



Natural Gas Metering Regulation

NGS 10/2024

Publication Date: 1 October 2024

Table of Contents

1	Introduction.....	4
1.1	Scope and Objectives	4
1.2	Application	4
1.3	Entry into effect.....	5
1.4	Definitions	5
1.5	Interpretation.....	7
1.6	List of documents incorporated by reference partly or wholly in these Regulations.....	8
2	Meter Ownership, Installation and Maintenance	9
2.1	Ownership of a Meter Installation	9
2.2	General Obligations for Meter Installations at any Retail Customer’s premises.....	10
2.3	International Utility Best Practice	10
3	Categorisation of Meter Installations.....	10
3.1	Type of Meter Installations	10
3.2	Requirements at System Points	10
3.3	Requirements for Meter Installation	11
4	Security.....	13
4.1	Security of Meter Data	13
4.2	Meter Tampering	14
4.3	Preservation of Meter Data.....	15
4.4	Confidentiality	15
5	Meter Accuracy, Calibration and Testing	15
5.1	Accuracy, Calibration and Testing of Meter Installation at Retail Customer’s Premises.....	15
5.2	Accuracy Limits.....	16
5.3	Testing and Calibration of Meter Installations at Retail Customer’s Premises.....	17
5.4	Right to Check the Accuracy of Meter at Retail Customer’s Premises	17
6	Meter Reading, Meter Data Collection, Verification and Access	18
6.1	Meter Reading.....	18
6.2	Availability of BPRM Installations.....	18
6.3	Availability of BPCM Installations and NBPM Installations	19
6.4	Meter Time and Date	19
6.5	Pulse Outputs	19
6.6	Data Collection and Transfer	19
6.7	Gas Shipper Meter Database	20
6.8	Designated Gas Transporter Meter Database.....	20

6.9 Meter Data Register 20

6.10 Right of Access to Meter Data..... 21

6.11 Data Validation and Substitution 21

7 Penalties 22

7.1 Penalties 22

8 Estimation for Missing or Inaccurate Meter Reading 23

8.1 Procedure for Resolving Disputes Involving Natural Gas Meter Accuracy 23

Citation

These Regulations may be cited as the Gas Metering Regulations, 2024.

1 Introduction

1.1 Scope and Objectives

- 1) In the exercise of the powers conferred upon it by section 8(3)(c) and 123(g) of the Natural Gas Act, 2024, the Utilities Regulation and Competition Authority (“URCA”) hereby issues these Regulations relating the metering of natural gas in The Bahamas.
- 2) The key contents of these Regulations are as follows:
 - a) to set out the obligations of a gas shipper who shall provide Meter Data to the Designated Gas Transporter under the Gas Network Code;
 - b) to set out the obligations of the Designated Gas Transporter who owns a Meter Installation and who performs balancing and settlement in the Industry;
 - c) to set out the obligations of a Gas Retailer who retails gas to Retail Customer;
 - d) to address issues associated with the production, storage, collection, transmission and verification of Meter Data from all Meter Installations; and
 - e) to describe specifications of Meter Installations and associated equipment.

1.2 Application

- 3) These Regulations apply to the metering of gas and shall be implemented in accordance with the Gas Network Code and all applicable laws.
- 4) These Regulations shall apply with all the necessary amendments.
- 5) These Regulations shall also apply to:
 - a) Gas Shippers;
 - b) Gas Retailers; and
 - c) the Designated Gas Transporter.
- 6) In the event that no gas transport pipelines exist and gas is transported via other means like trucking, equivalent provisions as set out in these Regulations that guarantee the adequate measurement of the gas delivered shall apply.

1.3 Entry into effect

- 7) These Regulations shall come into effect on the date of their publication in accordance with section 15(1)(a) of the Natural Gas Act, 2024.

1.4 Definitions

- 8) In these Regulations, any word or expression to which a meaning has been assigned in the Natural Gas Act, 2024 has the meaning so assigned and unless the context otherwise requires, the following terms will have the following meanings:

“Act” means the Natural Gas Act, 2024.

“Accuracy Limits” means the accuracy limits for a specified range of volume of gas as set out in Table 2.

“Affected Participants” means -the relevant Gas Shipper who ships gas to a System Offtake Point in the Gas Network owned by or under the management or control of, the Designated Gas Transporter; the relevant Retail Customer who withdraws gas from that System Offtake Point; and the relevant Gas Retailer who supplies gas to that Retail Customer.

“Archive Period” means, where the context requires, a period not less than:

- a) six (6) years from the date of removal of the Meter; or
- b) six (6) years from the date to which the Meter Data relates.

“Balancing Period” means a period of one hour commencing on an hour bar and ending on the next following hour bar.

