
EUROMOT POSITION

30 August 2012



CEN TC 234 WG 11 – Sulphur in Gas Quality

1. Introduction

Currently, CEN TC 234 WG 11 is working on gas specifications under Mandate M 400 from the Commission. The Task Group Sulphur has been assigned the task to make proposals regarding sulphur. In July, the Task Group has made following draft proposals which are still under discussion:

- Total sulphur spec at 30 mg S / m³
- A first step to decrease total sulphur spec to 20 mgS/m³ from 2020
- Lower content would be possible only in a second step (next revision of the standard)

EUROMOT strongly recommends reconsidering this draft proposal and reiterates its proposal to provide low-sulphur fuel to gas users, limiting:

- The total sulphur content to 5 mgS/m³,
- And keeping the RSH content as low as possible preferably close to 0 mgS/m³

2. Negative Impacts of Sulphur in Pipeline Gas

High levels of sulphur in pipeline gas is harmful for the environment because the sulphur content degrades currently used catalytic converters such as oxycats, as well as **preventing the introduction of more advanced technologies still under development**¹. The ability to innovate and to introduce new abatement technologies will be important for further improvements of air quality in Europe.

¹ For further information on advanced technologies see Euromot Position on “Total Sulphur Levels in Natural Gas” 4 April 2012).

According to the information provided by the Task Group Sulphur, only a few EU member states occasionally are faced with high sulphur content in natural gas. This does not warrant the proposed high sulphur limits. A more logical approach should be to set a sulphur limit taking into account today's features of the gas user installations. This limit could in exceptional cases by approval by the authority be exceeded, but the currently proposed limit will unfortunately lead to an increase in the sulphur levels of the natural gas with higher emissions and equipment failures as a consequence.

Furthermore, Sulphur in the fuel is oxidized during combustion, producing sulphur dioxide and sulphur trioxide, that in presence of water rapidly convert to sulphuric acid, one of the chemical processes responsible for acid rain.

A high level of sulphur in pipeline gas also reduces the lifetime of many types of equipment with the corresponding economic damage. To illustrate the effect high levels of sulphur can have on equipment, we have included pictures of waste gas heat exchangers used in a cogeneration plant which clearly show the corrosion caused by high sulphur levels.

Pictures show corrosion of heat exchanger in a cogeneration plant due to sulphur. In oxidation catalysts, sulphur is oxidized to form sulphur trioxide. Together with steam, sulphuric acid (H_2SO_4) is formed which is highly corrosive:



The negative impacts of high levels of sulphur in fuel, regardless of whether gaseous or liquid, have been well-known for a long time. For example, this has led in the European Union to adopt ultra-low sulphur fuels with less than 10 ppm sulphur content for cars. The proposed

sulphur limits of the natural gas will lead to an opposite development in the gas sector and natural gas might thus lose its reputation as a clean environmental friendly fuel.

3. Odourisation

Under Mandate M 400, CEN TC 234 WG 11 is currently only working on gas specifications for pipeline gas. It is important to note that the sulphur content which the actual gas users receive will most likely be substantially higher due to odourisation practices at member state level. Depending on the national odourisation practice this could mean that end customers are provided gas with a sulphur content of 40 mg/m³ (from 2020: 30 mg/m³) or even higher. Especially new pipelines should strive for sulphur free odourants (technique exists, used e.g. in Germany) !

EUROMOT has raised the issue of odourisation in the Task Group on Sulphur and the Task Group has proposed to *“to write an informative remark about [odourisation] and to give the link to marcogaz website (odourisation table) for those who want to know more about odourisation in Europe”*.

EUROMOT acknowledges that odourisation practices cannot be changed by the CEN TC 234 WG 11 work. However, it is our opinion that CEN TC 234 WG 11 is obliged to take into account this additional source of sulphur as it reduces the amount of sulphur pipeline gas should contain. Furthermore, CEN TC 234 WG 11 should take the opportunity to promote sulphur-free or at least low sulphur odourisation practices.

4. Conclusions

In the past, many countries in Europe have been accustomed to natural gas with low sulphur content (approx. 3-5 mg S/m³ on average). Any European gas quality standard should ensure that natural gas remains a low-sulphur fuel. This is clearly possible. Upstream treatment of natural gas containing too high levels of sulphur is technically feasible (local desulphurization at site is very expensive and thus not an economical feasible option for the decentralized power plant) and by far the most environmentally friendly, economical and most secure solution.

EUROMOT urges CEN TC 234 WG 11 to take the opportunity provided by Mandate M 400 to set forward looking low sulphur levels. The integration of the European gas market should not be allowed to harm the environment and reduce the lifetime of gas equipment or jeopardize future emission & efficiency ambitions/targets (such as “20-20-20” targets) set by EU.

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