CP1318 Attachment - Proposed redlining drafted against BSCP601 v12.2 (conformed)

1 Introduction

1.1 Scope and Purpose of the Procedure

This BSC Procedure defines the processes for Meter Manufacturers, Meter Operator Agents, Suppliers, Half Hourly Data Collectors and other Half Hourly Metering Equipment users to apply for Compliance Testing and Protocol Approval. This procedure covers the application process, submission of Metering Equipment, communications with the Compliance and Protocol Testing Agents, the issue and removal of certificates. For the avoidance of doubt, this procedure applies only to Half Hourly Metering Equipment.

Protocol Approval

This process is defined to:

a) Approve a Protocol for Settlement purposes; and

b) ensure that a qualified Half Hour Data Collector is capable of appropriate communications with Metering Equipment.

Metering Equipment Compliance

This process is defined to ensure that Metering Equipment is designed and manufactured to the requirements of the relevant Code/s of Practice. Each Compliance Approval is specific to that Metering Equipment tested including type reference and any firmware and software versions. Metering Equipment firmware and software updates not affecting Compliance need not be re-approved. Notification of any such change is to be provided to BSCCo.

[CP1275v2.0]When applying for Compliance Approval in respect of Metering Equipment, the Meter Manufacturer should acknowledge, on its application form included at section 3.1.3, its intention to provide relevant Settlement outstation Protocols to BSC Parties (via their Party Agents) upon request. The Meter Manufacturer should also acknowledge, on its application form included at section 3.1.3 its intention to make available to Meter Operator Agents, upon request, the Meter Manufacturer's software that will enable the Meter Operator Agent to re-configure the relevant Meters and/or Outstations (the "Configuration Software"). The Meter Manufacturer may require the disclosure of Settlement Outstation Protocols and Configuration Software to be subject to a confidentiality agreement[13].

The Panel (and its Committees) and ELEXON and its employees, agents and contractors do not and shall not be deemed to make or give any representation, warranty or guarantee, nor shall each or any of them have any liability or

[13] [CP1275v2.0]Confidentiality agreements shall not prohibit Party Agents from fulfilling their BSC obligations.

responsibility whatsoever or howsoever arising (whether directly or indirectly), in relation to each or any Metering Equipment, including in relation to any safety matters, in respect of any item of Metering Equipment which is not tested whether or not such item is of the same type, model or version as an item which is tested, the processing of any application for certification or for Compliance Approval, Protocol Approval or any other approval ("approval") in relation to Metering Equipment, the grant, failure or refusal to grant any such certification or approval, any testing, method of testing or analysis of the results of testing of Metering Equipment or any act, error, failure or omission in relation to such testing, method of testing or analysis. All Parties and applicants for certification and approval acknowledge and accept the foregoing and that the processes, requirements and tests relating to Metering Equipment referred to in Code Subsidiary Documents relate to matters concerning settlement and not matters relating to health and safety, which matters are the sole responsibility of the Parties and/or the applicant. All Parties and applicants for certification and/or approval agree that they accept the foregoing and accept that all applications for certification and/or approval are processed by ELEXON subject to and on the basis of the foregoing.

Paragraphs 1.2 through to 1.5 are not affected by CP1318.

1.6 Acronyms and Definitions

1.6.1 Acronyms

Full definitions of the acronyms are, where appropriate, included in the Balancing and Settlement Code.

The terms used in this BSC~~Agreed~~ Procedure are defined as follows.

BSCCo	Balancing and Settlement Code Company
CDCA	Central Data Collection Agent
CoP	Code of Practice
CT	Current Transformer
CTA	Compliance Testing Agent
HHDC	Half Hourly Data Collector (Qualified~~Accredited~~)
MD	Maximum Demand
ME	Metering Equipment
MOA	Meter Operator Agent
SMRS	Supplier Meter Registration Service
WD	Working Day

1.6.2 Definitions

Applicant	Person applying for Compliance and/or Protocol approval
BSCCo	The Balancing and Settlement Code Company