“Balancing Period Capable Meter Installation” or **“BPCM Installation”** means a Meter Installation for which:

- a) meter reading is not conducted for each Balancing Period;
- b) meter Data is recorded in the Meter Installation for each Balancing Period; and
- c) meter Data is available to the Designated Gas Transporter at intervals longer than every hour;

“Balancing Period Read Meter Installation” or **“BPRM Installation”** means a Meter Installation for which:

- a) meter reading is conducted for each Balancing Period;
- b) meter data is recorded in the Meter Installation for each Balancing Period; and
- c) meter data is available to the Designated Gas Transporter at hourly intervals.

“Cargo Transfer System” means a component, or system of components functioning as a unit, used exclusively for transferring hazardous fluids in bulk between a tank car, tank truck, or marine vessel and a storage tank.

“Daily Read Capable Meter Installation” or **“DRCM Installation”** means a Meter Installation for which:

- a) meter data is recorded in the Meter Installation for each day; and
- b) meter data is available to the Designated Gas Transporter at intervals longer than every day.

“Designated Gas Transporter” means a licensee gas transporter declared by URCA.

“Designated Gas Transporter Meter Database” means a database which contains all Meter Data gathered or collected from BPRM Installations and is maintained by the Designated Gas Transporter.

“Distribution network” comprises parts of the Transportation System that do not comprise the Transmission Network. To the extent that there is no physical connection between one Distribution Network and another, each is an independent "Distribution Network".

"Gas" means any gaseous substance, whether occurring naturally or produced artificially, used as a source of energy or as a feedstock in industrial processes, including but not limited to natural gas, liquefied natural gas (LNG), manufactured gas, and biogas.

“Gas Shipper Meter Database” means a database which contains all Meter Data gathered or collected from BPCM, DRCM and MRM Installations and is maintained by the Gas Shipper.

“Gas Transportation IT System Solution (GTSS)” is an information exchange system which allows the electronic transfer of information between the Transporter and GTSS Users.

“GTSS Meter Database” means the repository which contains all data pertaining to a Meter Installation including:

- a) Meter Installation ID;
- b) address at which the Meter Installation is located;
- c) Gas Shipper ID for the Gas Shipper whose offtake point registration notice with respect to the Meter Installation was accepted by the Designated Gas Transporter;
- d) the type of Meter Installation;
- e) Customer Type;
- f) the classification of the System Offtake Point for the purposes of System Stress Curtailment Plan; and
- g) dates for when natural gas was first off taken from such System Offtake Point and date of connection to the Transportation System.

“Industry” means the natural gas industry in The Commonwealth of The Bahamas.

"Liquefied Natural Gas (LNG)" shall mean natural gas that has been cooled to a temperature at which it becomes a liquid for ease of storage or transportation. Upon regasification, it retains the properties of natural gas.

“Meter Data” comprises all data collected and transferred from a Meter Installation, including the meter readings, the Meter Installation ID, the relevant Balancing Period, energy consumption and natural gas throughput volume and quality, where applicable.

“Meter Installation” means any meter Installed or intended to be installed for the purpose of measuring the consumption, transmission or supply of natural gas whether in liquid or gaseous form as well as its associated equipment and installation, including associated pipework, filter, valve, pressure regulating equipment, seal, housing, mounting, telemetry equipment, gas chromatograph and flow computer.

“Meter Installation ID” means the identification number given to each Meter Installation by the Designated Gas Transporter.

“Meter Owner” means a Person who owns a Meter Installation.

“Natural Gas” means a gas primarily composed of methane (CH₄), but which may also contain ethane, propane, butanes, pentanes, and other gases in varying amounts.

“Non-Balancing Period Meter Installation” or **“NBPM Installation”** means a DRCM meter installation;

“Participants” means the Meter Owner, Retail Customer, Gas Shipper and Gas Retailer.

“Parties” means the Designated Gas Transporter and the Participants and **“Party”** means any one of the Parties.

“Person” includes any company or association or body of persons, corporate or unincorporate.

“Retail Customer” is a person who is supplied with gas by a Gas Retailer and whose premises are connected to the gas network.

“System Critical Point” is a point on the Transportation System designated as such by the Transporter.

“System Offtake Point” is a Transmission Network Offtake Point.

“System Point” means any point in the transmission system where a change in operating condition occurs, including but not limited to changes in pipe diameters, offtake point, change in pressures, change in flow rate, etc.

“Transmission Point” is a point at which gas can flow out of the Transmission Network.

“Transmission Network” are those parts of the Transportation System at which the gas pipelines convey gas at a minimum pressure of 18 Bar, or such other minimum pressure as shall be determined by the Transporter from time to time.

“Transmission Network Injection Point” is the point in the Transportation System where gas can be injected into the Transmission Network on behalf of Shippers holding capacity rights.

“Transmission Network Offtake Point” is the point at which gas which was injected at a Transmission Network Injection Point can flow out of the Transmission Network and out of the Transportation System.

