

MINUTES OF 16TH PMP WORKING GROUP

1. The 16th meeting of the PMP Working Group was held on 16th January at the Palais des Nations in Geneva.

Light Duty Inter-Lab Exercise

2. JRC presented the latest results of the Light Duty Inter-Laboratory Correlation Exercise. Seven laboratories have now finished testing with a total of 11 vehicles having been tested (3 DPF equipped diesels, 4 conventional Euro IV diesels, 3 lean burn PDIs and 1 conventional MPI petrol vehicle).
3. Results continue to show good repeatability, reproducibility and reasonable consistency within each technology type. Mean results for DPF equipped diesels were all below 1mg/km and 10^{11} particles/km.
4. For the Golden Vehicle, significant increases in particle number emissions were seen following regenerations, with emission levels stabilising as mileage is accumulated and the DPF is loaded. For this reason, following regenerations a mileage accumulation schedule has been followed to ensure the DPF is in a stabilised condition prior to further testing.
5. JRC explained that delays had been incurred in the programme due to transport difficulties and damage to the Golden System, believed to be due to laboratories' unfamiliarity with the system. Damaged components had been substituted with identical replacements and no step change in results was observed. The Light Duty ILCE is continuing with testing at Shell, UTAC and final bookend testing at JRC. Completion of testing is expected to be in April/May 2006. The final leg of testing at JRC will also be used to examine any remaining open issues.
6. CLEPA asked why the second by second particle emission trace for the Golden Vehicle showed high particle emissions during the final acceleration of the cycle, they expected that any particle emissions during this condition would be volatiles. JRC and the Golden Engineer responded saying that they believed these particles to be low volatility hydrocarbons released at high temperatures, and noted that relative to the cold start emissions the level of particles emitted here was low.
7. OICA expressed concerns that the results were not sufficiently comprehensive for the purposes of setting limit values and no measurements had been undertaken during regeneration. The chairman responded saying that results for the DPF vehicles tested were all statistically similar and there was no reason to suggest that different results would be obtained if more vehicles were tested. No measurements had been taken during regenerations, but there was no reason why regulators should not proceed with adopting a particle

number count under DPF storage conditions if there was a political will to do so. This could be extended at a later date to cover regeneration conditions if desired.

8. The chairman requested that any publications relating to their testing planned by Light Duty ILCE participants be delayed until after the publication of the official report. We would be grateful if participants could share any such publications with us in draft form before publication. Remaining laboratories were requested to submit their results asap after completion of testing in order to facilitate rapid progress on a final official report. The group will aim to have a draft report available for GRPE 52, but it was acknowledged that this was a very ambitious target in view of the test schedule.
9. Germany requested the views of the group on whether after the ILCE a further, Round-Robin exercise, was required. Canada commented that round-robins were needed for all test methods on an on-going basis to ensure consistency. OICA were in favour of a second round of testing without a Golden Engineer or Golden System. Delegates were invited to submit further views in writing. Discussions on further test requirements will be resumed at the next working group on the basis of the draft Light Duty ILCE report.

Calibration

10. AEA presented their draft calibration document. The chairman explained that useful comments had been received in writing from TSI and JASIC. OICA also tabled written comments. It was agreed that the document would be revised in the light of these comments, in particular to better specify the properties of the calibration aerosol, whilst allowing flexibility in the aerosol generation method, to explicitly specify the primary calibration procedure, to generalise the CPC set-up instructions and to better specify some of the equipment required (e.g. flow meters). Regarding coincidence corrections AEA commented that these were not allowed by the PMP equipment specification so had not been included in the calibration document. Instructions on handling CPCs will also be included in the document. AEA agreed to have further discussion with OICA regarding some of their comments.

Heavy Duty Inter-Laboratory Correlation Exercise

11. JRC commented that expressions of interest in participating had been received from 10 laboratories including CARB and from 4 different instrument manufacturers. Switzerland also commented that they now had a budget and would be interested in funding a participating laboratory. The chairman expressed his pleasure to hear that Switzerland as an inaugural PMP member would be in a position to resume its active participation in the programme. The chairman also commented that, as previously discussed, for logistical reasons it might be necessary to limit the number of participating laboratories to 5 or 6.

12. OICA offered a Euro III engine equipped with a DPF as the Golden Engine for the programme on the condition that it was conducted as a Round Robin, i.e. without a Golden Engineer or Golden System. The Chairman responded that this approach did not seem appropriate to the validation of a new measurement technique and would not allow for separation of the effects of inconsistent implementation by laboratories, system-system variation to be separated. No other offers of a Golden Engine were forthcoming. The Chairman asked OICA to reconsider the terms of their offer. Other offers of a DPF equipped Golden Engine would be gratefully received.

Matter Engineering Patent Application

13. The Chairman explained that Matter Engineering had EU, US and Japanese Patent Applications for the process of using Heated Dilution plus an Evaporation Tube as a means of removing volatile particles from a sample. This forms a part of the recommended system for PMP. Dr Kasper from Matter explained that, in the event of being granted patents, they plan to license their technology openly at reasonable rates. Licenses would be open to all parties and continue for as long as the technique was included in legislation (or in draft/proposed legislation). They explained that there were numerous precedents for use in legislation of reasonably licensed intellectual property. Matter will submit a written statement of their licensing plans to the group.

14. The Commission agreed that it was not unprecedented for patented processes to be applied in legislation, but that the detail of Matter's licensing plans would need to be considered before a view could be reached on the whether this would be appropriate in this case.

15. Japan commented that they did not generally accept patented processes in legislation. EMA, questioned whether Matter's patent applied to both particulate mass and particle number measurement, commenting that US EPA regulations allowed the use of heating to 375 °f as a means of reducing volatile particle collection. Matter explained that their applications apply generally to conditioning an exhaust sample regardless of the measurement metric.

16. The chairman announced that a further Working Group meeting would be held prior to GRPE 52 to discuss final Light Duty ILCE results and an initial draft of the report if available. The chairman concluded the meeting and thanked the delegates for their participation.

Chris Parkin
PMP Chairman

20th January 2006