Compliance Testing	means the testing of Metering Equipment in accordance with this BSCP601 to determine whether it conforms with the relevant Code of Practice to obtain approval from the Panel.
Compliance Testing Agent	The agent responsible for the testing of Metering Equipment, accredited against an appropriate (as determined by BSCCo) body such as the UK Accreditation Service (UKAS).
Code of Practice One	means the latest version of Code of Practice One~~: Issue 2, version 3.0; dated 23 February 2006~~ - CODE OF PRACTICE FOR THE METERING OF CIRCUITS WITH A RATED CAPACITY EXCEEDING 100MVA FOR SETTLEMENT.
Code of Practice Two	means the latest version of Code of Practice Two~~: Issue 4, version 3.0; dated 23 February 2006~~ - CODE OF PRACTICE FOR THE METERING OF CIRCUITS WITH A RATED CAPACITY NOT EXCEEDING 100MVA FOR SETTLEMENT PURPOSES.
Code of Practice Three	means the latest version of Code of Practice Three~~: Issue 5, version 5.0; dated 3 November 2005~~ - CODE OF PRACTICE FOR THE METERING OF CIRCUITS WITH A RATED CAPACITY NOT EXCEEDING 10MVA FOR SETTLEMENT PURPOSES.
Code of Practice Five	means the latest version of Code of Practice Five~~: Issue 7, version 5.0; dated 28 February 2008~~ - CODE OF PRACTICE FOR THE METERING OF ENERGY TRANSFERS WITH A MAXIMUM DEMAND OF UP TO (AND INCLUDING) 1MW FOR SETTLEMENT PURPOSES.
Code of Practice Six	means the latest version of Code of Practice Six~~: Issue 4, version 4.20; dated Code Effective Date~~ - CODE OF PRACTICE FOR THE METERING OF ENERGY IMPORTS VIA LOW VOLTAGE CIRCUITS FUSED AT 100 AMPS OR LESS PER PHASE FOR SETTLEMENT PURPOSES.
Code of Practice Ten	means the latest version of Code of Practice Ten~~: Issue 2, version 2.0; dated 25 June 2009~~ - CODE OF PRACTICE FOR METERING OF ENERGY VIA LOW VOLTAGE CIRCUITS FOR SETTLEMENT PURPOSES.
Instation	means a computer based system which sends data to, or receives data from Outstation Systems on a routine basis.

Interrogation Unit	means a Hand Held Unit "HHU" (also known as Local Interrogation Unit "LIU") or portable computer which can program Metering Equipment parameters and extract information from the Metering Equipment and store this for later retrieval.
Metering Equipment	has, for the purposes of this BSCP601, the meaning ascribed to that term in the Balancing and Settlement Code, but excluding voltage and current measurement transformers
person	includes any individual, company, corporation, firm, partnership, joint venture, association, committee, organisation or trust (in each case, whether or not having separate legal personality).
Settlement	has the meaning ascribed to that term in the Balancing and Settlement Code.
Test Laboratory	means the testing body so agreed with BSCCo to perform Compliance Testing to this BSCP601.
Type Approval	means the approval from the Electricity Meter Examination Service of the Office of Gas and Electricity Markets.
UTC	means Co-ordinated Universal Time based on atomic clocks as distinct from Greenwich Mean Time (GMT).

Paragraphs 2 through to 2.4.5 are not affected by CP1318.

3 Appendices

3.1 Forms

3.1.1 Form F601/01 – Certificate of Compliance

F601/01

Certificate of Compliance

Code of Practice [Five]

CODE OF PRACTICE FOR THE METERING OF ENERGY TRANSFERS [WITH A MAXIMUM DEMAND OF UP TO (AND INCLUDING) 1MW FOR SETTLEMENT PURPOSES]

Application Reference No:

Issued To:

Meter Description: Type: Firmware Version:

Test Reference No. Date of Test: Software Version:

Test Laboratory:

Test Environment:

[ABC Manufacturer's] Metering Equipment has undergone Compliance Testing in accordance with Code of Practice [Five], Issue * (v *.**) dated nth Month Year, and Type Testing Version [5.0] dated nth Month Year (and subsequent revisions) and BS EN 61036.

The Metering Equipment was tested in conjunction with the Manufacturer's "XXXX Software, version V*.**".

Certificate of Compliance:

The review of the Compliance Testing results on nth Month Year confirmed that the Metering Equipment was found to comply with the requirements of Code of Practice [Five] in all respects.

