

Low and Realistic Winter temperature Task force.
Summary of the work performed to prepare an “informal document” on the NEW OPTIONAL ANNEX for the Type 6 text (Low Temperature) to be presented during the 80th GRPE Session in Geneva, 16th January 2020 ^[1]

The WLTP 16th session in The Hague Oct 2016 took place right after the conclusion of WLTP phase 1. It was then launched a new task force aiming to develop a new procedure at low temperature, during WLTP phase 2.² During that meeting, it was also decided that the **Low and Realistic winter temperature Task Force (LowT TF)** should be chaired by the European Commission and open to all experts, stakeholders and CP representatives that have an interest in WLTP.






Soon after, it was described in the “Mandate and Terms of Reference” that “*The purpose of the low temperature test is to check the level of specific pollutant emissions, CO₂, and range of vehicles in conditions that may easily be encountered during the winter season*”.

Having asked the CP about the “*the need to improve the current regulation*” they expressed a number of needs that have been considered in the process of preparation of the informal document which is presented here today. Main concerns mentioned at the time were the effects on air quality, the environment, health, customer information and protection. Some of them are considered critical whereas others should be referred for information. According with this consultation, GTR 15 should be used, as a basis for the work of this task force.

Since January 2017, the LowT TF has been working regularly **on a new Type 6 test to replace the Type VI test in UNR No. 83**. The work has been supported by a group of approximately 25 persons, including representatives from CP and stakeholders, which have been actively participating in the meetings. Along these years, the TF has hold 34th encounters, either face-to-face meetings (usually twice per year) or via telco/ web conference. During the last year, the TF hold nine encounters, including a face-to-face meeting during the 28th WLTP meeting in Bern in September.

To reach the scope of the task force, there was an initial analysis of the existing normative and literature on the method and it was prepared a comparative analysis among the different regional procedures (See figure below).

**Low Temperature
 Current legislation
 Worldwide**

	T C °	Cycle	Road-Load	Vehicles	Pollutants
	-7.0 ±3	UDC	Determined at -7 C or 10% reduction of coast-down time	PI including hybrids + information regarding NOx after-treatment for C.I.	HC, CO
	-7.0 ±3	UDC	"	"	THC, CO
	-7.0 ±1.7	FTP	Performing coast-down tests and calculating road-load coefficients	Otto-cycle and diesel including multi-fueled, alternative fueled, hybrid electric, and zero emission vehicles	NMHC, CO, CO ₂ *
	-6.7	CVS-75		Gasoline + information regarding NOx after-treatment for C.I.	CO
	-7.0 ±3	Low+ Medium of WLTC	Determined at -7 C or 10% reduction of coast-down time	S.I.; C.I.; hybrids	THC, CO, NOx

* CO₂ is analysed and results used for the determination of the vehicle fuel economy. Cold temperature standards apply for CO and NMHC emissions.



The work in the LowT TF needed also some specific studies from the experts in the group, specifically regarding the procedure for assessing the pollutant emissions in conventional and electrified vehicles as well as the procedure for assessing the impact of the low temperature test on the range of electrified vehicles. Experts in the LowT TF have also worked in the assessment of the impact of auxiliary systems (e.g. heating system) on the energy consumption and the range of electrified vehicles. Besides, the TF has been working in the development of a proposal for the handling of families for low temperature requirements. Therefore, the TF has been acting as a platform for the exchange of information and contributions of stakeholders to be discussed and agreed during the development process.

Moreover, from the Chair of the TF, there has been an intense work of promotion of interaction and exchange of information with other IWG Groups, sub-group and task forces, in particular with WLTP-EV Sub-Group. Chair has also been reporting regularly to the WLTP-IWG on the progress and decisions. On this respect, the TF has focus only on the technical issues regarding the procedure to be developed and delivered

¹ All documents mentioned in this summary can be found at CIRCA BC under: [EUROPA](#) > [European Commission](#) > [CIRCABC](#) > [GROW](#) > [wltpl> P > Low and realistic winter temperature TF](#), as well as in the UNECE Wiki page: <https://wiki.unece.org/pages/viewpage.action?pageId=85295115>

² Reference Document WLTP-14-14e -; ToR of the task force Low and Realistic Winter temperature; Meeting 9th January 2017 – Geneva. Consolidated version on the 25th of January 2017

technical advice and make recommendations to the WLTP-IWG on the document strategy (an optional annex of the GTR 15) while decisions are made at the WLTP-IWG level. Finally Task Force is deeply committed to provide a draft text and contributing to the drafting process.

Outcome: an “optional annex” for a new Type 6 test.

