

Reference number(s)	008 – Prevailing Load Checks
Relevant clause(s)	Table 3 of Schedule 10.1
Problem definition	<p><u>Table 3 of Schedule 10.1 is unclear about prevailing load tests for category 1 metering installations</u></p> <p>A prevailing load test is a test of the accuracy of an electricity meter. It forms part of the suite of tests and checks used in the “selected component certification” of metering installations. An amount of electrical energy is recorded by the meter being tested and by a working standard.¹ The amount of electrical energy recorded by the meter being tested is then compared against the amount of electrical energy recorded by the working standard. The meter being tested passes the prevailing load test if the difference in energy recorded by the meter and by the working standard is within an allowable margin of error.</p> <p>Table 3 of Schedule 10.1 has confusing requirements about whether a prevailing load test must be undertaken when a meter in a category 1 metering installation is replaced.</p> <p>Currently, row 4 says a prevailing load test <u>is not</u> required as part of the recertification of a category 1 metering installation following the replacement of a meter with a certified meter. However, row 5 says a prevailing load test <u>is</u> required as part of the recertification of any category of metering installation following a meter change.</p> <p>Category 1 metering installations are usually certified using the selected component certification method.² This method assumes that if the metering components at the metering installation are certified, and all other checks are performed (eg, wiring, raw meter data, etc), then the metering installation will perform as designed, and a prevailing load check on the meter(s) at the installation is not required.</p> <p>This applies to:</p> <ul style="list-style-type: none"> a) the initial certification of a category 1 metering installation b) the recertification of a category 1 metering installation where: <ul style="list-style-type: none"> i) all meters have been replaced ii) some meters have been replaced and the remaining meter(s) have not had their respective certification end dates extended. <p>This does not apply to the situation where some meters at a category 1 metering installation have been replaced and the remaining meter(s) have had their respective certification end dates extended. In this situation, a prevailing load check is required so the ATH can be satisfied the meter(s) will remain within the accuracy range for the new/extended certification period</p> <p>Row 1 of Table 3 of Schedule 10.1 clearly states that a prevailing load test for each meter at a category 1 metering installation is unnecessary for the</p>

¹ Part 1 of the Code defines “working standard” to mean a measuring instrument that has been calibrated by an approved calibration laboratory or an ATH, which is used routinely for the calibration of metering installations and metering components.

² Refer to clause 11(3) of Schedule 10.7 and Table 1 of Schedule 10.1 of the Code.

initial certification of the metering installation.

However, Table 3 of Schedule 10.1 does not clearly state:

- a) a prevailing load test for each meter at a category 1 metering installation is unnecessary in scenarios b)i) and b)ii) above
- b) a prevailing load test is required for a meter that has its certification end date extended.

Table 3 of Schedule 10.1 does not require a control device test unless the control device is changed

Currently, Table 3 of Schedule 10.1 does not require a control device test to be undertaken at a metering installation, unless the control device is changed (which includes installing a control device at the metering installation for the first time). This omission is an error.

A control device test is not intended to be onerous. It is intended only to confirm that the control device is likely to operate if receives a signal. The wiring check will already ensure the control device is wired correctly.

Table 3 of Schedule 10.1 does not require a control device certification check when the control device is changed

Currently, Table 3 does not require a component certification check when a control device is replaced. This omission is an error.

All installed components must be certified either as part of the installation procedure or prior to installation. The component certification check is simply a check to ensure the newly installed control device is certified.

Table 3 of Schedule 10.1 does not require a data storage device test

Table 3 of Schedule 10.1 does not require a data storage device test when a category 3 metering installation is:

- a) initially certified
- b) recertified.

Most category 3 meters do not include an accumulating register. In such instances, all meter readings are dependent on the data storage device. A data storage device check should not be onerous. It should simply be a check:

- a) that the battery is working, and
- b) that readings are being stored and are recoverable, and
- c) if the data storage device is a separate component, that it is certified.

Table 3 of Schedule 10.1 does not require an installation or component configuration test

Table 3 of Schedule 10.1 does not require an installation or component

	<p>configuration test when additional equipment is added to any category of metering installation. This omission is an error.</p> <p>An installation or component configuration test is a check that the metering installation's configuration is as specified in the design report. This check should also occur when additional equipment, such as wiring, test blocks, fuses etc, are installed or added to a metering installation. This is to ensure the metering installation's actual configuration complies with the metering installation's design.</p>
	<p><u>Table 3 of Schedule 10.1 can be simplified</u></p> <p>The following three columns in Table 3 of Schedule 10.1 are unnecessary under the proposal:</p> <ul style="list-style-type: none"> a) "Measuring transformer" b) "Meter" c) "Primary injection to meter". <p>Under the proposal, the "measuring transformer" check identified in row 8 of the current Table 3 of Schedule 10.1 is included in the "measuring transformer change or ratio change" row of the proposed Table 3 of Schedule 10.1. All of the checks an ATH would have performed as part of the "measuring transformer" check are included as part of the tests and checks in the remaining columns of the proposed Table 3.</p> <p>Under the proposal, the "meter" checks identified in rows 5 and 6 of the current Table 3 of Schedule 10.1 are included in rows 1 to 6 of the proposed Table 3 of Schedule 10.1. All of the checks an ATH would have performed as part of the "Meter" check (except the 'Component Certification' check) are included as part of the tests and checks in the remaining columns of the proposed Table 3. To ensure the meter is certified, the 'Component Certification' check has been included for rows 7 and 8 of the proposed Table 3.</p> <p>Currently, the "primary injection" column is blank. The Authority does not envisage it being used, at least in the foreseeable future. Therefore, it can be deleted.</p>
Proposal	<p><u>Table 3 of Schedule 10.1 can be restructured for clarity</u></p> <p>Table 3 of Schedule 10.1 would be clearer if it were restructured:</p> <ul style="list-style-type: none"> a) to group rows by metering installation category, and b) to make each row heading clearer as to its application. <p>The Authority proposes to clarify Table 3 of Schedule 10.3 as follows:</p> <ol style="list-style-type: none"> 1) To show prevailing load tests <u>are not required</u> for the recertification of a category 1 metering installation, when: <ul style="list-style-type: none"> a) all meters at the metering installation are replaced; b) one or more meters at the metering installation are replaced and each such meter is replaced with a certified meter, but: <ul style="list-style-type: none"> i. at least one existing meter is not replaced; and