Signed: …… Date: …….
On Behalf of the Panel, ELEXON Limited (as the Balancing and Settlement Code Company ('BSCCo'))

The Panel (and its Committees) and ELEXON and its employees, agents and contractors do not and shall not be deemed to make or give any representation, warranty or guarantee, nor shall each or any of them have any liability or responsibility whatsoever or howsoever arising (whether directly or indirectly), in relation to each or any Metering Equipment, including in relation to any safety matters, in respect of any item of Metering Equipment which is not tested whether or not such item is of the same type, model or version as an item which is tested, the processing of any application for certification or for Compliance Approval, Protocol Approval or any other approval ("approval") in relation to Metering Equipment, the grant, failure or refusal to grant any such certification or approval, any testing, method of testing or analysis of the results of testing of Metering Equipment or any act, error, failure or omission in relation to such testing, method of testing or analysis. All Parties and applicants for certification and approval acknowledge and accept the foregoing and that the processes, requirements and tests relating to Metering Equipment referred to in Code Subsidiary Documents relate to matters concerning settlement and not matters relating to health and safety, which matters are the sole responsibility of the Parties and/or the applicant. All Parties and applicants for certification and/or approval agree that they accept the foregoing and accept that all applications for certification and/or approval are processed by ELEXON subject to and on the basis of the foregoing.

3.1.2 Form F601/02 – Certificate of Protocol Approval

F601/02

Certificate of Protocol Approval

METERING EQUIPMENT PROTOCOL MEETING THE REQUIREMENTS OF BSCP601 FOR SETTLEMENT PURPOSES

Application Reference No:

Issued To:

Meter Description: Type: Firmware Version:

Test Reference No. Date of Test: Software Version:

Test Laboratory:

Test Environment:

[ABC Manufacturer's] Metering Equipment listed above, has undergone Protocol Testing in accordance with BSC Procedure BSCP601, Issue * (v *.**), dated n[th] Month Year.

The Metering Equipment was tested in conjunction with the Manufacturer's "XXXX Software, version V*.**" and the following Qualified~~Accredited~~ Half Hourly Data Collector.

Half Hourly Data Collector	System or Process[4]	Instation Version	Outstation Version

Certificate of Protocol Approval:

The review of the Protocol Testing results on n[th] Month Year confirmed that the Metering Equipment was found to be suitable for Settlement use in conjunction with the Qualified~~Accredited~~ Half Hourly Data Collector listed above.

Signed: …… Date: …….

On Behalf of the Panel, ELEXON Limited (as the Balancing and Settlement Code Company ('BSCCo'))

The Panel (and its Committees) and ELEXON and its employees, agents and contractors do not and shall not be deemed to make or give any representation, warranty or guarantee, nor shall each or any of them have any liability or responsibility whatsoever or howsoever arising (whether directly or indirectly), in relation to each or any Metering Equipment, including in relation to any safety matters, in respect of any item of Metering Equipment which is not tested whether or not such item is of the same type, model or version as an item which is tested, the processing of any application for certification or for Compliance Approval, Protocol Approval or any other approval ("approval") in relation to Metering Equipment, the grant, failure or refusal to grant any such certification or approval, any testing, method of testing or analysis of the results of testing of Metering Equipment or any act, error, failure or omission in relation to such testing, method of testing or analysis. All Parties and applicants for certification and approval acknowledge and accept the foregoing and that the processes, requirements and tests relating to Metering Equipment referred to in Code Subsidiary Documents relate to matters concerning settlement and not matters relating to health and safety, which matters are the sole responsibility of the Parties and/or the applicant. All Parties and applicants for certification and/or approval agree that they accept the foregoing and accept that all applications for certification and/or approval are processed by ELEXON subject to and on the basis of the foregoing.

Form F601/03 – Protocol Approval and Compliance Testing

Part 1 of 3

F601/03

PROTOCOL APPROVAL AND COMPLIANCE TESTING APPLICATION FORM (PART 1)

Ref. No[5]……..

I wish to apply for Protocol Approval of the Products identified in Section **B** below: ☐ tick as appropriate

I wish to apply for Compliance Testing of the Products identified in Section **C** below: ☐ tick as appropriate

Section A: DETAILS OF APPLICANT

Company Name: ……

Address: ……..….

……..……

Participant Role: ……(e.g. Meter Manufacturer)

Contact Name: ……

Contact Tel. No: ……...……..

Fax. No: ……..……...

E-mail: ……..……...

Signature: ……

Date of Application: ……

The Panel (and its Committees) and ELEXON and its employees, agents and contractors do not and shall not be deemed to make or give any representation, warranty or guarantee, nor shall each or any of them have any liability or responsibility whatsoever or howsoever arising (whether directly or indirectly), in relation to each or any Metering Equipment, including in relation to any safety matters, in respect of any item of Metering Equipment which is not tested whether or not such item is of the same type, model or version as an item which is tested, the processing of any application for certification or for Compliance Approval, Protocol Approval or any other approval ("approval") in relation to Metering Equipment, the grant, failure or refusal to grant any such certification or approval, any testing, method of testing or analysis of test results of Metering Equipment or any act, error, failure or omission in relation to such testing, method of testing or analysis. The Applicant acknowledges and accepts the foregoing and that the processes, requirements and tests relating to Metering Equipment referred to in Code Subsidiary Documents relate to matters concerning settlement and not matters relating to health and safety, which matters are the sole responsibility of the Applicant. The Applicant by making an application for certification and/or approval agrees to accept the foregoing and to accept that all applications for certification and/or approval are processed by ELEXON subject to and on the basis of the foregoing.

