



Brussels, 10/10/2008

Concerns on the sulphur content of fuels in the revision of the fuel quality directive

Dear Madam,
Dear Sir,

CECE, CEMA and Euromot would like to express their concerns about the sulphur content of liquid fuels as planned in the revision of directive 98/70/EC (the fuel quality directive). Based on changes currently considered by the Council within the Working Party on the Environment, we are concerned that the introduction of low sulphur diesel (10 mg/kg) could be too late to meet engine emissions requirements, which will have a negative impact on the environment. We base our remarks on Council document 11605/1/08 REV 1, which was partially made available to the public after we requested access under Regulation 1049/2001.

The reason why the late introduction of low sulphur diesel may cause a negative impact on the environment is related to directive 2004/26/EC regarding emissions from engines for i.a. non-road mobile machinery, agricultural and forestry tractors, rail vehicles and inland waterway vessels. According to this directive, from 31 December 2010, the first machinery equipped with stage IIIB engines will be put on the market. These “cleaner” engines need after treatment systems and require 10 mg/kg 10 mg/kg low sulphur diesel.

More technical details are provided in the annexed document as well as an overview of the availability of low sulphur fuel in the world.

Document 11605/1/08 REV 1 states that low sulphur diesel must be distributed as from “1 January [2011]”. The maximum permissible sulphur content of gas oils distributed for use by non-road mobile machinery, agricultural and forestry tractors and inland waterway vessels shall be 10 mg/kg.

The dates of placing machinery on the market and the date of obligation for distribution are now identical. Due to the cleaning of the whole fuel supply chain and the fact that for large jobsites there are large fuel tanks filled partially with higher sulphur content, there is the risk of using fuel with higher sulphur content, CECE, CEMA and Euromot fear that late availability of the low sulphur fuel will have the effect that the environmental targets set out in the engine emissions directive will not be achieved.

Further, CEMA has a strong reservation on the temporary derogation until 31 December 2011 for specific types of non-road mobile machinery, particularly tractors. The annual sales of agricultural tractors in the EU amount to approximately 170,000 units and almost 70% of them have to comply with the Stage IIIB engine emissions requiring low sulphur diesel otherwise the engine will be damaged, therefore the contemporaneous availability of 10mg/kg low sulphur diesel fuel is essential. Euromot also has a strong reservation on the temporary derogation for rail vehicles and inland waterway vessels.

Therefore CECE, CEMA and Euromot ask the Council to enable the earliest possible availability of 10 mg/kg low sulphur diesel and strongly recommend not allowing any derogation. Further delays will jeopardize the industry's ability to meet extremely challenging emission requirements already defined by existing European legislation and aligned with international provisions. Please note that 10 mg/kg low sulphur diesel is already widely available for on-road applications, as defined by Directive 2003/17/EC. Additional flexibility would now be provided by the Council in the case of non-road machinery to allow for minor contamination in the delivery process before the fuel reaches the machinery.

We look forward for the EU institutions to finalise the revision of directive 98/70/EC as soon as possible and stay at your disposal should you require further clarification.

Yours sincerely,



Ralf Wezel
CECE and CEMA Secretary General



Peter Scherm
Euromot Secretary General

CECE is the European Committee for the Construction Equipment Industry, co-ordinating the European activities of 11 national trade associations. CECE represents 1,200 companies, most of them SMEs, with 140,000 people employed in Europe and with a turnover of 21 billion Euro.

CEMA is the European Committee of associations of manufacturers of agricultural machinery. CEMA is the European body that brings together 11 national associations active in the domain of agricultural machinery, representing approximately 4,500 production sites of industrial standing with nearly 270,000 employees and a total turnover of 19.7 billion Euro.

EUROMOT is the European Association of Internal Combustion Engine Manufacturers representing 44 members companies, the leading manufacturers of internal combustion engines used in a broad range of nonroad and marine applications with an employment of 200,000 people and an annual turnover of 25 billion Euro.

ANNEX

The Review of European Fuel Quality Directive

The European Commission published on 31 January 2007 the long expected new proposed directive on the quality of transportation fuels amending the 1998 directive which sets common EU specifications for petrol, diesel and gasoil used in road vehicles, inland waterway transport (IWT) vessels and non road mobile machinery such as locomotives, earthmoving machinery and tractors. These new standards for transport fuels will reduce their contribution to climate change and air pollution, including greater use of bio fuels.