The outcome of the work of the LowT TF is a document, which provides an initial proposal/structure for adding a **new optional Low Temperature (Type 6) test to GTR15**.³

During the work and drafting of that document, the LowT TF has confirmed the temperature for the procedure (-7C ±3) and the requirements that a new procedure of the Type 6 test would have in a new optional annex. The procedure will follow GTR 15 and Type 1 test so, the new test will be performed following the **WLTC**, replacing the NEDC (shorter and less realistic).

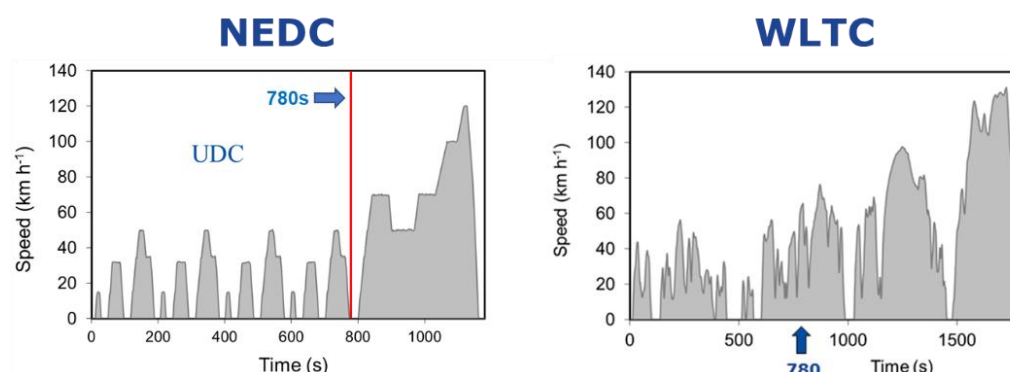


Figure 1 – Left panel: old test cycle for type approval in (NEDC) – Right panel: new text cycle (WLTC) for type approval

The **optional annex** is presented now as “an informal document” for its consideration, and previously to the delivery of the Working Document, due in March 2020,

200110 - Low Temp Annex based on ECE-TRANS-WP29-2019-62e.docx⁴

Document loaded in: <https://wiki.unece.org/display/trans/Optional+annex+Low+T++Drafting>

The approach has been to leave the Type 1 test paragraphs of Annexes 1- 8 unaltered and to indicate in the optional annex where the Type 6 test would alter those requirements. However, there will be some Type 6 related elements, which are expected to be incorporated into the current GTR15 sections. These might include a definition of a Low Temperature Family in Section 5 of the GTR and specifications for Type 6 reference fuels in Annex 3.

Key changes to the UNR No. 83 Type VI test include:

- Drafting an **optional annex** to GTR#15 for low and realistic winter temperature
- Applicable **to all type of vehicles and fuels** (exempt FCHV for the first version of the optional annex)
- Purpose is to check compliance of pollutant emissions (THC, CH₄, NMHC, CO, NO_x, PM, PN) and provide information for CO₂, FC, EC and range.

Considerations on family concept and the possibility of including simulation methods are still under discussion and could be included in the next version of the final document.

Traceability of the informal document and decision-making process

The informal document for an optional annex on low temperature has been built-up following a dedicated file containing all open-closed issues discussed in the TF. The evolution and construction of the informal document for a new technical annex of the type 6 test can be followed by looking to the excel file where all changes have been registered and appear with the date of the modification/ agreement:

WLTP_Low_Temp_TF_Status_list_v2020-01-10_v3.xlsx^[5] ^[6]

Comments are provided at the relevant points of Annexes 1-8 which have been identified as being areas of GTR15 which may need to be amended via the Optional Annex.

³ The document is based on the text of GTR15 Amendment 5 as submitted for vote at the June 2019 session of WP.29.

⁴ On January the 6th, 2020, Standard GTR15 text was deleted to just leave the Type 6 test relevant sections

⁵ This serial number will be continued and updated by the chair of the TF. In order to track the evolution of the discussions and decisions inside the LowT TF, all excel files detailing the **Low T TF status list** will be saved and available in CIRCAC-BC and in UNECE Wiki page dedicated the LowT TF (<https://wiki.unece.org/pages/viewpage.action?pageId=85295115>)

⁶ This document will be updated by the drafting coordinator following the discussions in the lowT TF, the SG EV and corresponding drafting sug-groups. In order to track the evolution of the discussions and decisions, the files detailing the **progress in the drafting of the optional annex for lowT** will be saved in a –new- dedicated folder in UNECE Wiki page Low TF domain: <https://wiki.unece.org/display/trans/Optional+annex+Low+T++Drafting>