Parts 2 and 3 of this Form (F601/03) are not affected by CP1318.

Paragraphs 3.2 through to 3.3.3.2 are not affected by CP1318.

3.4 Compliance Testing of Metering Equipment for Codes of Practice One, Two, Three, Five and Ten

Paragraphs 3.4.1 through to 3.4.6 are not affected by CP1318.

3.4.7 Demand Values {4.1.2}

The following tests shall be performed to confirm that Demand V~~v~~alues are provided:

(a)	confirm that a kW value is provided for each Demand Period for each Active Energy Measured Quantity; [CP1297]and	**007**

	[CP1297]kvarh value is provided for each Demand Period for each Reactive Energy Measured Quantity (CoP1, 2 ,3, [CP1296]5 and 10)	
(b)	where Import and Export values are provided confirm that each value is gross and recorded separately. (~~*Applies to*~~ *CoP 3, 5~~, 3~~ and 10 only);* and	**008**
(c)	confirm that Demand V~~v~~alues are available in both kilo and Mega values. *(CoPs 1 and 2 only)*	**009**

3.4.8 Accuracy Requirements ~~{4.2}~~

(a) Active Energy

Meters subject to CoP10 compliance testing shall meet all of the accuracy requirements for Active Energy if the Meter is approved under SI 1998 No 1566 or SI 2006 No 1679.

Tests shall be carried out at fundamental frequency (50Hz) to verify that the Active Energy measurements are within the limits shown in Table 1 below. The measurement uncertainty at fundamental frequency of the measurement system used shall not be greater than: ±0.01% (CoP1); ±0.05% (CoP2); ±0.1% (CoP3); or ±0.2% (CoP5).	**010**

Table 1 Active Energy

Value of Current (I)		**Power factor (Cos φ)**	**Percentage error limits[8] for Meters of Class**				
For whole current Meters	**For transformer operated Meters[9]**		**0.2S (CoP1)**	**0.5S (CoP2)**	**0.5 (CoP2)**	**1 (CoP3)**	**2 (CoP5)**
-	$0.01\ I_n \le I < 0.05 I_n$	1	±0.4	±1.0	-	-	-
-	$0.05\ I_n \le I \le I_{max}$	1	±0.2	±0.5	-	-	-
-	$0.02\ I_n \le I < 0.1 I_n$	0.5 ind 0.8 cap	±0.5 ±0.5	±1.0 ±1.0	-	-	-
-	$0.1\ I_n \le I \le I_{max}$	0.5 ind 0.8 cap	±0.3 ±0.3	±0.6 ±0.6	-	-	-
$0.05\ I_b \le I < 0.1$	$0.02\ I_n \le I < 0.05$	1	-	-	±1.0	±1.5	±2.5

I_b[10]	I_n						
$0.1\ I_b \leq I \leq I_{max}$	$0.05\ I_n \leq I \leq I_{max}$	1	-	-	±0.5	±1.0	±2.0
$0.1\ I_b \leq I < 0.2\ I_b$[11]	$0.05\ I_n \leq I < 0.1\ I_n$	0.5 ind 0.8 cap	-	-	±1.3 ±1.3	±1.5 ±1.5	±2.5 -
$0.2\ I_b \leq I \leq I_{max}$	$0.1\ I_n \leq I \leq I_{max}$	0.5 ind 0.8 cap	-	-	±0.8 ±0.8	±1.0 ±1.0	±2.0 -

Source†: BS EN 62053 - 22 for CoP1 and 2 (Class 0.2S and 0.5S), or BS EN 62053 - 11 for CoP2 (Class 0.5), and BS EN 60521 and BS EN 61036 for CoP3 and 5 (Class 1 and 2).