The proposal sets a schedule for mandatory introduction of ultra-low sulphur diesel (ULSD, 10 ppm S) for non road mobile machinery (NRMM) in due time, prior to the introduction date of the stage IIIB of exhaust emissions limits that apply from 1 January 2011. Euromot, CECE (European Committee for Construction Equipment) and CEMA (European Committee of associations of manufacturers of agricultural machinery) has utilised the consultation process to explain to the Environment Directorate in several position papers the extremely serious technical implications and cost aspects of any delayed ULSD schedule in Europe. Some of the specific issues are:

- **Exhaust Gas Recirculation (EGR) systems:** The present sulphur level of nonroad fuel of 1000 ppm is not suitable for safe EGR operation. Sulphur levels above 350-500 ppm will cause condensation problems with sulphuric acid in EGR coolers and intake manifolds and hence excessive corrosion and engine wear.
- **Passive regeneration mode of Particulate Matter (PM) filters and Continuous Regenerating Trap (CRT) systems:** 10 ppm S fuel will allow many pieces of equipment to operate for extended periods with passive regeneration. Being able to avoid active regeneration will significantly reduce systems costs and also enable reduced fuel consumption. Based on a joint Euromot-EMA(US Engine Manufacturers Association) study approximately 50% of all NRMM applications will use passive regeneration modes.
- **Lifetime and durability of the catalytic components in PM filters:** Lower sulphur content is directly correlated with less sulphur poisoning of the catalytic active sites. This will result in longer maintenance intervals and less frequent complete replacement of filters, thus reducing the operational and life cycle costs of the equipment significantly. 1000 ppm S fuel will give unacceptably low catalysed particulate filter life.
- **Misalignment of specifications of test fuels and market fuels:** Certification at the stage IIIB requires a reference fuel of < 10 ppm S. A misalignment between the test fuel specifications and the NRMM market fuel means that engines in the field will not comply to the limits as they have to operate under significantly higher sulphur content.

- **Alignment with US EPA regulation introducing 15 ppm S by 1 June 2010:** Many NRMM manufacturers are SME's and need to produce one product for the global market. A big time difference between EU and the US in introducing ULSD fuel puts an unnecessary burden on the manufacturers as the misalignment will result in additional development work and require different product placement strategies.

Introduction date: During 2010 engine production lines will progressively commence the manufacture of Stage IIIB engines and machines with sulphur-sensitive emissions reduction technology will begin to enter the market throughout Europe. From 31st December 2010 it is required that non-road engines in the range 130 kW - 560 kW placed on the market comply with Stage IIIB, with lower power engines following in subsequent years. It is unacceptable to the members of CECE, CEMA and Euromot, who have invested millions of Euro developing engines and machines to deliver a ~90% reduction in particulate emissions and ~50% reduction in the emissions of NOx, that an appropriate supply of diesel fuel (with maximum 10 mg/kg sulphur) may not be mandatory across Europe. The maximum fuel sulphur content of 10 mg/kg is a key pre-requisite to the successful launch of Stage IIIB equipped machines

The urgent need for an early introduction of nonroad ULSD is also due to the special infrastructure for supplying fuel to NRMM. Our experience shows that it is necessary to introduce new fuel qualities two years prior to the introduction dates of new stages. In most of the case construction and agriculture machinery cannot use the road fuel distribution network. Because of the remote location of most of the job sites those machines are filled from fuel stored in large to very large job sites fuel tanks. A quick calculation shows that whatever is the size of the job site fuel tanks, it will take several fillings of the tank at ULSD to move the sulphur concentration from 1000 ppm to 10 ppm. Furthermore the time to clean the whole fuel chain from high sulphur fuel to 10 ppm will vary a lot depending on how frequently end users will fill up their job sites or "home site" fuel tanks. In many cases this frequency is linked to the structure and size of the enterprise of the machine owner that varies from few machines to large fleet of hundred units. It will also take much more time in case of seasonal works such as agricultural harvesting machines.