	<ul style="list-style-type: none"> ii. the expiry date of the certification for the metering installation is not changed. <p>2) To show prevailing load tests <u>are required</u> for the recertification of a category 1 metering installation when:</p> <ul style="list-style-type: none"> a) one or more meters at the metering installation are replaced and each such meter is replaced with a certified meter, but: <ul style="list-style-type: none"> i. at least one existing meter is not replaced; and ii. the expiry date of the certification for the metering installation is changed. <p>3) To require a control device check to be undertaken for metering installations of categories 1-3.</p> <p>4) To require a component certification check when a control device is replaced at any category of metering installation</p> <p>5) To broaden the meaning of “MI”, so that it applies to any type of control device installed at a metering installation, rather than just control devices that are integral with a meter.</p> <p>6) To require a data storage device test when a category 3 metering installation is:</p> <ul style="list-style-type: none"> a) initially certified b) recertified. <p>7) To require an installation or component configuration test when additional equipment is added to any category of metering installation.</p> <p>8) To remove the following columns, which are unnecessary:</p> <ul style="list-style-type: none"> a) “Measuring transformer” b) “Meter” c) “Primary injection to meter”. <p>9) To restructure Table 3 to group rows by metering installation category, and to clarify the row headings</p>
Proposed Code amendment	Please refer to the proposed Table 3 of Schedule 10.1 at the end of this proposal.
Assessment of proposed Code amendment against section 32(1) of the Act	<p>The proposed Code amendment is consistent with the Authority’s objective, and section 32(1)(c) of the Act, because it would contribute to the efficient operation of the electricity industry.</p> <p>Clarifying the obligations set out in Table 3 of Schedule 10.1 will:</p> <ul style="list-style-type: none"> a) make it easier for participants to understand the testing requirements for metering components; and b) help ensure the appropriate tests are performed, in order to have accurate metering installations. <p>The proposed Code amendment is expected to have no effect on competition or reliability of supply.</p>
Assessment against Code amendment principles	The Authority is satisfied the proposed Code amendment is consistent with the Code amendment principles, to the extent that they are relevant.
Principle 1: Lawfulness.	The proposed Code amendment is consistent with the Act, as discussed above in relation to the Authority’s statutory objective and the requirements set out in section 32(1) of the Act.

Principle 2: Clearly Identified Efficiency Gain or Market or Regulatory Failure	The proposed Code amendment is consistent with principle 2 in that it addresses an identified efficiency gain, which requires a Code amendment to resolve.
Principle 3: Quantitative Assessment	Please refer to the assessment of costs and benefits in section 3 of the consultation paper.
Regulatory statement	
Objectives of the proposed amendment	The objective of the proposal is to remove ambiguity from selected component recertification requirements, in order to remove some confusion amongst participants.
Evaluation of the costs and benefits of the proposed amendment	Please refer to the assessment of costs and benefits in section 3 of the consultation paper.
Evaluation of alternative means of achieving the objectives of the proposed amendment	The Authority has not identified an alternative means of achieving the objectives of the proposed Code amendment.

Schedule 10.1: Table 3: Selected component certification and comparative recertification minimum test requirements

	Event	Design check	Prevailing load test	Data storage device check	Software security and communication equipment check	Control device check	Wiring check	Component certification check	Review of compensation factors	Raw meter data output test	Supply polarity check	Register advance test	Installation or component configuration check
Category 1 metering installations	Initial certification, or recertification with all meters replaced	M			M	<u>MI</u>	M	M	M	M	M	M	M
	Recertification with no meters replaced	M	M		M	<u>MI</u>	M	M	M	M	M	M	M
	Recertification with one or more meters replaced with a certified meter(s), <u>at least one existing meter remains, and metering installation expiry date is not changed</u>	M			M	<u>MI</u>	M	M	M	M	M	M	M
	Recertification with one or more meters replaced with a certified meter(s), <u>at least one existing meter remains, and metering installation expiry date is changed</u>	M	M		M	<u>MI</u>	M	M	M	M	M	M	M
Categories 2 - 3	Initial certification, recertification, or meter change including internal data storage devices	M	M	<u>MI</u> (for Cat 3 only)	M	<u>MI</u>	M	M	M	M	M	M	M
	Measuring transformer change or ratio change	M	M				M		M	M	M	M	
All categories	Metrology software change either onsite or remote	M		M	M			<u>M</u>	M	M		M	M
	External data storage device change	M		M	M		M	<u>M</u>	M	M		M	M
	Control device change	M		<u>MI</u>		M	M	<u>M</u>		M			M
	Additional equipment (eg wiring)	M	M				M			M	M	M	<u>M</u>

Key: M = mandatory, MI = mandatory if installed the control device is integral with the meter.

Table 3: rows 6 and 8 amended, on 15 May 2014, by clause 14 of the Electricity Industry Participation (Minor Code Amendments) Code Amendment 2014.

Table 3: row 3 amended, on 19 December 2014, by clause 21 of the Electricity Industry Participation Code Amendment (Minor Code Amendments) (No 3) 2014.