

Implementation Approach for Metering Code Subsidiary Documents (CSDs) Directly Impacted by P224:

Ref	CSD	CSD Title	Sections Impacted	Proposed Changes	Alternative CoP Provision for Reactive Energy
1	Code of Practice 1 (Issue 2)	'Code of Practice for the Metering of Circuits with a Rated Capacity Exceeding 100MVA for Settlement'	4.1.1 'Measured Quantities' and 4.1.2 'Demand Values'	<p>These two sections will specify how Reactive Energy Measured Quantities and associated Demand Values shall be constructed for Metering Equipment registered in Supplier Meter Registration Service¹ (SMRS). i.e. that Metering Equipment shall separately measure and record:</p> <ul style="list-style-type: none"> • RI and RE when actively Importing; and • RI and RE when actively Exporting <p>even if either the Exports or Imports are registered in Central Meter Registration Service² (CMRS).</p> <p>It will also be specified that where Metering Equipment within a Metering System is registered solely in CMRS, Reactive Energy and Demand Values need not be separately measured and recorded as above.</p>	None recommended.
2	Code of Practice 2 (Issue 4)	'Code of Practice for the Metering of Circuits with a Rated Capacity Not Exceeding 100MVA for Settlement'	4.1.1 'Measured Quantities' and 4.1.2 'Demand Values'	As Ref 1.	None recommended.

¹ Supplier Volume Allocation (SVA) Metering Equipment.

² Central Volume Allocation (CVA) Metering Equipment.

3	Code of Practice 3 (Issue 5)	'Code of Practice for the Metering of Circuits with a Rated Capacity Not Exceeding 10MVA for Settlement'	4.1.1 'Measured Quantities' and 4.1.2 'Demand Values'	As Ref 1.	None recommended.
4	Code of Practice 5 (Issue 6)	'Code of Practice for the Metering of Energy Transfers with a Maximum Demand of up to (and including) 1MW For Settlement Purposes'	4.1.1 'Measured Quantities' and 4.1.2 'Demand Values'	As Ref 1. Additionally: CoP5 does not currently mandate Reactive Power Demand Values, therefore in order to effect the P224 solution for the mandatory Half Hourly (HH) market CoP5 will need to be brought in line with CoPs 1, 2 and 3 in this area.	None recommended.
5	BSCP601 (v9.0)	'Metering Protocol Approval and Compliance Testing'	3.4.7 'Demand Values {4.1.2}'	This section will require a new check to confirm that a kVAr value is provided for each Demand Period for each Reactive Energy Measured Quantity.	N/A

Consequences of P224 for Elective HH Metering CSDs:

Ref	CSD	CSD Title	Relevant Sections	Possible Impact	Alternative CoP Provision for Reactive Energy
6	Code of Practice 6 (Issue 4)	'Code of Practice for the Metering of Energy Imports via Low Voltage Circuits Fused at 100 Amps or Less Per Phase for Settlement Purposes'	5.1 'Measured Quantities'	<p>CoP6 is an elective Half Hourly CoP but as stated in the Section 2, 'Scope' of this CoP: <i>'Reactive energy measurement is not specifically covered within this Code, where kVA and/or kvar are required Code of Practice Five equipment shall be used'.</i></p> <p>The legal text for implementation of P224 in the BSC would allow CoP6 Meters to be traded Non Half Hourly but would effectively rule out the use of CoP6 Meters for Half Hourly Settlement.</p> <p>Under P224, HH Settlement under CoP6 would require metering of Import Related Reactive Energy; therefore CoP5 Meters³ would need to be used.</p> <p><u>Note that no sites currently use CoP6 Metering Systems.</u></p>	None recommended for P224 Implementation.
7	Code of Practice 7 (Issue 2)	'Code of Practice for the Metering of Energy Imports via Low Voltage Circuits Fused at 100 Amps or Less Per Phase for Settlement Purposes'	5.1 'Measured Quantities'	<p>CoP7 specifies the Settlement requirements as part of a wider metering and data collection infrastructure providing data to the Data Processing interface. CoP7 does not require CoP6 Meters to be used. Again as stated in Section 2, 'Scope': <i>'Reactive energy measurement is not specifically covered within this Code, where kVA and/or kvar are required Code of Practice Five equipment shall be used'.</i></p> <p>By definition then CoP7 would mandate the use of CoP5 Meters³ for HH traded metering data in a similar way top CoP6.</p>	None recommended for P224 Implementation.

³ Which would, as P224 is drafted, need to be fully compliant with the provisions introduced by P224 – see Ref 5, above.

8	Code of Practice 10 ⁴	'Code of Practice for Whole Current Metering of Energy via Low Voltage Circuits for Settlement Purposes'	4.1.1 'Measured Quantities' and 4.1.2 'Demand Values'	<p>The draft CoP10 document is an elective HH Code of Practice (i.e. Measurement Class E) for whole current Metering Equipment and is based on CoP5 with some requirements removed.</p> <p>It does however require Reactive Energy Measured Quantities - <u>but only Active Power Demand Values</u> (i.e. as CoP5 currently does).</p> <p>If P224 applied fully to CoP10, the document would need to be modified to include Reactive Demand Values, and the specification for CoP10 Meters would become more onerous.</p>	Recommend that as part of P224 Implementation CoP10 is amended to specify alternative provisions ⁵ for Reactive Energy (i.e. that metering it is not required).
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⁴ Currently a draft version, being considered as part of DCP0033 'Facilitating smart metering in the Half Hourly (HH) market'.

⁵ To the extent permitted by the P224 BSC provisions.