

A Study of Emissions from a Light Duty Diesel Vehicle with the European Particulate Measurement Programme

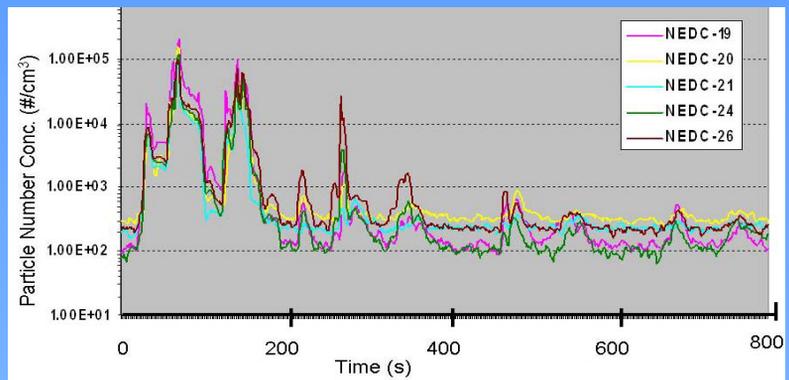
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Outline of the Investigation

- Quantify particulate matter, PM, emissions with a new methodology, Particulate Measurement Programme (PMP)**
- Compare CARB testing with other testing at participating laboratories.**
- Carry out studies of the influence of vehicle soak time and preconditioning on PMP tests.**
- Investigate the performance of PMP particle counter instrumentation.**
- Study the particle emissions with real time instrumentation.**
- Carry out preliminary studies of emissions during DPF regeneration.**

Summary and Conclusion



1. A comparison of CARB measured regulated emissions and particle number emissions with the JRC participating international laboratories was a success, and the CARB measurements and standard deviations compared well with the other laboratories.
2. The influence of pre-conditioning on PM mass and particle number results was significant for both the NEDC and FTP cycles. However, the trends for the NEDC and FTP cycles were opposite, and this indicates that further research efforts are needed in this area.
3. Time accurate measurements of particle concentrations during both NEDC and FTP cycles have given detailed insight into PM generation during the cycles. The majority of the solid PM is generated during the initial phases of the cycles, and all of the particle counting instruments gave similar trends.
4. At the present time there is significant variation in the capabilities of the particle counting instruments in terms of particle size and particle magnitudes.
5. Measurements of particle concentrations during DPF regeneration have yielded very high concentrations of volatile particles. The PMP methodology was not designed to measure these particles.