



## **DECISION PAPER**

# **PROPOSED MODIFICATIONS TO GAS METERING CODE**

5 JANUARY 2026

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## **1 Introduction**

1.1 The Gas Metering Code (“Code”) sets out the obligations of:-

- (i) Gas Shippers to provide Meter Data to the Designated Gas Transporter under the Gas Network Code;
- (ii) the Designated Gas Transporter who owns Meter Installations and performs balancing and settlement; and
- (iii) Gas Retailers who retail gas to Retail Customers.

1.2 The Code also addresses matters associated with the production, storage, collection, transmission, and verification of Meter Data from all Meter Installations and sets out the specifications of Meter Installations and associated equipment.

## **2 Proposed Modifications**

2.1 Pursuant to Clause 1.6 of the Code, EMA has sought written comments/feedback on the proposed modifications of the Code.

2.2 The proposed modifications aim to clarify:-

- (i) the acceptance of periodic in-situ testing of Ultrasonic Meters;
- (ii) that Gas Transporter-owned Meter Installations at System Points are subject to the requirements of Clause 3.2.1; and
- (iii) that only Meter Installations at Transmission/Distribution and Distribution Network Injection Points are exempt from Clause 3.2.1(c) of the current Code. The proposed modifications also rationalise the ownership and operation of Meter Installations at any Transmission Network Injection Point (TNIP) by either the Gas Transporter or the TNIP Operator, clarify Balancing Period Read Meter (BPRM) installation ownership responsibilities, and include a new approved test facility in the Code.

2.3 Feedback was received from 1 respondent when the consultation closed on 2 September 2025. EMA has carefully considered the feedback, and our responses are in [Appendix 1](#).

### **3 EMA's Decision**

- 3.1 EMA has taken into account the feedback received and decided to modify the Code as set out in Appendix 2. The proposed Code modifications will come into effect on 19 January 2026.

~ End ~

**EMA's Response to Industry Feedback**

Modification Ref. No.	Clause	Public/ Industry	Feedback	EMA's Response
GMC/2025/09	2.1.1	SP Group	Our concern with the draft used in the consultation paper is its somewhat circuitous drafting, i.e. a meter installation is owned by the Gas Transporter unless it is not owned by the Gas Transporter (in which case it is owned by the Transmission Network Injection Point Operator).	<p>EMA has further enhanced the wordings of Clause 2.1.1 as follows for better clarity without changing the intention of the proposed modifications.</p> <p>2.1 Ownership of a Meter Installation</p> <p>2.1.1 The Designated Gas Transporter shall <u>must</u> own a Meter Installation which is in operation and used to measure the volume or energy of natural gas injected or withdrawn at:</p> <p><del>(a) any Transmission Network Injection Point;</del>  <b>(a) any Transmission/Distribution Point;</b>  <b>(b) any System Critical Point; and</b>  <b>(c) the Distribution Network Injection Point.</b></p> <p>2.1.1.1 <u>The Meter Installation which is in operation and used to measure the volume or energy of natural gas injected or withdrawn at any Transmission Network Injection Point must be owned by the Designated Gas Transporter unless the Transmission Network Injection Point Operator assumes ownership.</u></p>

**Modifications to the Gas Metering Code**

Modification Ref. No.	Clause	Original Text	Modified Text
<b>Clarity on the acceptance of Ultrasonic Meter testing methods</b>			
GMC/2025/01	1.1	<b>“Accuracy Limits”</b> means the accuracy limits for volume of gas set out in Table 2 under Clause 5.2.1;	<b>“Accuracy Limits”</b> means the accuracy limits for volume of gas <u>for Meters set out in Table 2.1 under Clause 5.2.1, and the acceptable deviation limit for speed of sound periodic in-situ testing of Ultrasonic Meters set out in Table 2.2 under Clause 5.2.2;</u>
GMC/2025/02	3.1	<b>Type of Meter Installations</b>  Where the Designated Gas Transporter owns the Meter Installation, it shall ensure that a Meter Installation is installed and maintained at each System Point in accordance with the requirements for the Meter Installations stipulated in Clause 3.3.	<b><u>Type of Meter Installations [This clause is intentionally left blank.]</u></b>  <del>Where the Designated Gas Transporter owns the Meter Installation, it shall ensure that a Meter Installation is installed and maintained at each System Point in accordance with the requirements for the Meter Installations stipulated in Clause 3.3.</del>
GMC/2025/03	3.2.1	Every Meter Installation at a System Point (except any Meter Installation owned by the Designated Gas Transporter) shall:  (a) comply with the requirements for the Meter Installations set out in Clause 3.3; and  (b) be installed and maintained in accordance with this Code; and  (c) have a Meter certified by;  (i) a laboratory approved by the Singapore Accreditation Council under the Singapore Laboratory Accredited Scheme (SAC-SINGLAS); or  (ii) one of the test facilities specified in Appendix 2.	Every Meter Installation at a System Point <del>(except any Meter Installation owned by the Designated Gas Transporter)</del> shall <u>must:</u>  (a) comply with the requirements for <del>the</del> Meter Installations set out in Clause 3.3; <del>and</del>  (b) be installed and maintained in accordance with this Code; <del>and</del>  (c) <u>be subject to initial and periodic testing and re-calibration in accordance with Table 3 to ensure it is operating within the Accuracy Limits; and</u>  (d) <u>with the exception of Meter Installations at Transmission/Distribution and Distribution Network Injection</u>