“Transportation System” means the main pipeline system owned and operated by the Designated Gas Transporter through which the conveyance of natural gas is authorised by the Designated Gas Transporter’s license.

“Validation Rules” means the rules and procedures prepared by the Designated Gas Transporter in consultation with Industry stakeholders and approved by URCA for validating the meter readings submitted by Gas Shippers in accordance with the Gas Network Code.

1.5 Interpretation

9) In these Regulations, unless the contrary appears:

- a) headings are for convenience only and do not affect interpretation;

- b) a reference to a statute or other law includes regulations and other instruments under it and consolidations, amendments, re-enactments or replacements of any of them;
- c) words in the singular include the plural and vice versa;
- d) words importing persons include a body whether corporate, politic, or otherwise;
- e) where a word or phrase is defined, its other grammatical forms have a corresponding meaning;
- f) mentioning anything after include, includes or including does not limit what else might be included;
- g) words and expressions which are not defined have the meanings given to them in the Comms Act;
- h) reference to a person shall include firms or companies; and
- i) cross references are marked with an open parenthesis. It is expressly stated that the use of an open parenthesis in these cross references bears no legal interpretation. The sole legally pertinent element is the reference number.

1.6 List of documents incorporated by reference partly or wholly in these Regulations

10) Certain material is incorporated by reference into these Regulations with the approval of URCA. Any changes to these Regulation will be made by URCA in accordance with its established Consultation Process. Changes to approved material will be made in accordance with the standards specified by the following institutions, said standards being incorporated by reference into these Regulations.

	Subject Matter	Document	Issuing Body
(a)	General standards for gas meters, applying to section 2.2	<ul style="list-style-type: none"> • BS EN 1359 Diaphragm gas meter • BS EN 12480 Rotary displacement gas meter • BS EN 12261 Turbine gas meter • BS EN 12405 Conversion devices • BS 6400 Specification for installation, exchange, relocation and removal of gas meters with a maximum capacity not exceeding 6 m³/h. • Cited collectively as: BS standards 	British Standards Institution (BSI) https://www.bsigroup.com/en-GB/
(b)	General standards for gas meters,	<ul style="list-style-type: none"> • AGA Report No.3 Orifice Metering of Natural Gas and other related 	American Gas Association (AGA) https://www.aga.org/

	applying to section 2.2	<p>Hydrocarbon Fluids</p> <ul style="list-style-type: none"> • AGA Report No.7 Measurement of Natural Gas by Turbine Meters • AGA Report No.8 Compressibility Factors of Natural Gas and Other Related Hydrocarbon Gases • AGA Report No.9 Measurement of Gas by Multipath Ultrasonic Meters • AGA Report No.11 Measurement of Natural Gas by Coriolis Meter • Cited collectively as: AGA standards 	
(c)	List of test facilities for meters		<ul style="list-style-type: none"> • TransCanada Calibrations, Canada • FORCE Technology, Denmark • CESAME-EXADEBIT, France • Pigsar, E.ON Ruhrgas AG, Germany • NMi EuroLoop, The Netherlands • DNV GL Flow Centre, UK • NEL, UK • Alden Research Laboratory Inc., USA • Colorado Engineering Experiment Station Inc. (CEESI), USA • Metering Research Facility, Southwest Research Institute , USA

2 Meter Ownership, Installation and Maintenance

2.1 Ownership of a Meter Installation

11) 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:

- a) any Transmission Network Injection Point;
- b) any Transmission Network Offtake Point; and

c) any System Critical Point.

12) A Meter Installation at any Retail Customer's premises may be owned by the Designated Gas Transporter, the Gas Retailer or the Retail Customer.

2.2 General Obligations for Meter Installations at any Retail Customer's premises

13) The owner of a Meter Installations at any Retail Customer's premises shall ensure that its Meter Installation is installed, commissioned, maintained, repaired, replaced, tested and calibrated by a competent person in accordance with:

- a) the procedures and requirements of the Meter manufacturer,
- b) the AGA standards and the BS standards specified in section 1.6, incorporated by reference.
- c) all applicable laws.

14) The owner of a Meter Installations at any Retail Customer's premises shall ensure that its Meter is operating within the Accuracy Limits prescribed in these Regulations.

15) In the event of a conflict between the procedures and requirements of the Meter manufacturer and the AGA standards and the BS standards, incorporated by reference, the standards specified in specified in section 1.6 shall prevail.

2.3 International Utility Best Practice

16) The Designated Gas Transporter shall, at its discretion from time to time, investigate innovations relevant to the Industry, including those in respect of domestic metering (including domestic meter reading) and where such innovations would be practical in and beneficial to the Industry, notify interested Parties of the same and encourage use of the advancement in metering within the metering system.