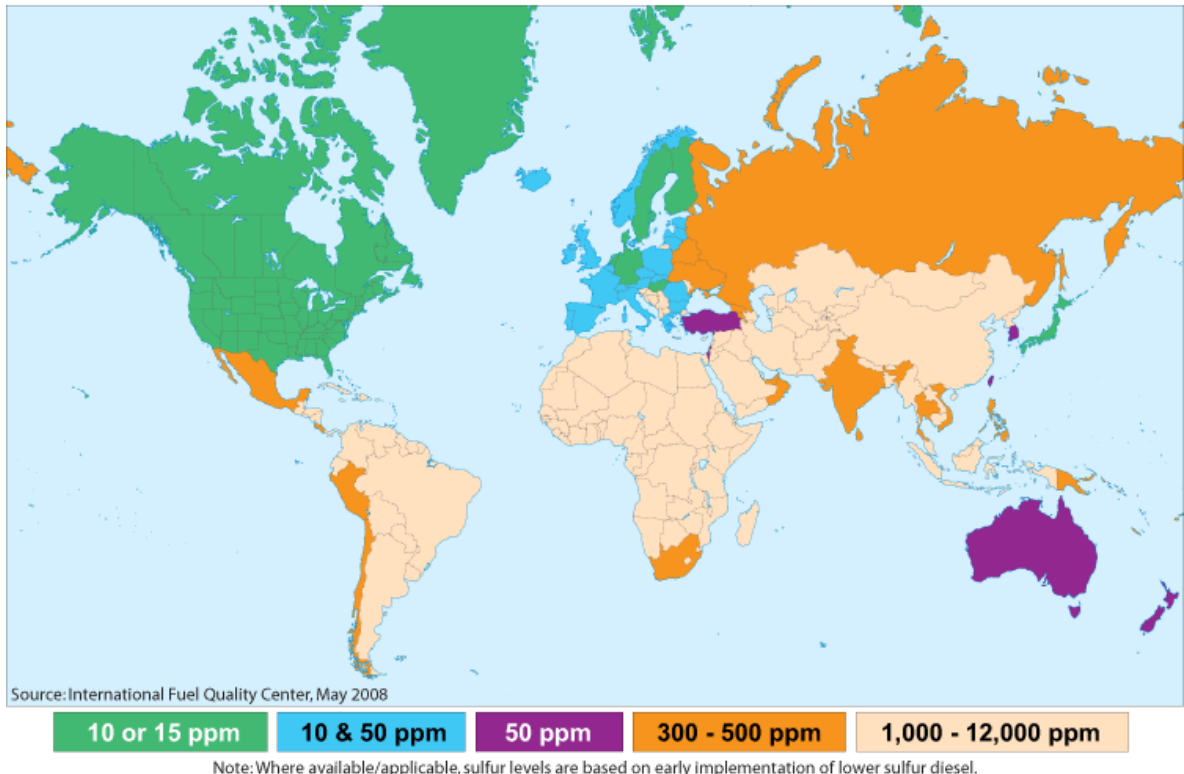
While it is correct in theory that 10 ppm S diesel would be required in new equipment only, there is nothing that prevents accidental or intentional misfuelling in mixed fleets. Most locations will have pre and post stage IIIB equipment for some time. Multiple levels of low or ultra-low sulphur in the fuel and different fuelling requirements for the same applications on the same jobs, would need a huge and costly effort for developing guidelines on labelling and operator manual instructions to ensure consistency in the field between different brands and reduce operator confusion. The current fuel sulphur level of 1000 ppm S for nonroad gasoil went into force in 1 January 2008.

DIESEL (ppm sulphur)	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	following
EC											
onroad fuel	50		10								
nonroad fuel	2000	1000		10							
marine fuel – EC proposal	2000	1000		300		10					
marine fuel – EP proposal	2000	1000		10							
US EPA											
onroad fuel	15										
nonroad fuel	500			15							
rail & marine	500					15					
nonroad, rail & marine: small refiners	500							15			
US CARB											
nonroad, rail & marine	15										
CERTIFICATION FUEL											
EU	350			10							
US EPA	500			15							

Worldwide legislation on the sulphur content of onroad and nonroad fuels

In red: urgent need for 10ppm sulphur

Diesel Sulfur Limits



International Fuel Quality Center – Worldwide onroad sulphur levels