16 September 2016

Dr Peter Fisk
Chief Executive and Chief Metrologist
National Measurement Institute
36 Bradfield Road,
Lindfield, NSW 2070
Via email:

GEA REQUESTS NMI APPROVE SECONDARY INDICATION (ENERGY) AT POINT OF SALE

Dear Dr Fisk

I am writing to you on behalf of the members and associates of Gas Energy Australia requesting that the National Measurement Institute (NMI) allow secondary indication of energy on indicating devices at the point of sale for compressed gaseous fuels. Gas Energy Australia makes this request through provisions outlined in the 2014 version of International Organisation of Legal Metrology (OIML) OIML R 139-1 Compressed gaseous fuel measuring systems for vehicles.

Gas Energy Australia is seeking approval to allow secondary indication of energy content equivalence to better inform consumers at the point of sale of Australian transport fuels. Transport fuels such as petrol and diesel are sold by volume (litre) whereas gaseous fuels are sold by mass (kg). Consumers at the point of sale cannot effectively compare volume with mass without secondary information being made available to them.

Gas Energy Australia contends that energy content equivalence is a more appropriate comparative unit. It is by comparing energy content equivalence that Gas Energy Australia believe consumers can be better informed and make better purchasing decisions. The comparison of energy content equivalence is a credible mechanism which has been used by successive Australian Federal Governments when determining excise rates for alternative fuels. For example, in 2011, the explanatory memorandum for the Taxation of Alternative Fuels Legislation Amendment Bill 2011 states “The rates for these fuels (LPG, CNG and LNG) are based on the **energy content** of the specific fuels”.

This policy platform has been continued by successive Australian Governments with the Tax Discussion paper issued in March 2015 outlining under the heading Section 9.2 Fuel Taxes “…alternative fuels (liquefied petroleum gas, compressed natural gas, liquefied natural gas, and domestically produced ethanol and biodiesel) are, or will be, taxed at a rate based on the **energy content** of these fuels in comparison to petrol and diesel….”.

In the United States (US) , Compressed Natural Gas (CNG) is sold at the retail level either by mass, energy units or "gasoline gallon equivalents" (GGE). The US National Conference of Weights & Measurements (NCWM) developed a standard unit of measurement for compressed natural gas. The standard unit GGE is defined in the National Institute of Standards and Technology (NIST) Handbook 44 Appendix D as "gasoline gallon equivalent (GGE) means 5.660 pounds of natural gas."

It is not simply enough to have an indication available on the fuel dispenser. Gas Energy Australia contends that for the consumer to be confident in the provision of secondary indication of energy content

equivalence at the point of sale, the consumer requires a trusted, unambiguous and truthful secondary information source which would publish reference data on energy comparisons for Australian products.

Currently pattern approval requirements for compressed gaseous fuels are outlined by NMI reference OIML R 139:2007 *R 139-1 Compressed gaseous fuel measuring systems for vehicles.* While the 2007 version remains silent on secondary (informative) indication, the updated International reference OIML R 139-1 Compressed gaseous fuel measuring systems for vehicles (2014) specifically recognises that *"National authorities may allow the mass indication to be complemented with a secondary (informative) indication of volume, energy or other quantity, provided the status of this informative indication is clear and unambiguous and is not misleading with respect to the actual amount. Moreover in this case, the conversion factor used for converting from mass to the secondary indication shall be displayed on the front face of the measuring system."*

It is on the basis of the detailed notes set out in OIML R 139-1 (2014) Section 6.2 *Presentation of measured value* that Gas Energy Australia requests the NMI allow the indication of energy content equivalence at the point of sale.

To ensure appropriate conversions factors are available for display on the front face of the measuring system, Gas Energy Australia recommends that the NMI publish Australian conversion factors similar to the model used by the United States Department of Energy(US DoE), which publishes energy comparison data on their Alternate Fuels Data Center website (http://www.afdc.energy.gov/), or provide a definition in the NMI pattern approval documentation similar to that published in the NIST handbook.

In summary, Gas Energy Australia requests that the NMI;

1. allow mass indication to be complemented with a secondary (energy) indication; and
2. define and publish Australian conversion factors equivalent to GGE used in the US to make the secondary indication clear and unambiguous.

Recognising that such a request may require more information and consultation to grant approval for secondary energy indication at the point of sale, GEA and its members look forward to working collaboratively with the NMI on this important issue.

For your attention.

Yours sincerely

John Griffiths
Chief Executive Officer