3 Categorisation of Meter Installations

3.1 Type of Meter Installations

17) 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 part 3.3.

3.2 Requirements at System Points

18) Every Meter Installation at a System Point shall:

- a) comply with the requirements for the Meter Installations set out in subpart 3.3
- b) be installed and maintained in accordance with these Regulations;

- c) have a Meter certified by one of the test facilities incorporated by reference, specified in section 1.6; and
- d) where applicable, comply with the requirements for the gas chromatograph as prescribed in paragraph 24).

19) Where the Designated Gas Transporter is or becomes aware of any non-compliance with Section 18), the Designated Gas Transporter shall immediately:

- a) notify the relevant Gas Shipper of such non-compliance; and
- b) give the relevant Gas Shipper a period of three (3) months or such longer period as may be determined by URCA to cause the non-compliant Meter Installation to be rectified, failing which the Designated Gas Transporter shall prohibit the flow of gas at the relevant System Point.

3.3 Requirements for Meter Installation

20) The following table hereafter referred to as “Table 1” shall apply in this subpart:

Table 1. Meter Installations by Maximum Volumetric Flowrates

Meter Installation descriptions for the purposes of Table 1:

- a) Orifice plate Meter
- b) Turbine Meter
- c) Ultrasonic Meter
- d) Mass flow Meter
- e) Positive displacement Meter (Rotary or Diaphragm)

Category	Maximum Volumetric Flowrates		Description of Meter Installations
	(in scm/hr)	BCF/hr	
Category 1 BPRM Installation	> 150,000	> 0.0053	(b), (c) or (d) with pressure and temperature correction, Supervisory Control and Data Acquisition(SCADA) connection facilities, flow computer.

Category 2 BPRM Installation	> 30,000 ≤ 150,000	> 0.0011 ≤ 0.0053	(b), (c) or (d) with pressure and temperature correction, SCADA connection facilities, flow computer.
Category 3 BPCM Installation	> 6,000 ≤ 30,000	> 0.0002 ≤ 0.0011	(a), (b), (c), (d) or (e) with pressure and temperature correction, flow computer, balancing period readings retrievable
Category 4 DRCM Installation	≤ 6,000	≤ 0.0002	(a), (b), (c), (d) or (e) with pressure and temperature correction, daily readings retrievable

21) Each BPRM installation shall:

- a) have the necessary characteristics specified in Category 1 or Category 2, as the case may be, of Table 1;
- b) have a gas chromatograph and flow computer for a Meter Installation that is installed at all Transmission Network Injection Points;
- c) have electronic data recording facilities such that all Meter Data can be measured and recorded for each Balancing Period and be capable of storing the Meter Data for at least thirty-five (35) calendar days;
- d) be capable of transmitting Meter Data to and communicating with Designated Gas Transporter's supervisory control and data acquisition system; and
- e) contain a device which has a visible or an accessible display of Meter Data or which allows such Meter Data to be accessed and read concurrently by a portable computer or other equipment.

22) Each BPCM installation shall:

- a) have the necessary characteristics specified in Category 3 prescribed in Table 1;
- b) have electronic data recording facilities such that all Meter Data can be measured and recorded for each Balancing Period and be capable of storing the Meter Data for at least thirty-five (35) calendar days; and
- c) contain a device which has a visible or an accessible display of Meter Data or which allows such Meter Data to be accessed and read concurrently by a portable computer or other equipment.

23) Each DRCM installation shall:

- a) have the necessary characteristics specified in Category 4 prescribed in Table 1;
- b) have electronic data recording facilities such that all Meter Data can be measured and recorded daily

and be capable of storing the Meter Data for at least thirty-five (35) calendar days; and

- c) contain a device which has a visible or an accessible display of Meter Data or which allows such Meter Data to be accessed and read concurrently by a portable computer or other equipment.

24) Each gas chromatograph shall:

- a) have on-line sampling capability. The measurement cycle time shall be no more than twelve (12) minutes;
- b) have the capability to automatically self-calibrate at the interval prescribe in Table 3 using gravimetrically prepared standard reference gases traceable to National Institute of Standards and Technology, United States of America;
- c) have the capability to continuously measure and analyse the natural gas components that are specified in the Gas Network Code;
- d) have the capability to compute the heating value of the natural gas for each Balancing Period in accordance with ISO 6976 or the prevailing latest revision;
- e) have a repeatability of at least $\pm 0.1\%$ on heating value over the complete temperature range; and
- f) have the capability of measuring up to at least C6+ hydrocarbon range.

25) Any Meter Installation that is installed at the following System Points shall be a BPRM Installation:

- a) any Transmission Network Injection Point;
- b) any Transmission Offtake Point; and
- c) any System Critical Point.

26) Any Meter Installation installed at any other point other than under paragraph 25) in the gas system, Meter Installations shall be in accordance with Table 1.

