

## **PROGRESS REPORT ON GLOBAL TECHNICAL REGULATION (GTR) N° 4 (WHDC)**

The 23<sup>rd</sup> WHDC meeting took place on 10/11 April 2008 in Tokyo. The details of the meeting are reported in the minutes (document GRPE/WHDC/23).

### Option 1: Engine power determination

Reference to power regulations will be deleted from the gtr. The list of auxiliaries to be considered for the emissions test will be added to the gtr. TÜV Nord presented test results with and w/o fan that showed slight differences between 1.2 and 3.5 %. It was therefore agreed to run emissions tests w/o fan, as with ECE R 96 for nonroad engines.

### Option 2: Reference fuel

European Commission DG-JRC will start the reference fuel test program in June 2008. OICA members will submit two engines (Euro V engine with SCR, US07 engine with DPF) and two test fuels (EU reference fuel, US reference fuel). In addition, influence of soak time, particle counting (contribution to PMP) and influence of B5 diesel fuel will be investigated. With the same batches of fuel, test programs will also be conducted by NTSEL (JP09 engine with NSR/DPF) and EMA (US07 engine with DPF/SCR).

### Option 3: Hot soak period

JAMA and NTSEL presented test results showing a NOx increase with longer soak period and higher influence on NOx level for SCR than for NSR technology. EPA presented their concept for a test program (see WHDC/FE13). It was noted that the program is intended to elaborate stringency of WHDC vs. USFTP for potential US2010 engine technologies, and consequently goes beyond hot soak investigation. The test program would have to be conducted by engine manufacturers. Further discussion of the EPA approach is needed, especially considering impact on the WHDC time line.

### Option 4: Cold start weighting

JAMA presented data from their national surveillance statistical report and the JCAP research program. Evaluation of cold start weighting factor for JE05 cycle was based on equivalent cold start ratio. Validation of method for WHDC needs further elaboration. OICA (Scania) presented statistical data from long haul operation in Europe. Data collection will continue.

### Option 5: PM filter specification

TÜV Nord will start the test program on PM filter specification in June 2008. OICA members will supply two test engines (EEV engine with SCR/DPF, Euro V engine with SCR). In addition, determination of NOx measurement accuracy and particle counting (contribution to PMP) will be investigated.

### Extension of the scope to gasoline engines

There is broad consensus to extend the scope of the gtr to gasoline engines, but EPA raised reservation. Test results from Russian Federation showed that WHTC and ETC cycle validation criteria was not met with the engines tested. China will soon conduct a test program at CATARC on gasoline engines with the WHDC and JE05 test cycles. US manufacturers will check possibility of applying WHTC to US gasoline engines, but will not be in the position to run a test program.

### Alignment with NRMM gtr

Differences between NRMM and WHDC will be discussed at October WHDC meeting taking into account latest EPA Part 1065 amendments.

### Review of the time line

The time line agreed at the 20<sup>th</sup> WHDC meeting was confirmed although the test programs are slightly behind schedule. The next meetings will take place as follows:

- 24<sup>th</sup> WHDC meeting on 03<sup>rd</sup> June 2008, Geneva
- 25<sup>th</sup> WHDC meeting in mid-October 2008 (China, date and place to be confirmed).