

Economics Legislation Committee
ANSWERS TO QUESTIONS ON NOTICE
Industry, Innovation, Science, Research and Tertiary Education Portfolio
Budget Estimates Hearing 2012-13
28 and 29 May 2012

AGENCY/DEPARTMENT: DEPARTMENT OF INDUSTRY, INNOVATION, SCIENCE, RESEARCH AND TERTIARY EDUCATION

TOPIC: Measuring equipment used in trade

REFERENCE: Written Question – Senator Cameron

QUESTION No.: BI-90

1. Has the National Measurement Institute experienced increased demand in recent years for testing and certification of measuring equipment used in trade; particularly in mining, oil and gas, greenhouse gas emissions measurement and “smart” metering applications?
2. Does the Institute test and certify imported equipment used in these applications?
3. Does the Institute have any concerns about the accuracy of equipment used in these applications based on its testing and certification processes?
4. Has the Institute refused to certify any such equipment in the past three years? If so, what type of equipment was it and what was the country of origin of the equipment?
5. Does the Institute test all equipment used in the trade applications outlined above? Is testing and certification mandatory?

ANSWER

1. The National Measurement Institute (NMI) tests and certifies measuring instruments used in trade, but does not do so on an industry-specific or application-specific basis. NMI requires details of the applicant that is seeking pattern approval for an instrument, but the applicant need not be the end-user. The number of companies seeking pattern approval for an instrument is steady. Once an instrument has been certified for use in trade, it can be used in any transaction (and hence in any industry) where the measurement from that instrument is used in the determination of the price or consideration of that transaction. This approach is internationally consistent and takes into account the practicality that many measuring instruments such as scales, flowmeters and load cells may be used in several different industries.
2. NMI undertakes testing of measuring instruments and has the sole responsibility for pattern approval certification in Australia. Pattern approval is given by NMI on the basis of extensive testing to demonstrate that a measuring instrument of a specific design delivers appropriate accuracy and is capable of maintaining its calibration. NMI undertakes some testing and also has protocols for reviewing and accepting test results from selected international laboratories.

Unless a class of instrument has been specifically exempted, the National Measurement Act 1960 requires measuring instruments used for trade to be of an approved design. Greenhouse gas emissions measurement and electricity and gas utility meters are currently exempt from mandatory pattern approval requirements, although a number of electricity meters (some of which may be classified as ‘smart’ meters) have been pattern approved.

3. Testing is carried out on a representative measuring instrument to establish the performance of the design so that instruments of that design can be used for trade in Australia. Every instrument is then required to be verified prior to use to ensure accuracy. NMI has no reason to be concerned about the accuracy of certified measuring equipment, provided that instruments comply with the approved design and are being used and maintained appropriately.
4. NMI does certify imported equipment and the same testing and certification standards and processes apply equally to Australian and imported equipment. If a measuring instrument intended for trade use does not demonstrate compliance with Australian requirements (including for accuracy), it will not be certified as being of an approved type and will not be able to be sold as an instrument for use in trade.

A number of instruments have failed to meet the requirements for pattern approval in the past 3 years, it is not possible to determine for which industries these instruments were intended.

NMI cannot correlate the origin of instruments and their rate of rejection. More than 50% of pattern approval applications are submitted by companies headquartered in Australia and New Zealand, and many others are submitted by multinational companies. The location of instrument manufacture may be unclear as components are often sourced through global supply chains.

5. The requirements for mandatory certification under the *National Measurement Act 1960* apply where measurements determine the consideration of a transaction. In addition, industry may use measuring instruments in a range of circumstances that are beyond 'use for trade'. NMI makes available measurement services including testing and calibration services, and these may be used to provide assurance of the accuracy of instruments that are not 'used for trade' as meant by the *National Measurement Act 1960*, but which are used in industrial settings. NMI calibrates some instruments used directly in these industries, including reference oil and gas flow meters and electrical power and energy meters. Similarly, NMI calibrates reference standards for commercial calibration laboratories that may service these industries. NMI also produces relevant chemical reference materials, including gas standards, and also undertakes a range of chemical analyses for clients, including for example testing water samples from mining areas. NMI also administers the trade measurement system, including having an inspectorate which undertakes verification that instruments are in compliance with the *National Measurement Act 1960*.