4 Security

4.1 Security of Meter Data

27) Each The Designated Gas Transporter shall, in respect of those Meter Installations which it owns at Retail Customers' premises, as far as is reasonably practicable:

- a) ensure that such Meter Installations are secure against unauthorised access, interference and tampering including, where necessary, install a remote alarm which alerts the Designated Gas Transporter to any unauthorized access to the Meter Installation;
- b) ensure that Meter Data held in such Meter Installations is protected from unauthorised local or remote

electronic access by implementing appropriate security measures including, where necessary, passwords protection and data firewalls;

- c) ensure that the security measures the Designated Gas Transporter has implemented to prevent any unauthorized local or remote electronic access to the Meter Data held in the Meter Installation are reviewed periodically;
- d) keep secure records of electronic access passwords used to prevent any unauthorized local or remote electronic access to the Meter Data held in the Meter Installation; and
- e) provide the relevant Gas Shipper with a “read only” password to access the Meter Data held in the Meter Installation.

28) Every meter owner shall ensure that any meter data in the meter installations owned by him is not altered, corrupted or lost.

4.2 Meter Tampering

29) No person shall alter or tamper with, or carry out, engage in or do anything in relation to, any meter installation such as to compromise or adversely affect the accuracy of the meter installation, including a meter installation located at the premises of a retail customer.

30) Where the Designated Gas Transporter, any Gas Shipper or any Gas Retailer finds evidence for any Meter Installation that is not owned by them that:

- a) there has been altering or tampering with that Meter Installation; or
- b) any person has carried out, engaged in or done anything which will compromise or adversely affect the accuracy of that Meter Installation;

then the Designated Gas Transporter, Gas Shipper or Gas Retailer shall notify all of the affected Parties, as soon as reasonably practicable.

31) A gas transporter or a gas retailer must collect and use an individual’s unique identity information to verify the individual's identity in relation to a report by the individual to the gas transporter or gas retailer (as the case may be) about any tampering or suspected tampering of any meter.

32) Upon being supplied with information that any of the events in paragraph 29) are likely to occur or have occurred, the Designated Gas Transporter shall:

- a) notify URCA as soon as practicable;
- b) carry out any relevant investigation or such other investigations as may be directed by URCA;
- c) furnish URCA with a written investigation report; and

- d) provide URCA with relevant information and evidence.
- 33) The Designated Gas Transporter shall arrange for tests to be conducted on the Meter Installation at any Retail Customer's premises.
- 34) Where necessary, the Designated Gas Transporter shall repair the Meter Installation at any Retail Customer's premises to ensure that the Meter Installation is operating within the Accuracy Limits in the event that there has been unauthorised access, interference or tampering with such Meter Installation.
- 35) A Gas Shipper or Gas Retailer who:
- a) (Adversely) alters or tampers with any Meter Installation at any Retail Customer's premises; or
 - b) carries out, engages in or does anything that will compromise or adversely affect the accuracy of a Meter Installation at any Retail Customer's premises;
- 36) shall be liable to and indemnify the Designated Gas Transporter for its reasonable costs of adjustment, repair, replacement and testing of the Meter Installation to restore it to operation within the Accuracy Limits; (shall be liable to the customer and shall make reparations to the customer for the adverse effects suffered as a result of the alteration)

4.3 Preservation of Meter Data

- 37) The Designated Gas Transporter and each relevant Gas Shipper shall ensure that any Meter Data collected from the relevant Meter Installation is not altered, corrupted or lost.

4.4 Confidentiality

- 38) The Designated Gas Transporter and Gas Shipper shall keep all Meter Data and passwords confidential, except where the Designated Gas Transporter and Gas Shipper are required to provide such information under these Regulations, the Gas Network Code, applicable laws or pursuant to an order of any court of competent jurisdiction.

5 Meter Accuracy, Calibration and Testing

5.1 Accuracy, Calibration and Testing of Meter Installation at Retail Customer's Premises

- 39) The Designated Gas Transporter shall subject each Meter which it owns at any Retail Customer's premises to initial and periodic testing and re-calibration to ensure that it is operating within the Accuracy Limits.
- 40) The Designated Gas Transporter shall ensure that each Meter which it owns at any Retail Customer's premises satisfies the Accuracy Limits within its specified range of flow rates, as specified in these Regulations.

5.2 Accuracy Limits

41) The following table hereafter referred to as “Table 2” shall apply in this subpart and sets out the Accuracy Limits for Meters using hourly flow rate range.

Table 2. Accuracy Limits for Volume

Category	Hourly Flow Rate Range		Accuracy Limits (Volume)
	SCM/hr	BCF/hr	
1	> 150,000	> 0.0053	± 0.7%
2	> 30,000	> 0.0011	± 1.0%
	≤ 150,000	≤ 0.0053	
3	> 6,000	> 0.0002	± 1.5%
	≤ 30,000	≤ 0.0011	
4	≤ 6,000	≤ 0.0002	± 2.0%

42) The following table hereafter referred to as “Table 3” shall apply in this subpart and sets out the periodic test and calibration of Meter Installations.