(b) Reactive Energy

Tests shall be carried out at fundamental frequency (50Hz) to verify that the Reactive Energy measurements are within the limits show in Table 2 below. The measurement uncertainty at fundamental frequency of the measurement system used shall not be greater than ±0.4%. Not applicable to CoP10	**011**

Table 2 Reactive Energy

Value of Current (I)		**Sin φ**	**Percentage error limits[8] for Meters of Class**		**Applicable BS EN Standard for Test Criteria**
For whole current Meters	**For transformer operated Meters**		**2 (CoP1)**	**3 (CoP2, 3 and 5)**	
$0.05\ I_b \leq I < 0.1\ I_b$	$0.02\ I_n \leq I < 0.05\ I_n$	1	±2.5	±4.0	BS EN 62053 - 23 and BS EN 61268
$0.1\ I_b \leq I \leq I_{max}$	$0.05\ I_n \leq I \leq I_{max}$	1	±2.0	±3.0	
$0.1\ I_b \leq I < 0.2\ I_b$	$0.05\ I_n \leq I < 0.1\ I_n$	0.5 ind or cap	±2.5	±4.0	
$0.2\ I_b \leq I \leq I_{max}$	$0.1\ I_n \leq I \leq I_{max}$	0.5 ind or cap	±2.0	±3.0	
$0.2\ I_b \leq I \leq I_{max}$	$0.1\ I_n \leq I \leq I_{max}$	0.25 ind or cap	±2.5	±4.0	BS EN 62053 - 23
$0.2\ I_b \leq I \leq I_b$	$0.1\ I_n \leq I \leq I_n$	0.25 ind or cap	-	±10.0	BS EN 61268
$0.1\ I_b \leq I \leq 0.2\ I_b$	-	1	-	±4.0	BS 5685 Part 4
$0.2\ I_b < I \leq I_{max}$	-	1	-	±3.0	
$0.2\ I_b \leq I \leq I_{max}$	-	0.5 ind and 0.8 cap	-	±3.0	

Source†: BS EN 62053 - 23 for CoP1 and 2 (Class 2 and 3), and BS EN 61268 (Class 3) for CoP 3 and 5 or BS 5685: Part 4 (Class 3) for CoP 2, 3 and 5. * for whole current metering percentage relates to $I_{max.}$

These limits of error for both Active and Reactive Energy shall apply at the reference conditions defined in the appropriate Meter.

†Permission to reproduce extracts from BS EN 62053 – 22, BS EN 62053 – 11, BS EN 60521, BS EN 61036, BS EN 62053 – 23, BS EN 61268 and BS 5685: Part 4 is granted by BSI. British Standards can be obtained in PDF or hard copy formats from the BSI online shop: www.bsigroup.com/Shop or by contacting BSI Customer Services for hardcopies only: Tel: +44 (0)20 8996 9001, Email: cservices@bsigroup.com.

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3.4.12 Displays {5.4}

(a) Confirm that the Metering Equipment is capable of displaying the following primary information (not necessarily simultaneously):

(a)	the total cumulative energy values for each Measured Quantity in actual scaled values can be displayed and stored in non–volatile memory;	**026**
(b)	the current time and date can be displayed;	**027**
(c)	the CT and/or VT ratios that have been programmed into the Meter can be displayed;	**028**
(d)	any compensation factor applied for measurement transformer errors and/or system losses can be displayed; and Not applicable to CoP10.	**029**
(e)	that, where the Meter is combined with the display and/or Outstation and a constant factor is applied, such factor is applied at security level 3. Not applicable to CoP10.	**030**

(b) Confirm that the Metering Equipment is capable of enabling the display of the following information:

(a)	the Maximum Demand ("MD") for kW ~~(~~or MW *(CoP 1 and 2 only~~as appropriate)~~)* per month can be displayed;	**031**
(b)	the Maximum Demand ("MD") for kW ~~(~~or MW *(CoP 1 and 2 only~~as appropriate)~~)* for other programmable charging periods can be displayed;	**032**

(c)	the Maximum Demand ("MD") for kVA ~~(~~or MVA *(CoP 1 and 2 only~~as appropriate~~)~~* per month can be displayed;	**033**
(d)	the Maximum Demand ("MD") for kVA ~~(~~or MVA *(CoP 1 and 2 only~~as appropriate~~)~~* for other programmable charging periods can be displayed;	**034**
(e)	twice the kWh ~~(~~or MWh *(CoP 1 and 2 only~~as appropriate~~)~~* advance from the commencement of the current Demand period can be displayed;	**035**
(f)	twice the kVAh ~~(~~or MVAh *(CoP 1 and 2 only~~as appropriate~~)~~* advance from the commencement of the current Demand period can be displayed; Not applicable to CoP10.	**036**
(g)	the cumulative Maximum Demand can be displayed;	**037**
(h)	the number of Maximum Demand resets can be displayed;	**038**
(i)	the multi rate display sequence, for at least 8 rates selectable over the calendar year, can be displayed;	**039**
(j)	a reverse running indication for Active Energy is provided (where appropriate). *(~~Required for~~ CoPs 3 and 5 only)*;	**040**
(k)	the indicated Maximum Demand is re-settable at midnight of the last day of the selected charging period;	**041**
(l)	the indicated Maximum Demand is re-settable for a part of a charging period; and	**042**
(m)	any Maximum Demand manual reset button is sealable.	**043**

Paragraph 3.4.13 is not affected by CP1318.

