



CONSULTATION PAPER

PROPOSED MODIFICATIONS TO GAS METERING CODE

Closing date for submissions of comments and feedback:
2 September 2025

Note: There will be no extension of deadline beyond 2 September 2025, 5 pm

5 AUGUST 2025

ENERGY MARKET AUTHORITY
991G Alexandra Road
#01-29 Singapore 119975
www.ema.gov.sg

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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 seeks representations on the proposed modifications to the Code as set out in Appendix 1.
- 2.2 The proposed modifications aim to improve the clarity of the acceptance criteria for the Ultrasonic Meter testing method, provide clarity that Designated Gas Transporter-owned Meter Installations at System Points are also subjected to the requirements of Clause 3.2.1, and that only Meter Installations at Transmission/Distribution and Distribution Network Injection Points are excepted from Clause 3.2.1(c) in the current Code. The proposed modifications are also to rationalise that both Transmission Network Injection Point (TNIP) Operators or the Designated Gas Transporter are allowed to own and operate the Meter Installation at any TNIP, to provide clarity on the responsibility of any BPRM installation owner, and to include a new approved test facility in the Code.
- 2.3 Additionally, to simplify the language in the Codes of Practice, EMA has used “must” instead of “shall” where applicable. To avoid doubt, “shall” and “must” convey the same meaning.

3 Request for Written Comments/Feedback

3.1 EMA invites written comments/feedback on the proposed modifications to the Code as set out in Appendix 1.

3.2 Please submit any written comments/feedback via attachments at <https://go.gov.sg/gasmeteringcode2025> (or scan the QR code below) by 5 pm on 2 September 2025. The format for submission of comments is shown in Appendix 2. You are requested to include a soft copy of your comments (in both PDF and Microsoft Word format) in your submission.



<https://go.gov.sg/gasmeteringcode2025>
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3.3 Alternatively, you may submit your written comments/feedback by email to EMA_GSD@ema.gov.sg by 5 pm on 2 September 2025.

3.4 EMA will acknowledge receipt of all submitted comments/feedback by email. Please contact Ms Cindy Zhuo at 6376 7516 if you have not received an acknowledgement of your submission within three business days.

3.5 Please note that anonymous submission will not be considered. EMA reserves the right to make public all or parts of any written submissions made in response to this Consultation Paper and to disclose the identity of the source. Any part of the submission, which is considered by respondents to be confidential, should be clearly marked and placed as an annex. EMA will take this into account regarding disclosure of the information submitted.

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Table 1: Proposed Modifications to the Gas Metering Code

Modification Ref. No.	Clause	Original Text	Modified Text	Reasons
Clarity on the acceptance of Ultrasonic Meter testing methods				
GMC/2025/01	1.1	<p>“Accuracy Limits” means the accuracy limits for volume of gas set out in Table 2 under Clause 5.2.1;</p>	<p>“Accuracy Limits” means the accuracy limits for volume of gas <u>for Meters</u> set out in Table 2.1 under Clause 5.2.1, <u>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></p>	To provide for the accuracy limit for speed of sound deviation for periodic in-situ testing of Ultrasonic Meters.
GMC/2025/02	3.1	<p>Type of Meter Installations</p> <p>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.</p>	<p>Type of Meter Installations [This clause is intentionally left blank.]</p> <p>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.</p>	Requirement for Meter Installation owned by the Designated Gas Transporter will be covered under the amended Clause 3.2.1.

Modification Ref. No.	Clause	Original Text	Modified Text	Reasons
GMC/2025/03	3.2.1	<p>Every Meter Installation at a System Point (except any Meter Installation owned by the Designated Gas Transporter) shall:</p> <p>(a) comply with the requirements for the Meter Installations set out in Clause 3.3; and</p> <p>(b) be installed and maintained in accordance with this Code; and</p> <p>(c) have a Meter certified by;</p> <p style="padding-left: 20px;">(i) a laboratory approved by the Singapore Accreditation Council under the Singapore Laboratory Accredited Scheme (SAC-SINGLAS); or</p> <p style="padding-left: 20px;">(ii) one of the test facilities specified in Appendix 2.</p> <p>(d) (where applicable) comply with the requirements for the gas chromatograph as prescribed in Clause 3.3.5.</p>	<p>Every Meter Installation at a System Point (except any Meter Installation owned by the Designated Gas Transporter) shall <u>must</u>:</p> <p>(a) comply with the requirements for the Meter Installations set out in Clause 3.3; and</p> <p>(b) be installed and maintained in accordance with this Code; and</p> <p>(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></p> <p>(d) <u>with the exception of Meter Installations at Transmission/Distribution and Distribution Network Injection Points, have a Meter certified that it complies with the Accuracy Limits</u> by:</p> <p style="padding-left: 20px;">(i) a laboratory approved by the Singapore Accreditation Council under the Singapore Laboratory Accredited Scheme (SAC-SINGLAS); or</p> <p style="padding-left: 20px;">(ii) one of the test facilities specified in Appendix 2; <u>or</u></p> <p style="padding-left: 20px;">(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</u></p>	<p>Proposed modification to provide clarity that Designated Gas Transporter owned Meter Installations at System Points are also subjected to the requirements of Clause 3.2.1, and only Meter Installations at Transmission/Distribution and Distribution Network Injection Points are excepted from Clause 3.2.1(d) as they are non-custody transfer meters.</p> <p>Proposed modification to cater for periodic in-situ testing of Ultrasonic Meters.</p> <p>Deletion of (d) as requirement is already covered under (a) in the current Code.</p>