Table 3. Periodic Test and Calibration of Meter Installations

Category	Peak Flow Rate of Connection Point		Pressure and Temperature Calibration Frequency	Gas Chromatograph Calibration Frequency	Meter Test Frequency
	SCM/hr	BCF/hr			
1	> 150,000	> 0.0053	Semi-annually	At least once every two (2) weeks	Annually
2	> 30,000	> 0.0011	Semi-annually	At least once every two (2) weeks	Annually
	≤ 150,000	≤ 0.0053			
3	> 6,000	> 0.0002	Annually	At least once every two (2) weeks	Annually
	≤ 30,000	≤ 0.0011			

4	≤ 6,000	≤ 0.0002	Annually	At least once every two (2) weeks	Annually
---	---------	----------	----------	-----------------------------------	----------

5.3 Testing and Calibration of Meter Installations at Retail Customer’s Premises

43) The Designated Gas Transporter shall, for each Meter Installation at any Retail Customer’s premises:

- a) cause the Meter Installation to be tested and calibrated in accordance with the Table 3;
- b) cause the Meter to be certified that it complies with the Accuracy Limits by one of the test facilities incorporated by reference in section 1.6;
- c) where the Meter Installation includes a gas chromatograph, cause the gas chromatograph to be tested and/or calibrated by a competent person;
- d) cause the Meter Installation to be tested or recalibrated no less frequently than as set out in Table 3;
- e) cause the Meter to be recalibrated where the result of the test indicates the Meter is operating outside the Accuracy Limits;
- f) provide any Affected Participants with at least fourteen (14) calendar days’ written notice of the proposed time and date on which such Meter Installation is to be calibrated and the nature of the calibration to be undertaken, or such shorter notice as may be agreed by the Affected Participants;
- g) permit the Affected Participants to have a representative present, at their own cost and risk, to observe the calibration of such Meter Installation and any consequential adjustment;
- h) maintain the test results or certificates pursuant to paragraph 43)a) and b) for at least six (6) years and produce such test results or certificates within seven (7) calendar days of being requested to do so by URCA or any Affected Participants referred to paragraph 43) f).

44) For the purpose of this paragraph, Affected Participants means any stakeholders, entities, or individuals who have a direct or indirect interest in the accuracy, reliability, and compliance of the gas meters installed at Retail Customer’s premises. This includes but may not be limited to retail customers, gas suppliers, the designated gas transporter, maintenance and calibration third-party contractors and URCA.

45) Calibrations and tests caused by the Designated Gas Transporter shall be binding on the Designated Gas Transporter, the affected Gas Shipper and Gas Retailer, notwithstanding the presence or absence of any Affected Participants at the relevant Meter Installation during such operations.

5.4 Right to Check the Accuracy of Meter at Retail Customer’s Premises

46) For each Meter at any Retail Customer’s premises:

- a) an affected Gas Shipper or Gas Retailer may request the Designated Gas Transporter to arrange testing to confirm the accuracy of the meter readings;
 - b) the Designated Gas Transporter shall make the results of the test conducted pursuant to paragraph 46)a) available to the affected Gas Shipper or Gas Retailer who requested for the test to be conducted;
 - c) the Designated Gas Transporter shall keep the results of the test or certificates pursuant to paragraph 46) a) for at least six (6) years;
 - d) the Designated Gas Transporter shall produce test results or certificates within seven (7) calendar days of being requested to do so by URCA, or the affected Gas Shipper or Gas Retailer who requested for the test to be conducted.
- 47) In the event that the test results prove that the Meter operates within the Accuracy Limits, the costs and expenses of the testing shall be borne by the affected Gas Shipper or Gas Retailer who requested the testing.
- 48) In the event that the test results prove that the Meter operates outside the Accuracy Limits, the costs and expenses of the testing shall be borne by the Designated Gas Transporter.

6 Meter Reading, Meter Data Collection, Verification and Access

6.1 Meter Reading

- 49) The Designated Gas Transporter shall read the Meter Installations installed at:
- a) all Transmission Network Injection Points;
 - b) all Transmission Points;
 - c) all System Critical Points; and
 - d) all System Offtake Points having a BPRM installation.
- 50) Each Gas Shipper shall ensure that Meter Data from all BPCM and NBPM installations, (at which such Gas Shipper is identified in the offtake point registration notice), is read and collected, and provided to the Designated Gas Transporter in accordance with the Gas Network Code.
- 51) The data coding and communication protocols used shall be subject to approval by the Gas Transporter and shall comply with the GTSS.

