

## RULE OF THE CENTRAL BUREAU OF WEIGHTS AND MEASURES

### ON RULES, PROCEDURE AND CRITERIA IN RESPECT OF INSPECTION OF A METER FOR DIRECT MASS MEASUREMENT FOR MASS OF NATURAL GAS IN SERVICE STATION OF A LICENSE HOLDER TO BE A SELF SELF INSPECTOR OF A METER FOR DIRECT MASS MEASUREMENT FOR MEASURING THE MASS GAS OF NATURAL GAS IN SERVICE STATION PRODUCED BY SUCH LICENSE HOLDER B.E. 2553 (2010)

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To ensure that a license holder to be a self inspector of a meter for direct mass measurement used for finding mass of natural gas in service station is able to inspect and verify a meter for direct mass measurement used for finding mass of natural gas in service station produced by such license holder appropriately and systematically in accordance with the Ministerial Regulations prescribing a meter for direct mass measurement under the provisions of the Weights and Measures Act B.E. 2542 in terms of types, characteristics, details of the materials used for production, maximum permissible error and verification of a meter for direct mass measurement and criteria and methods for registration of individual mark B.E. 2546 and the Ministerial Regulations prescribing the measurement gauges under the provisions of the Weights and Measures Act B.E. 2542 in terms of types, characteristics, details of the materials used for production, maximum permissible error and verification of a meter for direct mass measurement and criteria and method for the registration of individual mark (No. 3) B.E. 2552:

By virtue of section 6(5) and section 42 of the Weights and Measures Act B.E. 2542 which is the Act containing certain provisions in relation to the restriction of rights and liberties of a person, in respect of which section 29 in conjunction with section 32, section 33, section 41 and section 43 of the Constitution of the Kingdom of Thailand so permit by the virtue of law, the Director-General of the Department of Internal Trade shall hereby issues the rules as follows:

**Clause 1.** This Rule is called the “Rule of the Central Bureau of Weights and Measures on rules, procedure and criteria in respect of inspection and verifying a meter for direct mass measurement for mass of natural gas in service station of a license holder to be a self inspector of direct mass measurement for measuring the mass gas of natural gas in service station produced by such license holder B.E. 2553 (2010)”

**Clause 2.** This Rule shall come into force as from the day following the date of its publication in the Government Gazette.

**Clause 3.** In this Rule:

“meter for direct mass measurement” means a meters for direct mass measurement used for measuring mass of natural gas in service station.

**Clause 4.** The Director-General of the Department of Internal Trade shall have change and control of this Rule.

## CHAPTER I

### INSPECTION OF CHARACTERISTICS OF METER FOR DIRECT MASS MEASUREMENT

**Clause 5.** A license holder shall be a self inspector of a meter for direct mass measurement produced by such license holder shall inspect the characteristics of a meter for direct mass measurement as follows:

(1) a meter for direct mass measurement shall display the following details on the meter for direct mass measurement which shall be easily to be read, clear and difficult to be faded away;

- (a) name or trademark of a producer;
- (b) model which specifies the form of meter for direct mass measurement;
- (c) serial number of meter for direct mass measurement as prescribed by a competent official;

(2) capacity of meter for direct mass measurement which shall be displayed in Thai or Arabic number and Thai letter or letter or marks as prescribed by the Minister by displaying clearly and difficult to be faded away and may be in abbreviation;

(3) display of a meter for direct mass measurement shall have the following characteristics:

- (a) analog display:
  - 1) scale marks and value indicator shall be designed appropriately and corporately;

- 2) scale marks, number, letters or other marks shall be easily read, clear and difficult to be faded away;

- 3) in the case where there are various value displays, every place shall display the same value;

- 4) in the case of the printing of value, the value printed shall be in accordance with the value displayed:

- (b) digital display
  - 1) the display regardless of whether it is in number, letter or other symbols combining, it shall not cause confusion while reading the value;

2) in the case where there are various displays, every display shall illustrate the correct and same value;

3) in the case where the display is in both digital and analog, the digital display shall be in accordance with the analog display;

4) in the case where there is a printing part, the value printed shall be the same as the value displayed;

(c) in the case of the display of mass with the calculated price, such price shall be in accordance with the value displayed;

(4) marks of all the controlling devices, display and other component parts including switches of a direct mass measurement shall be read easily, clear and difficult to be faded away;

(5) the mass measurement system shall have the following characteristics:

(a) the ratio between the maximum flow rate and minimum flow rate for mass system shall not be less than 5 to 1;

(b) method for adjusting the meter for direct mass measurement in order to adjust the different ratio between the displayed weight and weight of natural gas under the real measurement under the system of direct mass measurement whereby the method to adjust shall not be the short pipeline system and shall affix to prevent a subsequent adjustment;

(c) value display:

1) it must contain the main display of value;

2) the display shall illustrate the name or symbol of unit;

3) scale interval shall be displayed in  $1 \times 10^k$ ,  $2 \times 10^k$  or  $5 \times 10^k$  by which  $k$  shall be a positive integral number, negative integral number or zero;

4) scale interval shall not be more than 0.5 percent of the minimum amount measured in the system;

5) digital display shall display at least 1 rightmost decimal place with a decimal (.) or comma (,) in between integral numbers and decimal numbers and such display shall display at least 1 leftmost decimal and display all the right numbers of the marks. In respect of the display of zero value may be displayed by number zero of 1 rightmost place without any mark;

6) the display shall contain the method of initial zero-setting correctly regardless of whether it is an automatic method;

