



**TWENTY SIXTH MEETING OF THE GRPE WORKING GROUP ON THE
WORLDWIDE HEAVY DUTY CERTIFICATION PROCEDURE (WHDC)**

Geneva, 13 January 2009

MINUTES OF THE MEETING

Venue: Palais des Nations, Geneva

Chairman: J.P. LAGUNA-GOMEZ (European Commission)

1.- ADOPTION OF THE AGENDA

The provisional agenda GRPE/WHDC/A26 was adopted as circulated.

2.- APPROVAL OF THE MINUTES OF THE 25th WHDC MEETING
(GRPE/WHDC/25 - Beijing, 15 to 17 October 2008)

The minutes of the 25th meeting were approved.

3.- UPDATE FROM 24th WHDC MEETING

The Secretary summarized the results from the 25th WHDC meeting held in Beijing. He thanked the Chinese delegation for hosting the meeting and the excellent organization. The secretaries' proposal for amending section 6.3 on engine power and the list of auxiliaries to be fitted to or removed from the engine for the emissions test was accepted with some modifications and corrections. The work programs on option 2 had not yet started. Preliminary results were presented by TÜV Nord on the option 5 test program. Options 3 and 4 were not discussed during the meeting.

4.- DISCUSSION OF WHDC OPTIONS

4.1 Single reference fuel

Documents: GRPE/WHDC/FE 28
GRPE/WHDC/FE 27
GRPE/WHDC/FE 30

Dr. Ishii (NTSEL) presented the test results of the Japanese test program (GRPE/WHDC/FE 28). The test engine was a 4 liter JP05 low emission engine with DPF and NSR deNo_x

catalyst. For NO_x and HC, emissions were higher with the US fuel compared to the EU fuel, whereas no significant fuel influence was observed for PM and CO. Also, the US fuel showed higher CO₂ emissions. The soaktimes investigated (5, 10, 20 minutes) had no influence on the emissions.

Dr. Martini (DG-JRC Ispra) presented the test results of the first engine (GRPE/WHDC/FE 30). The test engine was a 10.5 liter Euro V engine with SCR deNo_x catalyst. In addition to the EU and USA reference fuels, the EU reference fuel with 5% biodiesel was also investigated. The results were only presented in relative terms, since validation and detailed analysis had not been finalized. Like with the Japanese test results, NO_x was slightly higher with the US reference fuel, but PM, CO and HC emissions were on the same level. EU reference fuel with biodiesel was slightly lower for PM, CO and HC, but slightly higher on NO_x compared to the EU pure diesel reference fuel. The influence of soaktime was negligible, except for NO_x where a minor emissions increase was observed with increasing soaktime. Testing of the second engine is anticipated to start, soon, so that the results are planned to be presented at the 27th WHDC meeting.

Dr. Shimpi (EMA) reported that the EMA program at SwRI was delayed and results would be expected to be available for the next WHDC meeting.

During the discussion, Mr. Charmley (EPA) indicated that the Agency still had some concerns with single reference fuel, especially with respect to in use and confirmatory testing (GRPE/WHDC/FE27). In such case, the regional fuels should be used. In general, the group concluded that some influence of fuels on emissions was observed, but those were small enough to allow a single reference fuel in the gtr. The final decision will be made after all test data are available.

4.2 Soak time

The secretary reported about a meeting between industry (EMA, ACEA) and EPA in November 2008. In this meeting, EPA agreed to separate soaktime evaluation from general stringency evaluation, which would significantly reduce the testing burden compared to the original EPA proposal. This opened the door for further considering the options on soaktime and cold start weighting factor, despite WP.29/AC.3 agreement to delete these options from the gtr.

Industry offered testing of US2010 and Euro VI prototype engines, which could be supervised by EPA staff. The tests are anticipated to take place in March/April 2009. The secretary reminded the group that the final decision on soaktime and cold start weighting factor needs to be taken at the 58th GRPE meeting.

4.3 PM filter specification

Documents: GRPE/WHDC/FE29
GRPE/WHDC/FE27

Mr. Schulte presented the results of the test program (GRPE/WHDC/FE29). The conclusions taken at the 25th WHDC meeting on the basis of test results from engine 1 were confirmed with engine 2. EPA (GRPE/WHDC/FE27) indicated support for deletion of the 70 mm filter, but suggested to mandate the teflo filter material. This was rejected by the group, since EPA Part 1065 also allows both filter materials (though teflo is recommended).

5.- Discussion of gtr amendments

5.1 Draft gtr

Document: Informal document GRPE-57-07

The secretary introduced informal document GRPE-57-07, which includes the proposal for amending the gtr.

The group agreed to the proposal with the following additions:

- errors in section 6.3 on engine power need to be corrected
- use of regeneration adjustment factors (multiplicative or additive) must be approved by type approval or certification authority
- deletion of NO_x correction factor (OICA proposal) will be discussed at next WHDC meeting
- revision of section 7 was accepted in principle

The secretary will submit a gtr proposal for approval at the 27th WHDC meeting on the basis of GRPE-57-07 and the comments received during the meeting.

5.2 Other input

None.

6.- REVIEW OF WHDC TIME LINE

The next meetings will take place as follows:

- 27th WHDC meeting from 10th to 12th March 2009, Budapest, Hungary
- 28th WHDC meeting in June 2009, Geneva

7.- SUMMARY AND CONCLUSIONS

The chairman summarized the results of the meeting as follows:

- Option 1 (engine power) and option 5 (PM filter specification) have been solved.
- On option 2 (reference fuel), current test results indicate acceptance of single reference fuel, but final decision will be taken at the 27th WHDC meeting.
- After opening from EPA, discussion on option 3 (soaktime) and option 4 (cold start weighting factor), will continue; industry will offer engine tests with EPA participation; final solution is expected at 58th GRPE meeting.
- Alignment with the nonroad gtr will be finally discussed at the 27th WHDC meeting, which takes place after the final meeting of the NRMM editorial group.
- The secretary will present the gtr proposal for final evaluation at the 27th WHDC meeting.
- The official document for the 58th GRPE meeting needs to be submitted to GRPE secretariat by 20th March 2009; therefore, comments from experts not attending the 27th WHDC meeting must be submitted to the WHDC secretary by 15th March 2009.

8.- OTHER BUSINESS

None.