6.2 Availability of BPRM Installations

- 52) When any BPRM installation at any Retail Customer's premises malfunctions, the owner of the BPRM installation 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, or having been notified, of the malfunction.

6.3 Availability of BPCM Installations and NBPM Installations

53) When any BPCM or NBPM installation at any Retail Customer's premises malfunctions, the owner of the BPCM or NBPM installation shall repair or replace, or cause to be repaired or replaced, the BPCM Installation or NBPM Installation in such manner as may be necessary to rectify the malfunction within seven (7) calendar days of his discovery, or having been notified of the malfunction.

6.4 Meter Time and Date

54) All BPRM, BPCM and DRCM Installations shall be referenced to The Bahamas Time and Date and such time shall be maintained within a margin of error not exceeding plus or minus two (2) seconds of the actual Bahamian Time and Date for all BPRM installations and plus or minus five (5) seconds of the actual Bahamian Time and Date for BPCM and DRCM Installations.

6.5 Pulse Outputs

55) The Designated Gas Transporter shall provide, upon the written request of an Affected Participants, pulse or electronic outputs representing the quantities and or characteristics of natural gas measured from BPRM installations or BPCM installations at any Retail Customers' premises for use by the Retail Customer in managing the flow of natural gas withdrawn from the Distribution Network.

6.6 Data Collection and Transfer

56) No meter owner of a BPRM installation shall adopt or use any data coding and communications protocol for the BPRM installation for data collection and transfer unless the protocol has been approved by the Designated Gas Transporter.

57) The Designated Gas Transporter and each Gas Shipper shall cause its Meter Data to be stamped with the time and date recorded.

58) The Designated Gas Transporter shall with respect to its BPCM and DRCM installations at Retail Customers' premises, provide the necessary means of communication to permit the relevant Gas Shipper to read and collect the Meter Data held in the relevant Meter Installation.

59) For the purposes of the Section 58), "*necessary means of communication*" includes hand held electronic data entry or data capture units with associated downloadable communications paths where these are required to meet the time limit for Meter Data capture and transfer from the Meter Installation as stipulated in the Gas Network Code.

60) In the event that the communication equipment was already installed and used, each Gas Shipper may, in consultation with and subject to agreement from the Designated Gas Transporter, specify the type of equipment to be used for communication with its meter reading facility and shall compensate the Designated Gas Transporter for such a request.

6.7 Gas Shipper Meter Database

- 61) Each Gas Shipper shall create, maintain and administer a Gas Shipper Meter Database. The database shall include at least the following headings:
- a) Customer Name
 - b) Meter Number
 - c) Date Calibrated
 - d) Manufacturer
 - e) Date of Next Calibration
 - f) Customer Type
 - g) Energy Received
 - h) Date of Energy Received
- 62) Each Gas Shipper shall provide the Designated Gas Transporter and the relevant Gas Retailer access to the information in the Gas Shipper's Meter Database on a timescale to be agreed upon amongst the relevant Parties. The database shall be maintained in a commonly accessible format, such as CSV or Excel, to ensure compatibility and ease of access.
- 63) Each Gas Shipper shall ensure that all Meter Data is stored in its normally accessible form for no less than twelve (12) months from the date to which it relates and archived for the Archive Period. The data format for storage and archiving shall be consistent with the format used for the database (e.g., CSV, Excel).

6.8 Designated Gas Transporter Meter Database

- 64) The Designated Gas Transporter shall create, maintain and administer a Designated Gas Transporter Meter Database.
- 65) The Designated Gas Transporter shall provide the relevant Gas Shipper and the relevant Gas Retailer access to the Meter Data stored in its Designated Gas Transporter Meter Database on a timescale to be agreed amongst the relevant Parties.
- 66) The Designated Gas Transporter shall ensure that all Meter Data is stored in its normally accessible form for no less than twelve (12) months from the date to which it relates and archived for the Archive Period.

6.9 Meter Data Register

- 67) The Designated Gas Transporter shall create, maintain and administer the Meter Data Register in compliance with the GTSS.

- 68) The Meter Data Register shall contain all Meter Data, all other information used for settlement purposes and a register of all Meter Installations that provide Meter Data used by the Designated Gas Transporter.
- 69) The Designated Gas Transporter shall ensure that the Meter Data Register and the data contained therein are accessible by the relevant Gas Shipper during the regular office hours of the Designated Gas Transporter.
- 70) All data stored by the Designated Gas Transporter in the Meter Data Register shall be stored in a normally accessible form for no less than twelve (12) months from the date to which it relates and archived for the Archive Period.
- 71) The Meter Data Register must include meter readings in mMBtu and heating value data in btu/scf and bcf, data substituted in accordance with this section of these Regulations, and all information used for settlement purposes.

