

Observations from India on the documents for 9th WLTP / DHC meeting to be held on 6th and 7th of July 2011 at Stockholm, Sweden

We take this opportunity to congratulate Mr Hajime Ishii San and his team, Mr Heinz Steven and his team for the great effort put by them to see that the first cut of the World Harmonized Driving Cycle is made available for the meeting to be held at Stockholm on 6th & 7th July 2011. Due to travel logistics and costs India may not be able to attend the meeting but would like our following comments to be taken into consideration :

1. Threshold Speed :

India had requested at the WLTP meeting at Geneva on 7th June 2011 for data analysis for threshold speeds in the lower end .These threshold speeds were 35/70/80 km/h , 35/70/90 km/h, 40/60/80 km/h, 40/60/90 km/h. The DHC Co Chairman, Mr Chris Parkins then requested the Analysis experts to conduct the analysis to satisfy India and also to include in the final Report on the suitability of these low speeds in the overall analysis. We were assured by Mr Haniu that two threshold speeds 35/70/90 km/h, 40/60/90 km/h be analysed and presented at the Stockholm meeting out of the four threshold speeds proposed due to time constraints. The other two speeds would be done later on.

We presume that the analysis has been completed by now and would be grateful to Mr Haniu to send us the analysis for our consideration and sending our responses. Meanwhile we request that if the data analysis has been made logical discussion takes place in the Stockholm meeting and India may be intimated on the outcome. India can only give our response after a careful study of the analysis.

2. Acceleration & deceleration of low powered vehicles in India :

We are having several low powered vehicles manufactured in India in large numbers which are growing year on year. The driving cycle proposed for the Stockholm meeting indicates the following acceleration characteristics:

Phase	LOW	MIDDLE	HIGH	NEDC
Acceleration, km/h/s	5.3	5.4	6.5	3.7
Acceleration, m/s/s	1.47	1.5	1.8	1.04 for 0 – 15 km/h
Max Speed, km/h	50.9	72.5	97.4	50 for EDC , 90/120 for EUDC

Low powered vehicles would not be able to negotiate the driving cycle for the acceleration/deceleration characteristics of the new driving cycle. These vehicles can meet the existing NEDC where the acceleration is 1.04 m/s/s for 0 – 15 km/h. These low powered vehicles do not achieve 0 – 15 km/h in first gear and have to necessarily start in second gear as per ECE R83 test procedure.

3. Max Speeds in the driving cycles

On the other hand the low powered vehicles in India do not have a maximum speed greater than 70 – 75 km/h and hence have to go through the EUDC portion at full throttle. Road conditions in India have been taken into consideration with much thought for deleting the 120 km/h speed in the Indian Test Procedure.

This situation will not improve with the new driving cycle which has max. speeds of 50.9 km/h in low, 72.5 km/h in middle and 97.4 km/h in high phase. Therefore we suggest that the low powered vehicles have to be subjected to low and middle phases and not the high phase.

It is for this reason that the argument put by India in the earlier WLTP meeting at Brussels and also the 8th WLTP meeting at Geneva should be given due consideration and the Clause 2.1 of "Open Issues " in document WLTP-DHC-08-02 shown as "Closed " for point no. 3 &4 needs consideration for vehicles such as those low powered vehicles in India and elsewhere around the world in large numbers. We request that a driving cycle with low and middle phases only be considered for low powered vehicles of less than 20 kW/t. Such a driving cycle

should be designed for low acceleration and lower speed limits and appropriate gear change speeds as may be determined from the data analysis which was requested by India to Mr Ishii San and Mr Hanui San.

4. Gear Change Speeds

We would like the experts to consider the data on India vehicles in page 7 and 11 of document WLTP-DHC-09-03. You will notice that majority of the Indian vehicles by and large do not use 6 speed transmission except for some high end models in the luxury car segment. We also submit that the low powered vehicles have 4 speed transmission as these vehicles are used for low cost transportation of passengers and goods. Automatic transmissions have limited usage in India as on date.

We would request that these factors to be also taken into consideration in the driving cycle design.

5. Mode Construction

Driving data in India showed limited extra high speed driving which was almost negligible. This fact makes us request for two modes of construction to be taken into account :

1. LOW – MIDDLE *for low powered vehicles (< 20 kW/t)*
2. LOW – MIDDLE – HIGH *for higher powered vehicles greater than 20 kW/t with maximum speed not in excess of 90 km/h as in NEDC of ECE R83.*

6. Soaking phase :

Significance of intermediate soaking given in the mode construction is not clear. We would like to suggest in the context of above point No.5 that mode construction can be without intermediate soaking and the exhaust gas sampling can be combined for [Low + Medium] phases and separately for high-phase.
