

Sulphur content of fuel inland waterway transport to be set at 10ppm

Directive of the European Parliament and of the Council amending Directive 98/70/EC as regards the specification of petrol, diesel and gas-oil and the introduction of a mechanism to monitor and reduce greenhouse gas emissions from the use of road transport fuels and amending Council Directive 1999/32/EC, as regards the specification of fuel used by inland waterway vessels and repealing Directive 93/12/EEC **COM(2007) 18**

Inland waterway transport has a long tradition of environmental friendliness. The current EU legislation on fuel quality (directive 2005/33) acts as a barrier to further progress on eco-innovation and even prevents inland shipping operators from complying with EU legislation on emission reduction (directive 2004/26).

The Commission comes forward with a proposal to make low sulphur fuel available to the inland shipping market in order to remedy to this unfortunate situation. However, a two stages approach, from 1000ppm to 300ppm from end 2009, and to 10ppm later, is completely meaningless for several reasons:

1. Technical:

- No transitional period for gasoil with 300ppm sulphur content is technically necessary since 98% of current engines can run without any complications on 10ppm sulphur fuel (EN 590) thanks to the lubricating properties of such gasoil.
- New engines require the use of gasoil with a sulphur content of maximum 50ppm and ideally 10ppm to avoid damage to these engines.
- Only a small percentage of the fleet, especially those equipped with older engines, would require a low cost additive as fuel lubricity improver.

2. Economic:

- Shipping operators having installed new engines cannot obtain the adequate fuel which leads to damage to these engines and invalid warranties, resulting in significant operational costs.
- The higher price for 10ppm low sulphur fuel of EUR 25 per 1,000 litres is acceptable within the current variations of oil prices (as demonstrated by the fuel price increase of 11% for waterway transport between 2005 and 2006). Introducing 300ppm fuel only for inland waterway transport, while other road and non-road machinery run on 10-50ppm fuel, will raise distribution costs of fuel suppliers for a small niche market resulting in higher prices.
- Road transport may be more environmentally friendly in terms of PM, NOx and SO2 emissions than waterway transport by 2010, leading to a negative image and negative economic consequences for the navigation sector. Inland shipping can perfectly maintain its environmentally friendly performance if fuel of 10ppm sulphur content would be on the market, as it enables the installation of after treatment equipment on new and older engines.

3. Environmental:

- Without 10-50ppm fuel, the installation of diesel particulate filters, leading to a decrease of PM emissions by 85-95%, is impossible, as higher sulphur fuel clogs the filters.
- The DeNox installations to reduce NOx emissions by 80-90% onboard, still emit harmful SO2 and SO3 instead of NO2, when using 300ppm fuel.
- Notwithstanding the energy efficiency of inland waterway transport (an inland vessel uses 4 to 7 times less fuel per tonne/km than a truck) and hence the relative low CO2 emissions, the installation of new engines running exclusively on EN 590 fuel leads to a further increase of 15-30% in energy efficiency, important in the battle against climate change.
- At a time when a high number of inland shipping engines approach the end of their lifecycle, the non-availability of 10ppm fuel for inland waterway transport discourages shipowners to install new, more energy-efficient engines emitting less CO2 and makes it impossible to install exhaust after treatment equipment to bring harmful PM, NOx and SO2 emissions drastically down. This means thwarting eco-innovation in waterway transport.
- Legislation which says 'no' to eco-innovation is contradictory to the EU Lisbon objectives, the white paper on transport, the sustainable development strategy, the action plan for environmental technologies, the new energy policy and the air quality directive.

The Commission has argued that fuel with a sulphur content of 300ppm is sufficient to reach the emission limit values set out in directive 2004/26. The EU however does not need conservative legislation putting aside overriding technical, economic and environmental evidence. The EU needs pro-competitive regulation, rewarding operators who invest in eco-innovation and encouraging other operators ahead of new investments to choose the best technology in terms of costs and sustainability. Environmental regulation should set the highest possible standards when this does not lead to disproportionate costs for the market.

We also would expect the Commission to support the pro-active efforts of some Member States (Belgium, France, Germany and Netherlands, representing the majority of the active inland shipping market) who want to encourage inland shipowners with dedicated aid schemes to replace engines and to install after treatment equipment, as part of their strategy to enhance the reduction and elimination of pollution and nuisances.

We therefore insist the EU brings the sulphur content of gasoils at once down to 10ppm (EN 590 quality standard) for waterway transport, and ensures this type of fuel is marketed across the entire EU as of 2008.

Proposal for amendments
Article 4

<p>(d) The following paragraph 6 is added "6. Member States shall ensure that, by 31 December 2009 at the latest, the maximum permissible sulphur content of gas oils intended for use by inland waterway vessels is 300 mg/kg. Member States shall ensure that this is reduced to 10mg/kg by 31 December 2011 at the latest."</p>	<p>(d) The following paragraph 6 is added "6. Member States shall ensure that, by 31 December 2009 at the latest, gas oils intended for use by inland waterway vessels comply with the standard specifications set out in annex IVb and the maximum permissible sulphur content is 10 mg/kg. Member States shall ensure that this is reduced to 10mg/kg by 31 December 2011 at the latest."</p>
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New

Annex IVb

Standard specifications for gasoils intended for use by inland waterway vessels
EN-590: 2004(B5) (10mg/kg)