6.10 Right of Access to Meter Data

- 72) Every meter owner shall give the Designated Gas Transporter (where he is not the meter owner) and the relevant Gas Shipper access to the meter data held in his meter installation, which is in operation and used to measure the volume or energy of natural gas withdrawn from a gas transmission pipeline owned by, or under the management or control of, the Designated Gas Transporter.
- 73) A new Gas Retailer shall be given access to the historical Meter Data of such Retail Customer where:
- a) a Retail Customer is changing or proposes to change Gas Retailers;
 - b) the new Gas Retailer requires access to historical Meter Data to assist it in determining the commercial terms of its service; and
 - c) the Retail Customer has provided its consent in writing.

6.11 Data Validation and Substitution

- 74) The Designated Gas Transporter shall develop Validation Rules which will include, inter alia, a process to confirm that:
- a) the Meter Installation ID is in a valid format;
 - b) the Meter Installation ID exists in the GTSS Meter Database;
 - c) meter readings from the Meter Installation can be accepted into the GTSS for settlement purposes, on or before the date the Meter Installation becomes operational;
 - d) the Meter Installation is owned by a registered Participant;
 - e) the date and time of the meter reading is valid;
 - f) the meter reading is in the required format;

g) the meter reading is within the defined maximum and minimum limit from the average monthly meter reading for that Meter; and

h) The Designated Gas Transporter shall provide a copy of the Validation Rules to the relevant Participants.

75) Where validation pursuant to the Validation Rules reveal that a Meter Installation is producing faulty meter readings or not producing meter readings, then the Designated Gas Transporter shall notify all relevant Participants, inclusive of URCA, as soon as reasonably practicable and, in any event, concurrently with the issuance of the next Transportation Service Invoice issued in accordance with the Gas Network Code for such Meter, and the Designated Gas Transporter shall be entitled to use substitute meter readings in place of the missing or faulty meter readings.

76) Where the Designated Gas Transporter requires substitute meter readings then such meter readings shall be determined in accordance with estimation procedures set out in the Gas Network Code.

7 Penalties

7.1 Penalties

77) Any meter owner who contravenes regulations 27), 30)b), 43)a), b), c), or d), 52), 53), or 54) shall be guilty of an offence under section 114 1) of the Act and shall be liable for the fines prescribed therein.

Additionally, breaches of these regulations may be addressed through URCA's determination process, which may result in the imposition of behavioural remedies or administrative fines, as deemed appropriate by URCA.

78) Any person who contravenes regulation 29) shall be guilty of an offence under section 114 1) of the Act and shall be liable for the fines prescribed therein.

Additionally, breaches of these regulations may be addressed through URCA's determination process, which may result in the imposition of behavioural remedies or administrative fines, as deemed appropriate by URCA.

79) Any meter owner who contravenes regulation 28), 31)a), 43)f), g), or h), 46), 47), 48), 54), 56), 58), or 72) shall be guilty of an offence under section 114 1) of the Act and shall be liable for the fines prescribed therein.

Additionally, breaches of these regulations may be addressed through URCA's determination process, which may result in the imposition of behavioural remedies or administrative fines, as deemed appropriate by URCA.

80) Prosecution for offences under these regulations shall be carried out in accordance with the powers conferred by the Act, which provides the legal framework for such actions. The relevant provisions of the Act shall be referred to for the initiation and conduct of any criminal proceedings.

8 Estimation for Missing or Inaccurate Meter Reading

8.1 Procedure for Resolving Disputes Involving Natural Gas Meter Accuracy

81) Where there is a dispute between the natural gas Retail Customer and a Gas Retailer involving the accuracy of the Meter, the Meter in question shall be tested by one of the facilities/parties as prescribed in Section 43)(ii). The natural gas Retail Customer may require that the Meter be tested in his presence. The Gas Retailer shall as soon as reasonably practicable and in any event within seven (7) calendar days inform the natural gas Retail Customer of the result of the test.

82) Where the accuracy of the Meter is found to have deviated beyond the Accuracy, the natural gas consumption shall be estimated based on the following:

a) for MRM Installations, the formula is:

$$V_{\text{estimated}} = V_{\text{recorded}} * (100 - A) / 100 =$$

Where

$V_{\text{estimated}}$ = Estimated natural gas consumption during the disputed period

V_{recorded} = natural gas consumption registered by the Meter during the disputed period

A = Percentage deviation beyond the acceptable Accuracy Limits, e.g. for a Meter running fast at 6%, "A" equals 6 and for a Meter running slow at 6%, "A" equals -6

b) for BPRM, BPCM and DRCM Installations, the Gas Retailer shall estimate the natural gas consumption base on the system point profile methodology set out in the Gas Network Code.

83) The Gas Retailer may refund or back-charge the affected natural gas Retail Customer the deviated amount for the period that the Meter is inaccurate.