3.4.14 Outstation {5.5}

Where an Outstation has been provided as part of the Metering Equipment for test, the protocol shall be Approved in accordance with this BSCP.

Establish~~ing~~ that:

(a)	The Outstation has a unique Outstation identification code;	**048**
(b)	For Meters with integral Outstations ~~establish that~~ an auxiliary terminal provides for the Outstation's energisation for remote interrogation purposes (*CoP1 only*). For Meters with integral Outstations record whether an auxiliary terminal provides for the Outstation's energisation for remote interrogation purposes (*CoP2 only*);	**049**
(c)	The Outstation is capable of communicating with more than one Instation (not simultaneously and of similar type or otherwise);	**050**
(d)	It is possible to repeatedly retrieve data throughout the Outstation data storage period;	**051**
(e)	Any "read" operation does not alter or delete any stored metered data; and	**052**
(f)	The Outstation can provide all metered data stored from the time of commencement of any specified date upon request by the Instation during the data storage period of the outstation.	**053**
(g)	Establish whether the Outstation is capable of sending metering data automatically *(CoP 5 and 10 only)*;	**054**
(h)	Verify that the metering data sent complies with section 3.4.22 'Level 1 Passwords' of this test specification *(CoP 5 and 10 only)*; and	**055**

(i)	Establish whether the Outstation is capable of sending metering data on a daily basis as a minimum *(CoP 5 and 10 only)*.	**056**

3.4.15 Data Storage {5.5.1}

The Metering Equipment shall be continuously energised at full load for a period of five days and afterwards at a cyclical variable load for a further fifteen days, to determine thee total number of kWh or MWh *(CoP 1 and 2 only)* supplied to the Meter over the whole twenty day period.

During the test cycle establish that:

(a)	from the beginning of the current Demand Period, twice the kWh (or MWh *(CoP 1 and 2 only)*as appropriate) is being registered in the kW (or MW *(CoP 1 and 2 only)*) Maximum Demand register; and	**057**
(b)	from the beginning of the current Maximum Demand period, twice the kVAh (or MVAh *(CoP 1 and 2 only*as appropriate)) is being registered in the kVA (or MVA) Maximum Demand register.	**058**

on completion of the twenty day cycle above, the following tests shall be performed and confirm that:

(a)	each Demand Value is identifiable to its respective date and time; and	**059**
(b)	a storage capacity of 48 periods per day in accordance with Table 4 below is available for all Demand Values as integer multiples of kW (or MW *(CoP 1 and 2 only*as appropriate));	**060**

Table 4 Data Storage Periods

Code of Practice	Minimum Storage Period(days)
1	10
2	10
3	20
5	20
10	20

(a)	for each of the initial five days, the sum of the Demand Values for each block of 48 half-hour periods are within 0.1% of the advance of the total cumulative register of the associated Meter for the same interval;	**061**
(b)	the value of any energy measured in a Demand Period, but not stored in that	**062**

	Demand Period are carried forward to the next Demand Period;	
(c)	for each of the twenty days under test that the contents of the kW ~~(~~or MW *(CoP 1 and 2 only~~as appropriate))~~* data stored facility have been stored correctly; and	**063**
(d)	for separate Meter/Outstation combinations, that the Outstation registers can be set to match and increment with the Meter registers. Not applicable to CoP10	**064**

One test sample of the Outstation shall be provided by the Applicant with its memory occupied with data to within twenty days of capacity[14] (appropriate for the number of channels configured).

Upon further Energisation, confirm that;

(a)	on reaching maximum memory storage capacity, that any new data overwrites the oldest stored data; and	**065**
(b)	no other data has been altered or removed.	**066**

Paragraphs 3.4.16 through to 3.4.17.4 are not affected by CP1318.

