Report on Issue 48 'SMETS & Codes of Practice'

Meeting Name	BSC Panel
Meeting Date	12 September 2013
Purpose of paper	For Information
Summary	This paper summarises the conclusions of the Issue 48 'SMETS & Codes of Practice (COPs)' Workgroup. We invite you to note that the Group believe that no changes are needed at this time, and that Issue 48 is now closed.

1. Background

1.1 ELEXON has identified potential amendments to the Balancing and Settlement Code (BSC) and Code Subsidiary Documents (CSDs) that are likely to be required to support the Department of Energy and Climate Change's (DECC's) Smart Metering Implementation Programme (SMIP). Some of these potential amendments are in light of DECC's smart metering equipment technical specifications (SMETS).

1.2 We previously highlighted these potential consequential impact to the Supplier Volume Allocation Group (SVG) in November 2011 (paper 129/07).

2. What is the issue highlighted by Issue 48?

2.1 BSC Section L 'Metering', Section 3.2 currently requires all Metering Equipment to comply with a relevant metering Code of Practice (CoP). This includes Smart Meters. However, Smart Meters will also need to comply with the SMETS, as well as the CoPs, which gives rise to potential duplication or conflicting requirements.

2.2 We identified areas of Section L and CoPs 8[1], 9[2] and 10[3] where such duplication or conflicts may exist. These included potential issues with respects to:

- current transformer[4] (CT) requirements and any other requirements that are still needed but are not within the scope of the SMETS; and
- supporting requirements for elective Half Hourly (HH) and Non-Half Hourly (NHH) CT metering.

2.3 In order to clarify any potential issues, we carried out a gap analysis between the metering requirements in the CoPs and the SMETS v2.0. It identified that CoPs 8 and 9 had no gaps in requirements, but there were potential issues relating to CoP10.

[1] 'The Metering of Import Active Energy via Low Voltage Circuits for Non-Half Hourly Settlement Purposes'.
[2] 'The Metering of Import and Export Active Energy via Low Voltage Circuits for Non-Half Hourly Settlement Purposes'.
[3] 'Metering of Energy via Low Voltage Circuits for Settlement Purposes'.
[4] Many large Metering Systems require the use of current transformers to step down the energy volumes to manageable levels to be measured by the Meter.

2.4 CoP10 contains 20 requirements that do not meet or are different from those contained in SMETS v2.0. Equally, SMETS v2.0 contains two requirements that are not compatible with the current Settlement arrangements.

2.5 These 22 requirements can be separated under five areas:

- Time standard;
- Alarm flags;
- CT requirements;
- Testing facilities; and
- Outstation functionality.

2.6 We believed that it was important that these issues were discussed and resolved promptly, as they may have impacted on the development and manufacturing of Metering Equipment. Therefore, Standing Issue 48 'SMETS & Codes of Practice' was raised to consider:

- If ELEXON's assumptions/gap analysis is correct;
- The Group's views and questions about the potential conflict between the SMETS and CoPs; and
- What changes (if any) were necessary to the BSC, CoPs or other CSDs to address Issue 48.

3. Group's Conclusions

3.1 The Group considered the Issue and after extensive discussions concluded that, whilst it was prudent for ELEXON to raise the issue, no changes were required to the BSC or CSDs at this time.

3.2 The Group felt that as paragraph 6 of the SMETS referenced other regulatory requirements, it was reasonable to assume that this would mean compliance with the BSC. As such, the SMETS and CoPs would sit in parallel as requirements for SMETS Metering Systems.

3.3 Overall the Group agreed that no further action should be taken and agreed that Issue 48 should be closed. However, the Group did agree that this area should be revisited at a later date once SMETS Metering Systems were widely installed and an assessment of how CoP10 functions in parallel with the SMETS can be carried out. The full details of the Workgroup's discussions are in Appendix 1.

4. Recommendations

4.1 We invite you to:

a) **NOTE** the Issue 48 Group's discussions and conclusions; and

b) **NOTE** that Issue 48 is now closed.

List of Appendices:

Appendix 1 – Issue Group's detailed discussions
Appendix 2 – Workgroup Membership and Attendance

List of Attachments:

Attachment A – SMETS and CoPs Gap Analysis

For more information, please contact:

Simon Fox
Change Analyst, Transformation delivery
Simon.fox@elexon.co.uk
020 7380 4299

Appendix 1 – Issue Group's detailed discussions

Scope

4.2 The Group established early on what was meant by SMETS compliant Meters in the context of this Issue. They noted that it relates to any Metering System that had a SMETS compliant Meter installed, operated in the domestic Non-Half Hourly sector (Profile Classes 1-2), and that was not an advanced domestic Meter.

