

Fuels Industry UK

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Fuels Industry UK response the consultation on the draft PAS 4445

Fuels Industry UK represents the eight main oil refining and marketing companies operating in the UK. The Fuels Industry UK member companies – bp, Essar, Esso Petroleum, Petroineos, Phillips 66, Prax Refining, Shell and Valero – are together responsible for the sourcing and supply of product meeting over 85% of UK inland demand, accounting for a third of total primary UK energy¹.

The refining and downstream oil sector is vital in supporting UK economic activity. It provides a secure supply of affordable energy for road and rail transport, aviation, and marine applications, as well as for commercial and domestic heating. It also supplies base fluids for use in lubricants, bitumen for use in road surfacing, and graphite for use in electric vehicle batteries and as electrodes in steel and aluminium manufacture.

The sector is poised to play a central role in enabling a Net Zero future by leading deployment of at-scale decarbonisation technologies to reduce our own emissions and those of others. It also brings expertise in delivery of large scale, complex and capital-intensive projects. Maintaining and accelerating such investment to support the Net Zero transition means the UK needs to be a globally competitive place to invest. However, the UK is now at risk of being left behind, due to domestic disadvantages and international incentives.

Fuels Industry UK welcomes the opportunity to comment on British Standards Institution's consultation regarding the Publicly Available Specification (PAS) for large hydrogen-fired equipment for use in industrial and commercial settings.

Fuels Industry UK is deeply concerned that the technical detail within the document is confusing and ambiguous. Such ambiguity within standards, codes of practice and specifications can cause unintended consequences such as regulatory uncertainty.

¹ [BEIS Digest of UK Energy Statistics \(DUKES\) 2023](#).

PAS 4445 states:

- 4.1.2. Hydrogen Gas – Note 1 – at time of publication, hydrogen gas is currently not defined in BSEN437.

This refers to a 99.9% pure hydrogen gas for burner certification purposes, which may give indication of intent, but does not provide certainty.

To avoid ambiguity, BSI should clearly and explicitly state the scope of the PAS 4445 standard. For example, the scope of PAS 4445 could only be applicable to commercial and building hydrogen systems where hydrogen content consistently exceeds 95% on a volume basis.

Refineries typically operate with fuel gas systems that contain a variety of process gas, excess hydrogen and imported natural gas. As such, hydrogen purities will not be comparable to those suggested in the scope of PAS 4445.

PAS 4445 may be viewed by the regulators as applicable to refineries. However, refineries commonly reference the American Petroleum Institute document, API-556, on the use of instrument, control and protective system installations for gas fired heaters in petroleum production, refineries, petrochemical and chemical plants. API-556 provides refineries with certainty in this area.

We would therefore request that refineries are explicitly excluded from the scope of PAS 4445.

Refineries have been involved in a dispute with the Health and Safety Executive (HSE) over the application of BS EN 746-2 "Industrial thermoprocessing equipment". The HSE required refineries to comply with certain safety requirements for combustion and fuel handling systems which conflict with the existing industry good practice API 556.

The outcome of this dispute is that it was agreed that it is the responsibility of the refinery operator to determine and select the most appropriate standard to apply, and to make a demonstration to the regulator (HSE) as to how ALARP has been achieved. The HSE do not mandate the use of either EN 746 or API RP 556. However, it was a lengthy and protracted process to reach this agreement.

To remove ambiguity and to reduce the potential for inappropriate application, in particular by regulatory authorities, the scope of PAS 4445 must be better defined.

Yours sincerely

Fuels Industry UK