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		(d) (where applicable) comply with the requirements for the gas chromatograph as prescribed in Clause 3.3.5.	<p><u>Points, have a Meter certified that it complies with the Accuracy Limits by:</u></p> <ul style="list-style-type: none"> <li>(i) a laboratory approved by the Singapore Accreditation Council under the Singapore Laboratory Accredited Scheme (SAC-SINGLAS); or</li> <li>(ii) one of the test facilities specified in Appendix 2; <u>or</u></li> <li>(iii) <u>in accordance with the procedures and requirements of the Meter manufacturer and/or the standards specified in Appendix 1 for periodic in-situ testing of Ultrasonic Meters that have been certified in accordance with (i) or (ii) under Clause 3.2.1 prior to installation.</u></li> </ul> <p><del>(d) (where applicable) comply with the requirements for the gas chromatograph as prescribed in Clause 3.3.5.</del></p>
GMC/2025/04	3.2.2	<p>Where the Designated Gas Transporter is or becomes aware of any non-compliance with Clause 3.2.1, the Designated Gas Transporter shall immediately</p> <ul style="list-style-type: none"> <li>(a) notify the relevant Gas Shipper of such non-compliance; and</li> <li>(b) give the relevant Gas Shipper a period of three (3) months or such longer period as may be determined by the Authority to cause the non-compliant Meter Installation to be rectified,</li> </ul> <p>failing which the Designated Gas Transporter shall prohibit the flow of gas at the relevant System Point.</p>	<p>Where the Designated Gas Transporter is or becomes aware of any non-compliance with Clause 3.2.1 <u>in respect of any Meter Installation not owned by the Designated Gas Transporter</u>, the Designated Gas Transporter shall <u>must</u> immediately</p> <ul style="list-style-type: none"> <li>(a) notify the relevant Gas Shipper of such non-compliance; and</li> <li>(b) give the relevant Gas Shipper a period of three (3) months or such longer period as may be determined by the Authority to cause the non-compliant Meter Installation to be rectified,</li> </ul> <p>failing which the Designated Gas Transporter shall <u>must</u> prohibit the flow of gas at the relevant System Point.</p>

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GMC/2025/05	5.2	<b>Accuracy Limits</b>	<b>Accuracy Limits for Meters</b>		
GMC/2025/06	5.2.1	Table 2 sets forth the Accuracy Limits for Meters using hourly flow rate range.  Table 2. Accuracy Limits for Volume	Table 2.1 sets forth the Accuracy Limits for <u>volume of gas for Meters using hourly flow rate range.</u>  Table 2.1 Accuracy Limits for Volume		
GMC/2025/07	5.2.2	New insertion.	Table 2.2 sets forth the Accuracy Limits for <u>speed of sound deviation for periodic in-situ testing of Ultrasonic Meters that have been certified in accordance with (i) or (ii) under Clause 3.2.1 or Clause 5.3.1(b) prior to installation.</u>  Table 2.2 Acceptable Deviation Limit for Speed of Sound In-Situ Testing of Ultrasonic Meters  <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td style="padding: 2px;"><u>Speed of Sound Deviation</u></td> <td style="padding: 2px;"><u>±0.3%</u></td> </tr> </table>	<u>Speed of Sound Deviation</u>	<u>±0.3%</u>
<u>Speed of Sound Deviation</u>	<u>±0.3%</u>				
GMC/2025/08	5.3.1(b)	<b>Testing and Calibration</b> The Designated Gas Transporter shall, for each Meter Installation at any Retail Customer's premises:  (b) cause the Meter to be certified that it complies with the Accuracy Limits by:  (i) a laboratory approved by the Singapore Accreditation Council under the Singapore Laboratory Accredited Scheme (SAC-SINGLAS); or  (ii) one of the test facilities specified in Appendix 2.	<b>Testing and Calibration</b> The Designated Gas Transporter <del>shall</del> <u>must</u> , for each Meter Installation at any Retail Customer's premises:  (b) cause the Meter to be certified that it complies with the Accuracy Limits by:  (i) a laboratory approved by the Singapore Accreditation Council under the Singapore Laboratory Accredited Scheme (SAC-SINGLAS); or  (ii) one of the test facilities specified in Appendix 2; <u>or</u>  (iii) <u>in accordance with the procedures and requirements of the Meter manufacturer and/or the standards specified in Appendix 1 for periodic in-situ testing of Ultrasonic Meters that have been certified in accordance with (i) or (ii) under Clause 5.3.1(b) prior to installation.</u>		

