Issue Form - BSCP40/04	Issue Number 80 *(mandatory by BSCCo)*

Issue Title ***(****Mandatory by originator)*

Increase in minimum data storage requirements within the relevant Metering CoPs

Issue Description *(Mandatory by originator)*

The minimum data storage requirements within the Metering Codes of Practice (CoPs)[1] are now 30 years old and reflect the expectation of memory costs at that time. Meter Operators regard this requirement as unreasonably low and through this Issue should be reviewed.

Justification for Examining Issue *(Mandatory by originator)*

An Outstation is an item of Metering Equipment which receives and stores data from a Meter(s). Its other main purpose is to transfer that metered data to a Half Hourly Data Collector (HHDC) or the Central Data Collection Agent (CDCA). An Outstation may be integral with a Meter or separate from a Meter(s).

Section 5.5.1 'Data storage' of the CoPs set out the minimum data storage requirements for Outstations. The data storage capacity of an Outstation is limited by its memory capacity. The data storage requirements were originally determined within the Pooling and Settlement Agreement, based on the technology available at that time. Since the 1990's the cost of memory has reduced significantly, and it is therefore considered appropriate to increase the minimum data storage capacity requirements to reflect the reduction in memory costs over the past 30 years. This Issue is focused on "conventional" half hourly metering, it is not seeking to consider Smart Metering Equipment Technical Specifications (SMETS) equipment which is defined elsewhere.

The following table sets out the current minimum data storage capacities[2]:

CoP1 – exceeding 100MVA	10 days
CoP2 – not exceeding 100MVA	10 days
CoP3 – not exceeding 10MVA	20 days
CoP5 – up to 1MW	20 days
CoP10 – up to 100kW	20 days

The table demonstrates the perverse requirements that higher materiality sites have a shorter minimum data storage capacity, although this is to an extent mitigated by the requirement in the CoPs to use main/check Meters, primary/secondary Outstations and, at some sites, duplicate communication lines for the larger CoPs.

Although this Issue is not seeking to consider SMETS, as a comparator the SMETS2 smart specification[3] (4.6.5.5) requires 14 months of Half Hourly consumption data storage.

[1] Notably CoPs 1, 2, 3, 5 and 10.
[2] 48 periods per day for a minimum of 'X' days for all Demand Values. The CoPs define Demand Values as, 'expressed in MW (or kW depending on CoP)… recorded during any Demand Period. The Demand Values are half hour demands and these are identified by the time of the end of the Demand Period.'
[3] www.gov.uk/government/consultations/smart-metering-equipment-technical-specifications-second-version

SMETS will cover the lowest value energy metering but reflect the current cost/benefit for storage vs. cost. This specification was developed in more recent years and imposes a manufacturing cost on some 30 million meters.

Once the memory within an Outstation has been filled, it will overwrite the oldest records with the more recent metered data, known as 'rolling barrel' data storage. If the metered data is not recovered prior to being overwritten then the metered data is completely lost. Where actual metered data is lost then estimates are required. Sections 4.2.1 - 4.2.3 of BSC502 'Half Hourly Data Collection for SVA Metering Systems Registered in SMRS' and Section 1.7 of BSCP03 'Data Estimation and Substitution for Central Volume Allocation' sets out a hierarchy of estimation methods for use where actual metered data is not available. For Supplier Volume Allocation (SVA), the BSC also sets performance standards for Suppliers (Registrants of SVA Metering Systems) for the proportion of actual metered data at various Settlement runs. For SVA Export Metering Systems the estimation rules are more restrictive than for SVA Import Metering Systems making it very difficult to apply an estimate other than zero. So where actual metered data is no longer obtainable from a Metering System there is a material impact on the customer/export Supplier billing and Settlement. Inaccurate estimations, including for Central Volume Allocation (CVA) Metering Systems, impact all BSC Parties and can have a significant financial impact on customers & Registrants at specific sites.

