



## AECC COMMENTS ON THE GEME AD-HOC WORKING GROUP PROPOSALS FOR AMENDING THE NRMM DIRECTIVE 97/68/EC

AECC\*, the Association for Emissions Control by Catalyst, would like to provide comments on the GEME working group proposals for amending the Non-Road Mobile Machinery Directive, as they were presented at the 16 March 2010 meeting.

### Emissions Limits for CI Constant Speed Engines

AECC supports the Euromot proposal to align constant speed engines emissions limits with those for variable speed engines in Europe and with those for variable and constant speed engines in the USA. Engines developed to meet Stage IIIB and IV limits on the NRTC and ISO8178-C1 cycles will also be able to meet the limits on the ISO8178-D2 cycle. There is therefore no technical reason for a delay in introducing Stage IIIB and IV limits for constant speed engines. Exhaust emissions of constant speed engines are easier to control and reduce and aftertreatment systems have already been developed for variable speed engines in Europe and for variable and constant speed engines in the USA. Therefore the next emissions stage for constant speed engines should be as stringent as the requirements for variable speed engines and be introduced simultaneously. If Stage IIIB is skipped for those engines then Stage IV should enter into force at the same time when it becomes mandatory for variable speed engines (e.g. 1 January 2014 for 130-560 kW engines).

### Emissions Limits for CI Variable Speed Engines

Some engine power bands have been left out of the technical review. This had been drawn to the attention of JRC at the time of the technical review but was not included in the Arcadis impact assessment. As there is currently no Stage IIIB and IV proposed for engines in the 19-37 kW power band, their PM emissions limit will no longer be aligned with the standards in the USA and Japan as of 2013 (see table below).

[g/kWh]	CO	NMHC+NO <sub>x</sub>	PM	Date
Europe	5.5	7.5*	0.6	2006/2007
USA	5.5	4.7	0.03	2013
Japan	5	0.7+4	0.03	2013

\*THC+NO<sub>x</sub>

AECC therefore supports introduction of a Stage IIIB for CI variable speed engines between 19 and 37 kW, entering into force on 1/1/2013 with a HC+NO<sub>x</sub> limit set at 4.7 g/kWh, CO at 5.5 g/kWh and PM at 0.03 g/kWh in order to align European standards with those in the USA and Japan.

### Application of the PMP measurement procedure to NRMM engines

AECC welcomes the mandate given by EU Member States to the Commission to study the feasibility of the Heavy-duty PMP procedure (measurement of particulate mass and particle number) for NRMM engines by the end of 2013. In a recent study, to be published in 2010, AECC has generated HD-PMP measurement results on a modern NRMM engine.

Since the deadline for the review is identical to the deadline for other review clauses proposed by the GEME Ad-Hoc working group assisting the European Commission services in preparation of a proposal for amending the NRMM directive (e.g. Stage IV definition for rail engines, new inland waterway vessels emissions stage for 2020, PEMS requirements, gaseous fuels CI engines), AECC believes the following review clause should appear in the proposal for amending the directive:

*'The Commission shall, not later than 31 December 2013:*

*- conduct a feasibility study on UN-ECE Heavy-duty PMP for NRMM CI engines and propose particulate mass and particle number limits defined according to the method and submit, where appropriate, proposals to the European Parliament and the Council.'*

AECC generally supports harmonised, technology-neutral emissions standards. Switzerland has already introduced PMP for some non-road engines<sup>1</sup>, and additional requirements for particle control are already effective in some places within the EU such as London<sup>2</sup>. In order to preserve a harmonised, technology-neutral standard, it is desirable that the Commission takes a leading role in developing limits. Consequently, AECC believes that the whole industry would benefit from a Commission study in 2010-2011 rather than in 2012-2013.

For further information,  
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#### References

<sup>1</sup> Ordonnance sur la protection de l'air (OPair), Art. 19a, Annexe 4, ch. 3  
[www.admin.ch/ch/f/rs/814\\_318\\_142\\_1/index.html](http://www.admin.ch/ch/f/rs/814_318_142_1/index.html)

<sup>2</sup> Non-Road Mobile Machinery (NRMM) retrofit programme, aftertreatment system, certification conditions, guidelines and application form, section 4.3.6  
[www.energysavingtrust.org.uk/business/Global-Data/Publications/After-treatment-application-form](http://www.energysavingtrust.org.uk/business/Global-Data/Publications/After-treatment-application-form)

*'AECC is an international non-profit scientific association of European companies engaged in the development, production and testing of catalyst and filter based technologies for vehicle and engine emissions control. This includes the research, development, testing and manufacture of autocatalysts, ceramic and metallic substrates and speciality materials incorporated into the catalytic converter and filter and catalyst based technologies to control diesel engine emissions (especially particulates and nitrogen oxides). Members' technology is incorporated in the exhaust emission control systems on all new cars and an increasing number of commercial vehicles, buses, non-road mobile machineries and motorcycles in Europe.*

*More information on AECC can be found at [www.aecc.eu](http://www.aecc.eu). Information on emissions control retrofit for existing heavy-duty vehicles and non-road machinery can also be found at [www.dieselretrofit.eu](http://www.dieselretrofit.eu).*

*AECC's members are: BASF Catalysts Germany GmbH, Germany; Corning GmbH, Germany; Emitec Gesellschaft für Emissionstechnologie mbH, Germany; Ibsiden Deutschland GmbH, Germany; Johnson Matthey PLC, United Kingdom; NGK Europe GmbH, Germany; Rhodia Operations, France; Saint-Gobain Industriekeramik Rödental GmbH, Germany and Umicore AG & Co. KG, Germany.*