Change Proposal – BSCP40/02	CP No: CP1393 *Version No: v0.1* *(mandatory by BSCCo)*

Title *(mandatory by originator)*

Technical Assurance – CDC Check

Description of Problem/Issue *(mandatory by originator)*

The Technical Assurance Agent (TAA) is a Balancing and Settlement Code (BSC) Agent who role is to monitor compliance of Parties with the requirements set out in the BSC (e.g. Section L[1]), the metering Codes of Practice (CoPs) and relevant BSC Procedures (BSCPs) (e.g. BSCP27[2]), in relation to Half Hourly Metering System (HHMS).

Where the TAA finds a Party is not complying with a requirement a non-compliance is issued to the Registrant and the relevant participant (e.g. Meter Operator Agent and/or Data Collector). The Registrant is responsible for resolving non-compliances however the relevant participant is often best placed to rectify the non-compliance.

There are 4 categories of non-compliance:

1. Consumption Data Comparison Check (CDCC) Failure
    - NC: Consumption Data Comparison Check identified inconsistent data and is deemed to affect the quality of data for Settlement Purposes; or
    - NP: Consumption Data Comparison Check not performed. It is deemed to have the potential to affect the quality of data for Settlement purposes;
2. Category 1: currently affecting the quality of data for Settlement purposes;
3. Category 2: has the potential to affect the quality of data for Settlement purposes (but is not currently affecting it); and
4. Observation: an inconsistency with CoP requirements, which neither affects, nor has the potential to affect, the quality of data for Settlement purposes.

The Consumption Data Comparison Check (CDC Check or CDCC) is a specific check performed by the TAA on site to confirm that the Meter Technical Details match the installed Metering Equipment details and that the energy recorded by the Meter/Outstation during a half hour is accurately transferred to the Data Collector (DC) – the Half Hourly Data Collector (HHDC) in the case of SVA registered Metering Systems and the Central Data Collection Agent (CDCA) in the case of CVA registered Metering Systems.

As part of this check the TAA downloads data from the Meter/Outstation, including the half hour metered data, using a Hand Held Unit (HHU) and, for a particular Settlement Period, requests the same half hour value from the DC for comparison with the half hour value stored in the Outstation. The TAA also records a half hour cumulative register advance on the Meter display for comparison with the same half hour metered data stored in the Meter's Outstation and the half hour value

[1] 'Metering'
[2] 'Technical Assurance of Half Hourly Metering Systems for Settlement Purposes'

provided by the DC.

Where the CDC Check is performed and these figures do not match, within an acceptable tolerance, an 'NC' category of non-compliance is issued to the DC.

Some Meters store half hour data (known as Demand Values in the CoPs) as pulses in their associated Outstation(s) and some Meters store Demand Values in kilowatts/megawatts (kW/MW) or other engineering units (e.g. kWh, MWh or even milliwatthour (mWh)) in their associated Outstation(s). Where pulses or kW/MW Demand Values are stored these need to be converted to the appropriately scaled energy values (i.e. kWh/MWh) for comparison with the half hour energy values provided by the DC (the HHDC provides kWh values whereas the CDCA provides MWh values as these are the Measurement Quantities required under the CoPs). To convert the number of pulses stored in a half hour to an energy value it must be multiplied by the appropriate Pulse Multiplier[3] (the units of which are kWh/pulse or MWh/pulse). To convert a kW/MW Demand Value into an energy value per half hour the Demand Value must be halved[4].

In order to calculate the true cumulative Meter advance over the same half hour period the TAA needs to multiply the difference between the two readings taken off the Meter's display at the beginning and end of the half hour by the Meter Register Multiplier (renamed from Meter Constant)

BSCP27 Section 4.1.5 is currently ambiguous in its description of the CDC Check and doesn't fully describe the existing process as carried out by the TAA on site. The section mentions using the 'raw pulses or the Meter Constant[5] (where relevant)' to determine the energy recorded in a half hour.

The description of the process is ambiguous in the following ways:

- The use of a Meter Constant is not relevant to the calculation of energy values for half hour data stored in the Meter's Outstation (It is appropriate for determining energy values based on a Meter's cumulative register advance for a half hour period);
- Meter Constant (the J0475 data item in the Data Transfer Catalogue) has been renamed Meter Register Multiplier; and
- The section also mentions comparing these 'stored Meter data values' against the 'measured values', but it is not clear where these measured values are obtained from.

Proposed Solution ***(****mandatory by originator)***

Section 4.1.5 of BSCP27 needs to be clarified to more accurately reflect the current CDC Check process and the term Meter Constant in this section needs to be replaced with Meter Register

[3] The J0432 'Pulse Multiplier' data item in the Data Transfer Catalogue describes this as 'the factor required to adjust the pulses collected by the meter to the appropriate measured quantity (kWh or kVArh)'. The Pulse Multiplier varies depending on the current and/or voltage transformer programmed/designed into the Meter, which may be different from the installed or connected current and/or voltage transformer ratio. This is why a Correct Energy Measurement Check is performed to compare separately measured primary current and voltage readings with the instantaneous demand recorded on the Meter.

[4] A constant demand of 50MW would deliver 50MWh every hour to a load, therefore 25MWh of energy would be delivered per half hour. A Demand Value is the average half hour demand and is derived from the energy measured by the Meter in that half hour.

[5] Meter Constant was renamed in the Data Transfer Catalogue as Meter Register Multiplier (MRM) in the J0475 data item and is described as 'The number by which the register reading must be multiplied to get the true register value'.

Multiplier. The TAA has confirmed that the CDC Check is always carried out on site (as the cumulative Meter register advance has to be read from the Meter's display) so the flexibility provided in BSCP27 to do this offsite should be removed.

In addition, it should be clarified that the measured values that the stored Meter data are compared with are those obtained via the Correct Energy Measurement Check (CEMC). The CEMC is an indicative test where primary (or secondary) voltage and current measurements are taken by the TAA at site using independent measurement devices (e.g. ammeters, voltmeters) and their product[6] (power) is compared with the Meter's instantaneous demand register.

Justification for Change *(mandatory by originator)*

During the re-procurement of the TAA Service it became clear that there were inconsistencies between what BSCP27 said about the CDC Check, what the TAA Instruction Document (the TAA's working instructions) said, and what was actually happening on the site visits. As part of the re-procurement process the TAA Working Instruction was amended to reflect the current process and therefore BSCP27 needs to be updated to reflect it too.

To which section of the Code does the CP relate, and does the CP facilitate the current provisions of the Code? *(mandatory by originator)*

BSC Section L – 'Metering'

Estimated Implementation Costs *(mandatory by BSCCo)*

One ELEXON man day of effort to implement the redlined changes. One ELEXON man day equates to £240.

Configurable Items Affected by Proposed Solution(s) *(mandatory by originator)*

BSCP27 – 'Technical Assurance of Half Hourly Metering Systems for Settlement Purposes'

Impact on Core Industry Documents or System Operator-Transmission Owner Code *(mandatory by originator)*

None

Related Changes and/or Projects *(mandatory by BSCCo)*

None identified.

[6] Taking into account current and voltage transformer ratios (and verified against other measurement sources on site, if available), where these measurements are taken on the secondary side of the current and voltage transformers because of access or safety concerns (e.g. at high voltage sites).

Requested Implementation Date ***(mandatory by originator)***

27 February 2014 as part of the February 2014 BSC Systems Release.

Reason: Next available Release.

Version History ***(mandatory by BSCCo)***

v1.0 of CP1393 was issued on 26 July 2013.

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Attachments: Y/~~N~~

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