7) in respect of the initial zero-setting for the display:

a) upon the initial zero-setting, the display shall not be different from the previous result of the measurement appeared and shall display the value zero upon the completion of zero-setting;

b) the initial zero-setting shall not cause any changes to the result of the measurement except for changing to display zero;

c) during the measuring, there shall be no method which would be able to adjust the display of zero;

d) in the case where of digital display, the display after the initial zero-setting shall not deviate and display the value of zero only;

(d) in respect of price calculation, the price shall be correctly displayed per unit in accordance with the type of product every time before distributing;

(e) in respect of the display of amount and total selling price for each sale, upon the completion of measuring the amount for distribution, the amount of total distribution and selling price shall be displayed for at least 5 minutes or until the next sale;

(6) in the case where the system for mass measurement contains the value printing or payment record, the value printing or payment record shall have the following characteristics:

(a) scale marks equals displaying part;

(b) printing of the measurement value shall equal the measurement value which is displayed;

(c) printing the measurement value upon the completion of the measurement value;

(d) details of the printing results shall indicate the followings:

1) total distributing amount;

2) price per unit of the product;

3) total selling price;

4) information indicating the type of product by using name, mark, abbreviation or product code;

5) date, month, year of distribution;

(7) a meter for direct mass measurement shall have the part for correcting pressure of natural gas measured and shall contain the part for maintaining the status in order to maintain the gas throughout the measurement and in the case where this part is able to be adjusted, it shall be affixed to prevent it being corrected after such adjustment;

(8) discharge lines and valves shall have the following characteristics:

(a) it shall not cause measured natural gas to deviate from a measurement room or pipe;

(b) in the case where two or more delivery outlets are installed, an automatic means shall ensure that:

1) during the time of delivery, natural gas shall be gas flowing out one direction from the discharge line;

2) device used to control flow direction shall illustrate clear direction of flow;

(9) the system of meter for direct mass measurement shall display the following details clearly and difficult to be faded way:

- (a) production year;
- (b) minimum flow rate and maximum flow rate;
- (c) maximum working pressure;
- (d) working temperature;
- (e) type of a product used;
- (f) minimum measured quantity;
- (g) normal working conditions;
- (h) in the case of other restrictions, such restrictions shall be displayed;
- (i) affix or display of particular symbol of a person producing a meter for direct mass measurement.

## CHAPTER II

### INSPECTION OF ACCURACY OF A METER FOR DIRECT MASS MEASUREMENT

**Clause 6.** Inspection of accuracy of a meter for direct mass measurement installed with the mass measurement system shall be inspected for the weight at approximately 10 kilograms, 15 kilograms, 20 kilograms and 25 kilograms respectively. The accuracy of a meter for direct mass measurement measured in comparison to the standard for a meter for direct mass measurement whereby the deviation shall not exceed the maximum permissible error of  $\pm 0.01$  of the tested weight and that shall pass the inspection.

**Clause 7.** In regard to inspection of the capacity to repeatability of a meter for direct mass measurement under clause 6 at the weight tested of approximately 15 kilograms for 3 times, the difference of maximum deviation and minimum deviation shall not exceed 0.5 percent of the tested weight and that shall pass the inspection.

**Clause 8.** In regard to the inspection of accuracy of a meter for direct mass measurement installed with the system of mass measurement at the minimum measured quantity, minimum accuracy of the system of inspection in comparison to the scale form of a meter for direct mass measurement, deviation shall not exceed the following maximum permissible errors and that shall pass the inspection:

Tested quantity (Kilogram)	Maximum permissible error
0.1 to 0.2	+/- 0.08 M
0.2 to 0.4	+/- 16 grams
0.4 to 1	+/- 0.4 M
1 to 2	+/- 40 grams
More than 2	+/- 0.02 M

### CHAPTER III

#### VERIFICATION

**Clause 9.** A meter for direct mass measurement which has passed the inspection for characteristics of a meter for direct mass measurement under Chapter I and accuracy inspection of a meter for direct mass measurement under Chapter II, a license holder to be self inspector of a meter for direct mass measurement repaired by such license holder shall carry out the followings:

(1) to affix a verification mark in accordance with the form *Chor Wor* 104 at the right hand corner of the plate displaying machine number and on the location which prevents correction or modification of the accuracy of a meter for direct mass measurement;

(2) to issue a certificate displaying the verification of the measurement gauge in accordance with the form *Chor Wor* 106 by which the certificate displaying the verification of the measurement gauge shall display the details of inspection date and providing the verification including the expiry date of the verification of 60 days and complete signature everywhere and every issue;

(3) to display the date of inspection and verification including the expiry date of such verification of 60 days on the plate for displaying the meter number.

**Clause 10.** Any meter for direct mass measurement which fails to pass the inspection shall be corrected before submitting for new inspection and verification.

**Clause 11.** A license holder to be an self inspector of meter for direct mass measurement produced by such license holder shall report the inspection result and provide verification of a meter for direct mass measurement in accordance with the form *Chor Wor. Dtor Ror. Mor Aor Gor. -1* and *Chor Wor. Dtor Ror. Mor Aor Gor. -2* annexed to this Rule and shall notify the Central Bureau or subsidiary office including the performance report of a license holder to be an self inspector of measurement gauge in accordance with the central bureau of

weights and measures on reporting a performance result of license holder to be an self inspector of measurement gauge B.E. 2549 dated the 27<sup>th</sup> January B.E. 2549.

Given on the 1<sup>st</sup> of September B.E. 2553

Mrs. Watcharee Wimuktanont  
Director-General of the Department of Internal Trade

Unofficial