Modification Ref. No.	Clause	Original Text	Modified Text
<b>Ownership of a Meter Installation</b>			
GMC/2025/09	2.1.1	<p>The Designated Gas Transporter shall own a Meter Installation which is in operation and used to measure the volume or energy of natural gas injected or withdrawn at:</p> <ul style="list-style-type: none"> <li>(a) any Transmission Network Injection Point;</li> <li>(b) any Transmission/Distribution Point;</li> <li>(c) any System Critical Point; and</li> <li>(d) the Distribution Network Injection Point.</li> </ul>	<p>The Designated Gas Transporter <del>shall</del> <u>must</u> own a Meter Installation which is in operation and used to measure the volume or energy of natural gas injected or withdrawn at:</p> <p><del>(a) any Transmission Network Injection Point;</del>  <del>(b)</del> <u>(a)</u> any Transmission/Distribution Point;  <del>(c)</del> <u>(b)</u> any System Critical Point; and  <del>(d)</del> <u>(c)</u> the Distribution Network Injection Point.</p> <p><u>2.1.1.1 The Meter Installation which is in operation and used to measure the volume or energy of natural gas injected or withdrawn at any Transmission Network Injection Point must be owned by the Designated Gas Transporter unless the Transmission Network Injection Point Operator assumes ownership.</u></p>
<b>Availability of BPRM Installations</b>			
GMC/2025/10	6.2	<p>When any BPRM installation at any Retail Customer's premises malfunctions, the Designated Gas Transporter shall repair or replace, or cause to be repaired or replaced, the BPRM Installation in such manner as may be necessary to rectify the malfunction within one (1) calendar day of his discovery of the malfunction.</p>	<p>When any BPRM installation <del>at any Retail Customer's premises</del> malfunctions, the <del>Designated Gas Transporter</del> <u>meter owner</u> <del>shall</del> <u>must</u> repair or replace, or cause to be repaired or replaced, the BPRM Installation in such manner as may be necessary to rectify the malfunction within one (1) calendar day of his discovery of the malfunction.</p>
<b>Inclusion of new approved test facility</b>			
GMC/2025/11	Appendix 2	<p><b>LIST OF TEST FACILITIES FOR METERS</b></p> <ul style="list-style-type: none"> <li>1 TransCanada Calibrations, Canada</li> <li>2 FORCE Technology, Denmark</li> <li>3 CESAME-EXADEBIT, France</li> </ul>	<p><b>LIST OF TEST FACILITIES FOR METERS</b></p> <ul style="list-style-type: none"> <li>1 TransCanada Calibrations, Canada</li> <li>2 FORCE Technology, Denmark</li> <li>3 CESAME-EXADEBIT, France</li> </ul>

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		<p>4 Pigsar, E.ON Ruhrgas AG, Germany  5 NMI EuroLoop, The Netherlands  6 DNV GL Flow Centre, UK  7 NEL, UK  8 Alden Research Laboratory Inc., USA  9 Colorado Engineering Experiment Station Inc. (CEESI), USA  10 Metering Research Facility, Southwest Research Institute, USA</p>	<p>4 Pigsar, E.ON Ruhrgas AG, Germany  5 <u>RMA Mess- und Regeltechnik, Germany</u>  <del>5</del> <del>6</del> <u>NMI EuroLoop, The Netherlands</u>  <del>6</del> <del>7</del> <u>DNV GL Flow Centre Services, UK</u>  <del>7</del> <del>8</del> <u>NEL National Engineering Laboratory, UK</u>  <del>8</del> <del>9</del> <u>Alden Research Laboratory Inc. Verdantas Flow Labs, USA</u>  <del>9</del> <del>10</del> <u>Colorado Engineering Experiment Station Inc. (CEESI), USA</u>  <del>10</del> <u>11</u> Metering Research Facility, Southwest Research Institute, USA</p>