3.4.17.5 Reverse Running

Where an Active Energy reverse running display is provided, determine that the requirements of BS EN 61036 or BS EN 62053-22 as appropriate are met. Establish under what conditions the reverse running flag is activated and record those conditions. Tests should include single and polyphase power reversals and set the appropriate flag for the Demand Period affected *(CoP 3 and 5 only, and if fitted)*.	**082**
Test that upon return to normal power flow, the reverse running flag is no longer present in the unaffected Demand Period *(CoP 3 and 5 only, and if fitted)*.	**083**

Paragraph 3.4.18 is not affected by CP1318.

3.4.19 Local Port

Using the Local Interrogation Unit provided by the Applicant, confirm that:

(a)	The local port provides data to a Local Interrogation Unit via an opto port to BS EN 61107 *(CoP 3 and 5)* or BS EN 62056-21 *(CoP 1, ~~and~~ 2 and 10)*; or	**085**
(b)	The local port provides data to a Local Interrogation Unit via another type of port; and	**086**
(c)	Repeat collections of stored data are available throughout the storage period and verify that and "read" operation does not delete or modify any stored metering data.	**087**

[14] With prior agreement from BSCCo integration periods other than 30mins may be used to facilitate the following two tests.

Paragraph 3.4.20 is not affected by CP1318.

3.4.21 Password Protection

(a)	For separate Outstations establish that a password is required to read or change any data. Not applicable to CoP10	**090**
(b)	For integral Outstations establish that **four**[15] discrete password controlled access levels are provided for both local and remote interrogation.	**091**

[Insert new row in table as shown and join up table with table below]

~~For integral Outstations establish that **four**[14] discrete password controlled access levels are provided for both local and remote interrogation.~~

(c~~b~~)	For alpha numeric character passwords, ensure that passwords are no less than six characters and no more than twelve characters long. Ensure that passwords are formed from case insensitive or sensitive alpha characters (A to Z) and/or digits (0 to 9) and/or the underscore character (_). Not applicable to CoP10	**092** ~~**1**~~
(d~~c~~)	For hexadecimal character passwords, ensure that passwords are no less than eight characters and no more than twelve characters long. Ensure that passwords are formed from upper case hexadecimal characters (0 to F). Not applicable to CoP10	**093** ~~**2**~~

[15] For CoP 10 only three are required

3.4.22 Level 1 Passwords

Using the Level 1 password, establish that the following data can be retrieved:

(a)	Outstation ID;	094~~3~~
(b)	all programmable Demand Values;	095~~4~~
(c)	all programmable cumulative Measured Quantities;	096~~5~~
(d)	the Maximum Demand for kW and/or kVA per programmable charging period;	097~~6~~
(e)	the multi-rate cumulative Active Energy values;	098~~7~~
(f)	the VT and CT transformer ratios, where appropriate;	099~~8~~
(g)	(for combined Meter and Outstation only), the VT and CT transformer error correction factor and/or system loss factor applied as a constant factor to the entire dynamic range; Not applicable to CoP10.	100~~099~~
(h)	all alarm indications; and	101~~0~~
(i)	Outstation time and date	102~~1~~

Establish that it is **not** possible to change any of the above values at Level 1 Password.	103

~~Establish that it is **not** possible to change any of the above values at Level 1 Password.~~

3.4.23 Level 2 Passwords

Using the Level 2 Password, establish that all the data listed at Level 1 can be retrieved and in addition that the following actions can be performed:		104~~2~~
(a)	changes to time and date; and	105~~3~~
(b)	resetting of all Maximum Demands.	106~~4~~

3.4.24 Level 3 Passwords

Using the Level 3 Password, establish that all the functionality listed at Level 2 can be performed and in addition that the following programming can be performed:		107~~5~~
(a)	Displays and Facilities as defined in Clause 5.4;	108~~6~~
(b)	measurement transformer ratios as defined in Clause 5.3;	109~~7~~
(c)	(for combined Meter and Outstation only), the VT and CT transformer error	110~~08~~

	correction factor and/or system loss factor applied as a constant factor to the entire dynamic range; and Not applicable to CoP10.	
(d)	passwords for Levels 1, 2 and 3.	**1110~~09~~**
(e)	where applicable, confirm it is possible to programme the schedule for automated transfer of Level 1 metering data via Level 3 access *(CoP 5 and 10 only)*.	**112~~0~~**

Establish that it is possible to read additional information within the Metering Equipment to enable the programmed information to be confirmed.	**113~~1~~**

3.4.25 Level 4 Passwords

Not applicable to CoP10

If the Level 4 Password is implemented electronically then:

