Reference number(s)	**010 – Selected Component Recertification**
Relevant clause(s)	Clause 7(5)(c) of Schedule 10.4 – Calibration methods Clause 9(3)(a) of Schedule 10.8 – Onsite calibration and certification
Problem definition	Under clause 7(5)(c) of Schedule 10.4 and clause 9(3)(a) of Schedule 10.8 an ATH must, when calibrating a metering component, calculate the "uncertainty of measurement".[1] The uncertainty of measurement during a metering component's calibration arises from: a) potential errors in the measuring instruments (working standards)[2] used by the ATH to calibrate the metering component b) environmental factors that might affect the accuracy of the metering component being calibrated and the working standards used to do the calibration. An ATH may have a number of working standards in use as part of its calibration activities. Under the current Code requirements, for each metering installation, an ATH's field technician must calculate the uncertainty of measurement for a metering component using the uncertainty of the working standard the technician is using to calibrate the component. This limits the ATH's ability to use a standard calibration template when calibrating a metering component. For category 2 and category 3 metering installations in particular, using a standard calibration template would lower the cost of calibrating metering components. An ATH would be able to use such a template if the Code were to prescribe a default value for a working standard's uncertainty. Having multiple working standards with different uncertainties also increases the risk of the field technician making a mistake when calculating the uncertainty of measurement. Amending the Code to enable an ATH to use a default uncertainty value would enable an ATH to use a standardised calibration template. This would lower the cost for an ATH to calibrate a metering component, while still ensuring the metering component and the metering installation meet the Code's accuracy requirements.
Proposal	The Authority proposes to amend the Code to allow an ATH to use a default value for a working standard's uncertainty, when calculating the uncertainty of measurement associated with calibrating a metering component. This will enable an ATH to use a standardised calibration template, which will: a) reduce the cost of calculating the uncertainty of measurement, by

[1] Part 1 of the Code defines "uncertainty" to mean a parameter associated with the result of a measurement that characterises the dispersion of the values that could reasonably be attributed to the quantity being measured, and must be determined to a confidence level of 95% or greater unless otherwise specifically stated.

[2] 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.

	streamlining the process for calculating the uncertainty b) lower the risk of an ATH making a mistake when calculating the uncertainty of measurement. Under the proposal, an ATH would be able to use either: a) the actual uncertainty for the working standard the ATH is using to calibrate a metering component, or b) a default value (equivalent to the maximum site uncertainty of 0.6% for category 1 and 2 metering installations and 0.3% for category 3 metering installations—refer to Table 1 of Schedule 10.1), provided: i) the ATH calibrates the working standard in accordance with the timeframes set out in Table 1 of Schedule 10.4, and ii) the uncertainty of the working standard does not exceed the relevant default value noted above, and iii) the total uncertainty for the metering installation does not exceed the maximum site uncertainty specified in Table 1 of Schedule 10.1. For the avoidance of doubt, the use of a default value for a working standard's uncertainty does not remove an ATH's obligation to regularly test and calibrate its working standards. These must still be calibrated at regular intervals in accordance with Table 1 of Schedule 10.4.
Proposed Code amendment	**Schedule 10.4** … *Requirements for calibration of metering components* **7 Calibration methods** … (5) An **ATH** must, when calibrating a **metering component**,— (a) if necessary, **adjust** and document the **error compensation**; and (b) ensure that any **adjustment** carried out under paragraph (a) is appropriate to achieve an error as close as practicable to zero; and (c) ensure that the **uncertainty** of measurement during the **calibration** of the **metering component** does not exceed one third of the maximum permitted error in the relevant standard listed in Table 5 of Schedule 10.1; and (d) if the **metering component** is intended for a **metering installation** which is to be **certified** using the **selected component certification** method, ensure that the **ATH** records the errors of a current transformer from 5% to 120% of rated primary current. … (8) An ATH, when calculating the **uncertainty** of measurement under

	subclause (5)(c— (a) for **category 1 metering installations** and **category 2 metering installations,** may use either 0.6% or the actual **uncertainty** of the **working standard** as the **uncertainty** of the **working standard**, provided the actual **uncertainty** of the **working standard** does not exceed 0.6%. (b) for category 3 **metering installations,** may use either 0.3% or the actual **uncertainty** of the **working standard uncertainty** of the **working standard**, provided the actual **uncertainty** of the **working standard** does not exceed 0.3%.
Assessment of proposed Code amendment against section 32(1) of the Act	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 by reducing the cost and instances of errors associated with calibrating metering components. The proposed Code amendment is expected to have little or no effect on competition or reliability of supply.
Assessment against Code amendment principles	The Authority is satisfied the proposed Code amendment is consistent with the Code amendment principles, to the extent 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 this proposal is to allow ATHs to simplify their calibration methods, thereby reducing costs, without compromising the accuracy of tested metering components.
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.