Where communications with a Metering System fail, then a site visit can be initiated to locally interrogate[4] the Outstation and download the metered data, ideally before any actual metered data is lost. In practice, there may be delays or an inability to obtain the actual metered data prior to it being overwritten due to:

- Inability to repair Communications Equipment promptly
- Delays associated with transfer of SIM communications equipment is recognised as taking many weeks, or may result in the need to visit site to change SIM cards or even Metering Equipment
- Difficulties accessing a site (adverse weather, remote location, Offshore, etc.)
- Difficulties accessing Metering Equipment (customer unable to provide access, Distributor required to provide access, unmanned, etc.)
- Metering Equipment faults or compatibility between installed equipment and reading equipment preventing local interrogation
- Organisational difficulties, speed of mobilisation of manual meter reading
- Working patterns - Christmas, Easter and summer holidays mean that identification of communication failure, staff availability and access difficulties compound to delay local interrogation.

There were proposals in the last few years to harmonise the Imbalance Settlement Period (ISP) across Europe to 5, 10 or 15mins which would increase the number of Demand Periods[5] required to be stored by an Outstation. A change from 48 to 96 Demand Periods of metered data per day would have the effect of halving the days of data storage within existing Metering Equipment (the minimum 10 days reduces to 5 days). During several discussions on the impact, the desire to increase the minimum data storage capacity in the CoPs was considered to 'future proof' against a potential future harmonisation requirement. Consideration has been given to a time limited derogation, although any derogation would

[4] Using a Hand Held Unit (HHU) or Local Interrogation Unit (LIU).

[5] The current definition of Demand Period in the CoPs is 'the period over which Active Energy, Reactive Energy or Apparent Energy are integrated to produce Demand Values. For Settlement purposes, each Demand Period shall be of 30 minutes duration, one of which shall finish at 24:00 hours'.

not extend for the full economic life of new Metering Equipment. The future requirement is unclear due to the impact of Brexit and/or the future electricity trading arrangements.

Meter Operators covering SVA & CVA Metering Systems have discussed extending the minimum data storage requirements at BSC and Association of Meter Operators (AMO) meetings over several years and continue to be supportive of implementing these changes.

The cost of memory has reduced significantly over the past 30 years. Many Metering Equipment manufacturers sell equipment with data storage capacity which exceeds the CoPs minimum data storage requirement and Meter Operators typically already procure Metering Equipment which exceeds the minimum data storage requirements. Therefore, increasing the minimum data storage capacity required should not add any further cost to newly purchased Metering Equipment. A change to the CoPs is only forward looking, so will only impact on new and replacement Metering Equipment on a progressive basis.

The process for equipment manufacturers to demonstrate compliance with the HH CoPs is set out in BSCP601 'Metering Protocol Approval and Compliance Testing'. Part of the implementation of this change to the CoPs should enable manufacturers of Outstations which are compliant with existing Issues of the CoPs to advise ELEXON of compliance to this changed requirement, without the need to repeat the whole compliance testing process.

In September 2017 ELEXON emailed 10 Outstation manufacturers (those with compliant Outstations on the CoP compliance and protocol approval list) and asked them if their existing Outstations would comply with a proposed storage period of 30, or 60 days, of 15 mins Demand Periods. Only one manufacturer confirmed that their integral Outstation Meter could comply already (6 channels of 15 mins Demand Periods for 60 days). The others either did not respond (eight), or said they would respond (one), but didn't.

Potential Solution(s) *(Optional by originator)*

Consult with industry stakeholders, including Outstation manufacturers, about what a suitable minimum data storage capacity should be in the CoPs. A period of 30 days (6 channels of 15 mins Demand Periods) would seem a minimum however, to further futureproof the Metering Equipment then over 100 days may be feasible.

On receipt of stakeholder feedback the Issue Group may propose that a Change Proposal is raised to amend the relevant CoPs to reflect a new data storage capacity.

Proposer's Details

Name

Tom Chevalier

Organisation

Association of Meter Operators

Email Address

AMO@PowerDataAssociates.com

Telephone Number
01525 862870
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