(a)	establish that all the functionality listed at Level 3 can be performed and in addition that the following alterations can be performed:	**114**
(b~~a~~)	calibration of the Meter (only where the Meter is integral with the Outstation);	**115~~3~~**
(c~~b~~)	setting the measurement transformer ratios, where appropriate;	**116~~4~~**
(d~~c~~)	setting the measurement transformer error correction and/or system loss factors applied as a complex factor; and	**117~~5~~**
(e~~d~~)	programming the Level 3 & 4 Passwords.	**118~~6~~**

If the Level 4 Password is implemented by removing the seals and cover, then establish that the following alterations can be performed:

(a)	calibration of the Meter (only where the Meter is integral with the Outstation);	**1197**
(b)	setting the measurement transformer ratios, where appropriate; and	**12018**
(c)	setting the measurement transformer error correction and/or system loss factors applied as a complex factor.	**12119**

3.4.26 Password Monitoring {Appendix D}

Using the Approved Protocol[164], verify that the password offered determines the Level of access to the data within the Metering Equipment.	**1220**

Verify, by accessing the Metering Equipment at least eight times with an "illegal" password(s), that:

Not applicable to CoP10

(a)	the illegal password counter resets to zero every hour on the hour change; and	**1231**
(b)	after the seventh illegal password attempt entered between counter resets, that access is prohibited at all levels until the counter resets.	**1242**

3.4.27 Additional Tests

3.4.27.1 Electromagnetic Compatibility Tests

Not applicable to CoP10

In addition to the EMC tests carried out by the Electricity Meter Examination Service of the Director of Electricity Supply as part of the process of Type Approval for the Meter in accordance with BS EN 61036, verify, by testing under all the conditions detailed in BS EN 61036, that:

(a)	any stored data and time/date is not corrupted or has been destroyed; and	**1253**
(b)	the metering accuracy remains within the requirements of Clause 5.4 of this Compliance Testing .	**1264**

[16] If the protocol has not yet received Approval, record the status and description of the protocol used for testing purposes.

3.4.27.2 Immunity to Electromagnetic HF Fields

Not applicable to CoP10

Verify, by testing in accordance with IEC 61000-4-3, and under the following conditions:

- the voltage and auxiliary circuits energised with reference voltage;
- a frequency band of 26MHz to 1GHz;
- a test field strength of 12.5V/m; and
- a carrier of 80% amplitude modulated with a 1kHz sine wave.

(a)	that without any current in the current circuits and the current terminals open circuit the application of the HF fields shall not produce a change in the Meter Register reading of more than 0.01kWh and the test output shall not produce a signal equivalent to more than 0.01kWh. (Where VT and CT connected Meter(s) is under test, equivalent scaled values should be used taking into account the transformer ratios); and	**1275**
(b)	that with basic current Ib, and power factor equal to 1.0, at sensitive frequencies or frequencies of dominant interest, the variation of error does not exceed 3%.	**1286**

On completion of each EMC test verify that:

(a)	any stored data is not corrupted or has been destroyed; and	**1297**
(b)	the metering accuracy remains within the requirements of Clause 5.4 of this .	**13028**

NOTE: Where VT and CT connected Meter(s) are under test the equivalent scaled values, taking into account the transformer ratios, should be used when considering any differences in Meter Register reading and output signals.

3.4.27.3 Sealing {5.7}

Ensure that adequate sealing facilities are provided for Settlement requirements.	**13129**

Paragraphs 3.5 through to 3.5.12.2 are not affected by CP1318.

3.5.12.2.1 Verify, by testing in accordance with IEC 61000-4-3, and under the following conditions:-

- voltage and auxiliary circuits energised with

- reference voltage;
- frequency band: 26MHz to 1GHz;
- test field strength: 12.5V/m;
- carrier 80% amplitude modulated with a 1KHz sinewave,

(i) that without any current in the current circuits and the current terminals open circuit the application of the HF fields shall not produce a change in the Meter Register reading of more than 0.01kWh and the test output shall not produce a signal equivalent to more than 0.01kWh.; and

(ii) that with basic current Ib, and power factor equal to 1.0, at sensitive frequencies or frequencies of dominant interest, the variation of error does not exceed 3%,

and on completion of each EMC test verify that:-

(i) any stored data is not corrupted or has been destroyed; and

(ii) the metering accuracy remains within the requirements of this specification 3.5.

3.5.13 Sealing

Ensure that all Metering Equipment sealing facilities are in accordance with the Code of Practice Six, Section 6.6.

End of Document