfilled, a second test shall be performed with the same vehicle.
- 1.2.3.5. After the second test, the arithmetic average results of the two tests shall be calculated. If all criteria in row 2 of the applicable Table A6/2 are fulfilled by these arithmetic average results, all values declared by the manufacturer shall be accepted as the type approval value. If any one of the criteria in row 2 of the applicable Table A6/2 is not fulfilled, a third test shall be performed with the same vehicle.

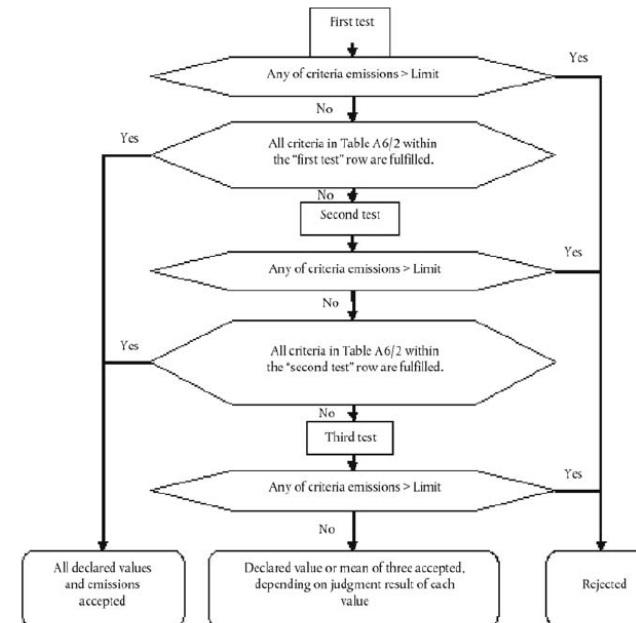
ANNEX XXI, Sub-annex 6, Table A6/2

For OVC-HEVs charge-depleting Type 1 test.

	Test	Judgement parameter	Criteria emissions	M _{CO₂,CD}	AER
Row 1	First test	First test results	≤ Regulation limit × 0,9 ⁽¹⁾	≤ Declared value × dCO ₂ ₁	≥ Declared value × 1,0
Row 2	Second test	Arithmetic average of the first and second test results	≤ Regulation limit × 1,0 ⁽²⁾	≤ Declared value × dCO ₂ ₂	≥ Declared value × 1,0
Row 3	Third test	Arithmetic average of three test results	≤ Regulation limit × 1,0 ⁽²⁾	≤ Declared value × dCO ₂ ₃	≥ Declared value × 1,0

ANNEX XXI, Sub-annex 6 Figure A6/1

Flowchart for the number of Type 1 tests



4.1.2 and 4.1.3

In the case that the interpolation method is applied, k shall be the number of phases driven up to the end of the transition cycle of vehicle L, n_{veh_L} .

If the transition cycle number driven by vehicle H, n_{veh_H} , and, if applicable, by an individual vehicle within the vehicle interpolation family, n_{veh_int} , is lower than the transition cycle number driven by vehicle L, n_{veh_L} , the confirmation cycle of vehicle H and, if applicable, an individual vehicle shall be included in the calculation. The CO₂ mass emission of each phase of the confirmation cycle shall then be corrected to an electric energy consumption of zero $EC_{DC,CDj} = 0$ by using the CO₂ correction coefficient in accordance with Appendix 2 of this Sub-Annex.