Modification Ref. No.	Clause	Original Text	Modified Text	Reasons
			<p><u>accordance with (i) or (ii) under Clause 3.2.1 prior to installation.</u></p> <p>(d) (where applicable) comply with the requirements for the gas chromatograph as prescribed in Clause 3.3.5.</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> <p>(a) notify the relevant Gas Shipper of such non-compliance; and</p> <p>(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,</p> <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 must immediately</p> <p>(a) notify the relevant Gas Shipper of such non-compliance; and</p> <p>(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,</p> <p>failing which the Designated Gas Transporter shall must prohibit the flow of gas at the relevant System Point.</p>	<p>Proposed modification to clarify that Clause 3.2.2 only applies to Meter Installation not owned by the Designated Gas Transporter.</p> <p>For the avoidance of doubt, any non-compliance with Clause 3.2.1 in respect of any Meter Installation owned by the Designated Gas Transporter will be dealt with by the Authority as a breach of its gas licence.</p>
GMC/2025/05	5.2	Accuracy Limits	Accuracy Limits <u>for Meters</u>	Proposed modification to clarify that the accuracy limits under Clause 5.2 apply to meters.

Modification Ref. No.	Clause	Original Text	Modified Text	Reasons		
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</u> Meters using hourly flow rate range . Table 2.1 Accuracy Limits for Volume	Proposed modification to clarify the Accuracy Limits for volume of gas for Meters.		
GMC/2025/07	5.2.2	New insertion.	<u>Table 2.2 sets forth the Accuracy Limits for 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> <u>Table 2.2 Acceptable Deviation Limit for Speed of Sound In-Situ Testing of Ultrasonic Meters</u> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td style="text-align: center;"><u>Speed of Sound Deviation</u></td> <td style="text-align: center;"><u>±0.3%</u></td> </tr> </table>	<u>Speed of Sound Deviation</u>	<u>±0.3%</u>	Proposed modification to set out the Accuracy Limit for speed of sound deviation for periodic in-situ testing of Ultrasonic Meters.
<u>Speed of Sound Deviation</u>	<u>±0.3%</u>					
GMC/2025/08	5.3.1(b)	<u>Testing and Calibration</u> 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	<u>Testing and Calibration</u> The Designated Gas Transporter shall must , 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	Proposed modification to cater for periodic in-situ testing of Ultrasonic Meters.		

Modification Ref. No.	Clause	Original Text	Modified Text	Reasons
		<p>Accredited Scheme (SAC-SINGLAS); or</p> <p>(ii) one of the test facilities specified in Appendix 2.</p>	<p>Accredited Scheme (SAC-SINGLAS); or</p> <p>(ii) one of the test facilities specified in Appendix 2 ; <u>or</u></p> <p>(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></p>	

Modification Ref. No.	Clause	Original Text	Modified Text	Reasons
Ownership of a Meter Installation				
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"> (a) any Transmission Network Injection Point; (b) any Transmission/Distribution Point; (c) any System Critical Point; and (d) the Distribution Network Injection Point. 	<p>The Designated Gas Transporter shall must 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"> (a) any Transmission Network Injection Point (unless owned by the relevant Transmission Network Injection Point Operator); (b) any Transmission/Distribution Point; (c) any System Critical Point; and (d) the Distribution Network Injection Point. 	<p>Currently, EMA had granted an exemption from Clause 2.1.1(a) for the Designated Gas Transporter to own and operate the TNIP meters at Singapore 1st LNG Terminal (S1T) in 2013. Since S1T came into operations in 2013, there have been no issues or any industry feedback received in operationalising the Gas Network Code, with SLNG owning and operating the TNIP meters at S1T.</p> <p>In view of the above, exemption from Clause 2.1.1(a) was also given to the Designated Gas Transporter to own and operate the TNIP meters at Singapore 2nd LNG Terminal (S2T) at Jurong Port which will be commencing operations in 2028.</p> <p>The proposed modification seeks to rationalise that both TNIP Operators or the Designated Gas Transporter are allowed to own and operate the Meter Installation at any TNIP.</p>

Modification Ref. No.	Clause	Original Text	Modified Text	Reasons
Availability of BPRM Installations				
GMC/2025/10	6.2	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.	When any BPRM installation at any Retail Customer's premises malfunctions, the Designated Gas Transporter meter owner shall must 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.	Proposed modification to clarify the responsibility of any BPRM installation owner.
Inclusion of new approved test facility				
GMC/2025/11	Appendix 2	LIST OF TEST FACILITIES FOR METERS 1 TransCanada Calibrations, Canada 2 FORCE Technology, Denmark 3 CESAME-EXADEBIT, France 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	LIST OF TEST FACILITIES FOR METERS 1 TransCanada Calibrations, Canada 2 FORCE Technology, Denmark 3 CESAME-EXADEBIT, France 4 Pigsar, E.ON Ruhrgas AG , Germany 5 <u>RMA Mess- und Regeltechnik, Germany</u> 6 <u>NMI</u> EuroLoop, The Netherlands 7 <u>DNV GL Flow Centre Services</u> , UK 8 <u>NEL National Engineering Laboratory</u> , UK 9 <u>Alden Research Laboratory Inc. Verdantas Flow Labs</u> , USA 10 Colorado Engineering Experiment Station Inc. (CEESI), USA 11 Metering Research Facility , Southwest Research Institute, USA	Proposed modification to include a new test facility for Meters which EMA has assessed to be competent, and also to update the names of existing test facilities.

Comments/Feedback on Proposed Modifications to the Gas Metering Code

Name: _____

Designation: _____

Company: _____

Email: _____

Role (Gas Transporter/Shipper/Retailer/Consumer/Others): _____

Submission Date: _____ (dd/mm/yy)

Modification Ref. No.	Clause*	Comments

* With reference to the section of the Gas Metering Code as published on EMA's website.