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Mr Drew Clarke  
Chair, Australian Energy Market Operator Implementation Steering  
Committee  
c/- ISC Secretariat, Governance Section  
National Energy Market Branch  
Department of Resources, Energy and Tourism  
GPO Box 1564  
Canberra ACT 2601

Dear Mr Clarke

The National Measurement Institute (NMI) appreciates the opportunity to comment on the Implementation Steering Committee's consultation draft of the Declared Wholesale Gas Market Rules.

As you are aware, NMI is responsible under the *National Measurement Act 1960* for establishing and maintaining Australia's primary measurement standards and providing the peak infrastructure that enables measurements in Australia to be accepted nationally and internationally. The *National Measurement Act 1960* together with its subordinate legislation and regulations sets out a framework for measurements conducted in Australia.

Under Section 10 of the National Measurement Act, measurements can be substantiated in law by relating them, through a continuous chain of calibrations with known uncertainties, to the national standards of measurement and through them to internationally accepted units of measurement. Measurements that are not traceable in this way to national standards cannot be regarded as reliable, since their accuracy and their uncertainty cannot be substantiated technically.

NMI has an interest in contributing to the future development of the wholesale gas market by ensuring that the measurement issues that are relevant to the future of the market are clearly elaborated. NMI's comments on the consultation draft appear in the Attachment.

The contact officer for this submission is Peter Riggs (02) 62761597.

Yours sincerely

Dr Laurie Besley  
Chief Executive and Chief Metrologist  
National Measurement Institute

**Comments by the National Measurement Institute (NMI) on the consultation draft of  
the Declared Wholesale Gas Market Rules**

(i) Division 1, Paragraph 2 (Definitions)

NMI suggests that the following definition of 'traceability', as defined in the International Organization of Legal Metrology document, OIML V 2-200 (3<sup>rd</sup> Edition 2007): *International Vocabulary of Metrology*, be added to Paragraph 2 (Definitions):

*traceability* is the property of a measurement result whereby the result can be related to a reference through a documented unbroken chain of calibrations, each contributing to the measurement uncertainty.

(ii) Division 1, Paragraph 4 (Technical Interpretation), sub-paragraph (2)(b) (on page 20)

This paragraph defines the unit of energy in the international system (SI) of measurement, the joule, with reference to the Australian documentary standard AS1000-1979. This documentary standard has been superseded. The joule is defined for Australian legal purposes in the *National Measurement Regulations 1999*, where Australia's legal units of measurement are set out.

NMI suggests that sub-paragraph (2)(b) should define the joule by reference to the *National Measurement Regulations 1999*.

(iii) Division 1, Paragraph 4 (Technical Interpretation), sub-paragraph (3) states (on page 20):

"Unless otherwise expressly defined, all reference to units of measurements in this Part are references to the units of measurement defined in or for the purposes of the National Measurement Act 1960 (Commonwealth)."

Since Australia's legal units of measurement are set out in the *National Measurement Regulations 1999*, NMI suggests that sub-paragraph 3 should be amended to:

Unless otherwise expressly defined, all reference to units of measurements in this Part are references to the units of measurement defined in the *National Measurement Regulations 1999* (Commonwealth).

(iv) Division 4, Subdivision 4 (Metering), Paragraph 112 (Procedures) states (on page 103):

"AEMO must make Procedures (*metering uncertainty limits and calibration requirements procedures*) in relation to metering uncertainty limits and calibration requirements for *metering installations*."

In light of NMI's measurement expertise and role in providing world-class measurement standards and services for the Australian Government and Australian industry, NMI suggests that paragraph 112 should be amended to:

AEMO must make Procedures (*metering uncertainty limits and calibration requirements procedures*) in relation to metering uncertainty limits and calibration requirements for *metering installations* and do so in consultation with the National Measurement Institute.

(v) Division 4, Subdivision 4 (Metering), Paragraph 120 (Meter Time) states (on page 108):

"(1) The *responsible person* must ensure that all *metering installation* and *data logger* clocks are referenced to eastern standard time.

(2) The *metering database* must be set within an accuracy of plus or minus 2 seconds of eastern standard time for a *system point* other than a *transmission delivery point* and within an accuracy of plus or minus 5 seconds of eastern standard time for a *transmission delivery point* and a *distribution delivery point*."

Australia's legal time scale is Coordinated Universal Time Australia (UTC Australia) which NMI has responsibility for maintaining and disseminating. NMI suggests that paragraph 120 should be amended to:

(1) The *responsible person* must ensure that all *metering installation* and *data logger* clocks are referenced to Coordinated Universal Time Australia (UTC Australia).

(2) The *metering database* must be set within an accuracy of plus or minus 2 seconds of UTC Australia for a *system point* other than a *transmission delivery point* and within an accuracy of plus or minus 5 seconds of UTC Australia for a *transmission delivery point* and a *distribution delivery point* and time measurements must be traceable to UTC Australia.