AECC Comments on the Report "Contribution to Impact Assessment of Measures for reducing Emissions of Inland Navigation"

AECC* welcomes the conclusions of the report submitted in March 2013 by Panteia to the European Commission's DG Transport "Contribution to Impact Assessment of Measures for reducing Emissions of Inland Navigation", especially in the context of the revision of the Non-Road Mobile Machinery Directive 97/68/EC.

AECC supports the EU initiative on greening inland waterway transport in improving the sector's emissions towards the low emissions levels achieved by the on-road EU VI standard. AECC generally acknowledges the work done by Panteia and its consortium partners and supports the general thrust of their final report.

The on-going revision of the Thematic Strategy on Air Pollution by the European Commission's DG Environment has identified NRMM, which includes inland waterway vessels, as a key source of emissions to be tackled. In order to generate the improvement in ambient air quality required by EU legislation NOx emissions need further reduction to help resolve NO_2 limit breaches in most EU Member States, and PM emissions need to be further reduced as there is no safe threshold for short-term exposure to ultrafine particles according to the World Health Organization (WHO) REVIHAAP project.

In 2012, the WHO International Agency for Research on Cancer (IARC) classified Diesel engine exhaust emissions as carcinogenic to humans. This assessment was based on epidemiological studies in which the engines were not equipped with particulate and NOx aftertreatment systems. Studies show that a minimized number of ultrafine particles will benefit society in general and machinery operators in particular.

In addition, a reduction in Black Carbon emissions will produce a co-benefit for climate change as Black Carbon has a high global warming potential.

In general it is desirable that NRMM Stage IV requirements are extended to applications for which no Stage IV is currently defined (including inland waterway vessels). For the nearer term, the proposed emission Stage for new engines used in inland waterway vessels named "4B" in the Panteia report would come close to this, even though the NOx level of 1.2 g/kWh is still significantly higher than the existing NRMM Stage IV limit of 0.4 g/kWh.

For existing engines, the technical feasibility of retrofit has been demonstrated. In order to achieve emissions reduction as early as is needed, AECC supports the inclusion of emissions control requirements for the legacy fleet due to the long operating lifetime of inland waterway vessels and their engines. The emissions scenario for existing engines called "Stage 4A" in the Panteia report is in line with demonstrated, proven retrofit emissions control technology while economically viable as the consultant study outlines.

In addition, AECC further supports that the future NRMM standard Stage V as well as the standard for new engines used in inland waterway vessels is developed along the following lines (which would be equivalent to "Stage 5" in the Panteia report):

- Emissions control technologies are readily available to enable future NRMM requirements to align with on-road Euro VI emissions legislation. They are in use on Heavy-duty vehicles in the USA (since 2010), in Japan (since 2009) and in Europe.
- Emissions legislation compliance should be achieved in real-world operation.

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- A lower PM mass aligning with Heavy-duty Euro VI requirement should be defined.
- A single PM number limit should be defined for all NRMM engines above 19 kW. The Heavy-duty PMP (Particulate Measurement Program) protocols developed by UNECE can readily be used to measure PM mass and PM number emissions of non-road engines.
- The future Stage V legislation should cover all NRMM CI and SI engines including the smaller (<37 kW) and the larger ones (>560 kW) with the outlook of simplifying legislation by reducing the number of engine power bands and harmonizing their emissions requirements.
- Alternative fuel applications should promote climate-friendly technologies. In the case of LNG methane emissions with a much higher global warming potential than CO_2 should not be neglected. To ensure efficient solutions are deployed, a specific CH_4 limit could be defined for example.
- There should be fuel-neutrality (gaseous/liquid fuels) in terms of emissions limits.
- There should be identical emissions limits and introduction timing for constant speed and variable speed engines.
- The future Stage V should apply to all NRMM engines and machinery categories without exemption. Exemptions and derogations delay the benefit to the environment and prevent economies of scale. The increased flexibility allowance introduced for Stage IIIB engines have for example delayed the benefit of the tighter Stage IV emissions standard.
- Given the availability of technologies, introduction 3 years after publication in OJ should ensure sufficient lead time to the industry.

The latter comments on Stage V have also been shared with the DG Enterprise and Industry of the European Commission in the emissions control industry's answer to the NRMM public consultation which closed on 8 April 2013.

Should you need more information, you can contact AECC at info@aecc.eu or at +32 2 706 8160.

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