

For the Attention of the European Commission - ENER.DDG1.B.2

RESPONSES TO THE CONSULTATION ON THE STUDY ON INTEROPERABILITY - GAS QUALITY HARMONISATION - COST BENEFIT ANALYSIS

- **Do you agree with the high-level conclusions of this report?**

Yes, also we are convinced that it is beneficial for the EU to have harmonised gas quality specifications in Europe to facilitate a proper exchange of gas between the member states and to have maximum security of supply. We agree with the REPORT that the costs of (trying to) adapt gas appliances to the wide gas quality range as proposed by EASEEgas will substantially exceed the financial benefits of allowing a wide gas composition range in pipeline systems. We strongly recommend to consider the narrow gas composition range as used in the US interim guidelines. Evidence of the huge complications of adapting all gas appliances to the proposed wide EASEEgas range was provided in the past when gas companies were still obliged to test the consequences of gas quality variations on appliances in their laboratories. Unfortunately, this obligation was removed during the market liberalisation process. In addition, consultation of appliance manufacturers and gas users took hardly place during the preparation of the EASEEgas proposal.

Further evidence that the wide quality range as proposed by EASEEgas is unacceptable is available from the USA. In the USA, the same problem of variable well gas and import gas composition (LNG) on appliance performance was studied many years ago. A substantial expert group with representatives from the gas companies, appliance manufacturers and users concluded that all gases supplied to customers should lie within a narrow composition range. Automatically, this results in a narrow range for the Wobbe Index and Heating Value. Treatment of well gas and import gases was and is considered the only acceptable way in the process of harmonising gas quality in the USA. [White paper on Natural gas Interchangeability and Non-Combustion End Use, Feb. 28, 2005, developed by the National Gas Council and FERC and downloadable from the internet]. In the USA, the range in Wobbe Index is on;y +/- 1.5% and the range in higher heating value about +/- 3.5%. The US Wobbe range is a factor 5 narrower than that proposed by EASEEgas.

- **As a manufacturer do you maintain an inventory of installed appliances?**

Wärtsilä is aware of the location of the large majority of delivered installations and directly involved in the maintenance of these installations.

- **Are there any specific gas quality related issues not recognised within this report?**

The report already mentions the drawbacks of applying the full EASEE-gas specification which are:

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- Ø Loss in energy efficiency and power output of major gas using equipment
- Ø High risk of sudden loss of generating power leading to electricity grid instability/black outs
- Ø Losing opportunities to use natural gas to replace HFO in ships
- Ø Increases in CO₂, NO_x, CO and THC emissions – the implications on EU emissions policy and the application of the IED
- Ø Risk of serious damage to sensitive gas-fuelled equipment
- Ø Huge challenges in measuring the amount of energy delivered.

In addition, the measurement of the delivered amount of energy to the bulk of customers will become unacceptably inaccurate. Common gas meters measure the volume of gas delivered without determining the heating value (i.e. the energy contents) of that volume. This is a very sensitive aspect that some gas companies refuse to discuss with customers. It can be easily calculated that inaccuracies of +/- 12% in energy measurement can occur in case the EASEEgas quality range is accepted

- **Do you manufacturer appliances that can operate over the full EASEE-gas specification without loss of efficiency or increased of emissions?**

No. Also, the power capacity can be affected in addition.

- **Do you have evidence of damage or failures caused by appliance operating on gas that is not compliant with the local gas quality specification?**

Every gas engine manufacturer has examples of failure of equipment due to gas composition variations. That is the reason that each potential customer is asked which kind of gas composition will be used at a certain location, so that a proper match can be made. Especially in case of plug flow, i.e. a sudden change in gas composition, serious problems can occur.

Euromot has already provided Noble Denton with pictures of engines damaged due to knocking combustion

- **Would you support the adoption of the proposed EUROMOT gas quality specification, (Appendix B)**

Yes

- **Are there any specific circumstances that should be assessed in detail?**

Yes, see below the next point about stripping.

- **Do you consider that the data used to undertake this analysis is sufficient to support the conclusions presented in this report?**

Yes, the factors present between costs and benefits is overwhelmingly clear. Moreover, the already mentioned process in the USA for a harmonised gas composition corroborates the results. The GL-Noble Denton report also refers to a UK study, where it appeared clear that treatment of the gas (so-called stripping) is very much preferred over dumping all kinds of gases into the pipeline system.

EASEE-gas has fully ignored the benefits of stripping the higher hydrocarbons from the imported gases and using these as feedstock for refineries or for vehicle fuel directly (LPG). Stripping is a process commonly applied in the gas industry and needs no further research.

However, the gas industry mentioned as an argument against stripping that they are not allowed to sell the resulting valuable liquids.

- **Should significant effort be made to improve the data used in the analysis presented in this report?**

In our opinion, that is not necessary. Evidence is there that the costs of accepting a wide quality range largely exceed the financial benefits. And again, also the thorough investigation carried out in the USA provides sufficient proof that a quality range much narrower than proposed by EASEE gas is required. We recommend to copy the USA rules.

- **Do you have access to further data that could (if it were made available) improve the quality of the data used in the analysis presented in this report?**

The Euromot report has already mentioned the many drawbacks.

- **Can you provide typical detailed gas composition at cross border points?**

Yes, from reports from the gas industry and e.g. a BP report. GL Noble Denton has these data already.

- **If so, can this data be made available (respecting confidentiality, as required)?**
- **How should data be collected for such a study?**