Parameter	Unit	Limit
Cetane number		Min 51,0
Cetane index		Min 46,0
Density at 15°C	kg/m ³	845
Polyaromatic hydrocarbons	% (m/m)	Max 8
Sulphur content	mg/kg	Max 10,0
Flash point	°C	Above 55
Carbon residue (on 10% distillation residue)	% (m/m)	Max 0,30
Ash content	% (m/m)	Max 0,01
Water content	mg/kg	Max 200
Particulates	mg/kg	Max 24
Copper strip corrosion (3h at 50°C)	rating	Class 1
Oxidation stability	g/m ³	Max 25
Lubricity (wsd 1,4) at 60°C	µm	Max 460
Viscosity at 40°C	mm ² /s	2,00-4,50
Distillation		
% (V/V) recovered at 250°C	% (V/V)	< 65
% (V/V) recovered at 350°C	% (V/V)	Min 85
95% recovered at	°C	Max 360
Cloud point	°C	
Summer		Max 0
Winter		Max -15
Cold Filter Plugging Point (CFPP)	°C	
Summer		Max -11
Winter		Max -24
Appearance		clear
Fatty Acid Methyl Esther (FAME) content*	% (V/V)	Max 5

*Higher FAME content increases fuel consumption & requires additional maintenance discipline (prevent fuel system fouling, deposit formation and corrosion). It also might cause problems for on board heating systems (safety issue).

Comments on EC impact assessment: Comparison of the impacts of tightening inland waterway fuel specification to 300 or 50ppm sulphur

	Sulphur 300 ppm	Sulphur 10/50 ppm
Environmental benefit	<p>Enables operation of all Stage IIIA equipment. FALSE: see annex 3</p>	<p>- Enables operation of all currently envisaged after treatment technology up to Stage IIIB which is not yet foreseen for Inland Waterway. - Increased GHG emissions of 0.01MT per year from refineries. Attn: Depends on technology development / offset by lower CO2 emissions due to fuel efficiency. - Will reduce PM emissions from Inland Waterways by 2% (0.056kT). FALSE: will lead to tenfold PM emission reduction. The EC quotes a study from 1995. Ultra-low sulphur fuel enabling the installation of DPDF allows a reduction from 0.2 g/kWh tot 0.02g/kWh). (see annex 1)</p>
Cost to Equipment Manufacturers	<p>Possibly higher unreliability, increased warranty claims compared to 50ppm. FALSE: certainly higher unreliability and increased warranty claims because IIIA/CCRII engines require at least 50ppm fuel (see annex 3).</p> <p>Could restrict use of some technologies. FALSE: restricts use of main types of emission control equipment: 1) DeNOX installations 2) Diesel Particulate Filters (DPF)</p>	None foreseen
Additional cost to fuel suppliers over 300 ppm expressed as price per litre	<p>0 FALSE: 300ppm blends will only have to be made for inland waterways which is a small niche market, resulting in higher production and distribution costs because no economies of scale.</p>	NPV estimated at 30M€. Estimated resulting price increase of 1 cent per litre.
Cost to users	<p>May increase downtime and operating costs.</p> <p>Possibly invalid warranties as certain manufacturers recommend use of EN590 compatible fuel. FALSE: certainly invalid warranties as manufacturers oblige use of EN590 compatible fuel for IIIA/CCRII engines (ie 10/50ppm fuel) see annex 3 – and costs due to damage to engines.</p> <p>Additional cost of separate storage facilities where heating oil also used.</p>	<p>Increase in fuel price of 1 cent per litre of fuel. Attn: The price difference is acceptable within the current variations of oil prices.</p> <p>Additional cost of separate storage facilities where heating oil also used.</p>

ANNEX 1

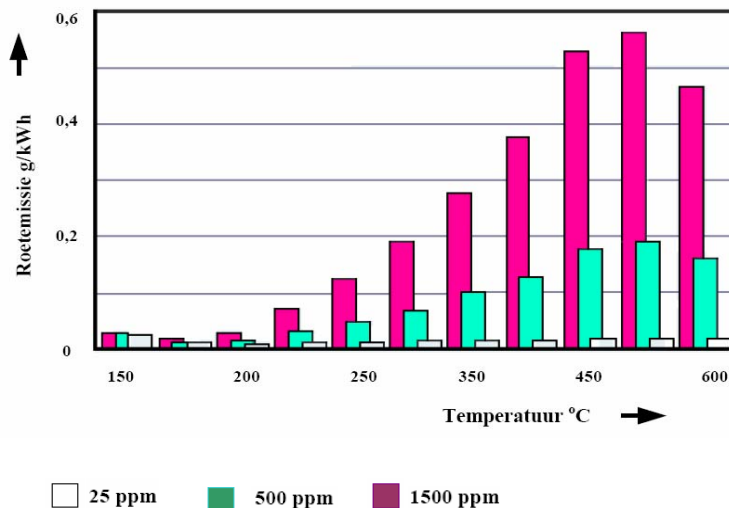
Table on influence of sulphur content on PM emissions

Exhaust after treatment

Diesel Engines



De invloed van het zwavelgehalte in de uitlaatgassen is van zeer groot belang voor de uiteindelijke roetemissie!



ANNEX 2

Extract of report EU research project CREATING

“The reduction of PM emissions of inland vessels is an issue of highest importance but seems impossible to be reached as long as the sulphur content of the currently used gas oil stays on its high level.

For this reason it is highly recommended to implement legal measures to reduce the sulphur content of gas oil used in inland navigation to a minimum, at least to 50 ppm, better down to 10 ppm as is standard for road transport today.”

CREATING, Milestone report for milestone 06.03, R&D on techniques to reduce exhaust of harmful substances, Work Package 6, FP6 – 506542, 2006, p. 50.

Summary:

<http://www.creating.nu/download/d8/Creating%20Newsletter%20October%202006.pdf>

ANNEX 3

Warning of engine manufacturer CATERPILLAR requiring the use of EN 590 fuel for IIIA/CCRII engines