4.3 The scope of Issue 48 only focused on the ELEXON analysis of SMETS v2.0, and noted that there will likely be other versions at a later date. A Group Member advised that alongside the SMETS (a functional specification) there will also be the GB Companion Specification for the Home Area Network (HAN) communication equipment and that this should be considered too.

4.4 The Group discussed whether it needed to look at CoP4[5]. It noted that SMETS compliant Meters can be configured remotely and are HH capable, but the Meter Operator Agent (MOA) would need to attend a site if the communications equipment (for instance) needed to be changed, in which case the Meter would be recommissioned. It noted that this was consistent with Automatic Meter Reading (AMR) Meters, which have the same functionality with respects to remote configuration and HH capability. The Group also noted that commissioning is not in the scope of the SMETS, so wherever necessary, CoP4 would apply. Therefore the Group agreed that it did not need to look at CoP4 as part of the Issue 48 discussions.

4.5 ELEXON advised the Group that Issue 49[6] had discussed and raised concerns over Pending Modification P272[7]. The Issue 49 Group were concerned that if the Authority approved P272, then Profile Class (PC) 5-8 Metering Systems would need to be allocated to Measurement Class (MC) 'C' (those Metering Systems that are mandated to have HH metering) and therefore replace existing CoP10 compliant Meters with CoP5 compliant Meters. The Issue 49 Group felt that this would likely be a significant undertaking, with one Group member indicating that that 85% of their organisations installed Meters being CoP10 Meters. The Issue 48 Group felt that if P272 was approved then with the existence of the SMETS, CoP10 would no longer be required. However, during the Issue 48 meeting, ELEXON was able to clarify that P272 will give Suppliers the choice to allocate PC5-8 Metering Systems to MC 'C' or 'E'. The Issue 48 Group therefore noted that the population of CoP10 Metering was likely to remain significant whether or not the authority approved P272, and therefore CoP10 was still required.

Assumptions

4.6 When the gap analysis was carried out, an assumption was applied that the SMETS v2.0 security requirement exceeds that of CoP10. The Group agreed with ELEXON's assumption and therefore there was no risk to Settlement with respects to this aspect of the SMETS.

[5] 'The Calibration, Testing and Commissioning Requirements of Metering Equipment for Settlement Purposes'
[6] 'Change of Measurement Class (CoMC) process for Advanced Meters'
[7] 'Mandatory Half Hourly Settlement for Profile Classes 5-8'

Gap Analysis

4.7 When discussing the SMETS and CoP gap analysis the Group discussed and reached conclusions on the following:

4.7.1 CT Metering Systems

The Group noted that the SMETS does not contain any requirements with respects to CT Metering Systems. It noted that CT Metering Systems wouldn't be PC 1-2, so was not applicable. But that this was another reason to keep CoP10.

4.7.2 Reverse running of SMETS Meters

The Group also considered whether SMETS Meters were capable of reverse running. It was noted that the SMETS requirements included a reverse running flag; whereas CoP10 includes a requirement for a flag in the data and display. Therefore there was concern that the SMETS meter display would net any Import and Export, which could potentially run backwards if the Export was greater than the Import. Therefore the Group agreed that there was a need for the existing CoP requirement to ensure the data flag was present.

4.7.3 Time Standard

The Group discussed time standard,[8] which ELEXON had identified as a potential issue. However, on further investigation it was established that whilst the SMETS Meter display is required to use local time, the underlying clock time defined by the SMETS is Coordinated Universal Time (UTC) as per the CoPs. Therefore there was no requirement gap.

4.7.4 Alarms

The Group discussed alarm[9] requirements, which were different in the SMETS to that in the CoPs. The Group believed that the requirements would be covered elsewhere such as in the GB Companion Specification.

4.7.5 Protocol Approval

The Group highlighted that there may be a need for a CP to amend BSCP601[10] to recognise Data Communication Company (DCC) dialled Meters for Protocol Approval.

4.7.6 Load limitations

The Group discussed the SMETS requirement for load limitation, and considered whether there was a need to include such a requirement in the CoPs. The Group concluded that it did not needed to be added into the CoPs as this would be established on a Supplier to consumer basis and outside the scope of Settlement.

[8] This is a specification for measuring time. This is will usually be either 'Coordinated Universal Time' (UTC), the primary time standard by which the world regulates clocks and time, or local time.
[9] Alarms are included as Metering Equipment in certain Metering System to flag certain events, which could or do impact on Settlement.
[10] 'Metering Protocol Approval and Compliance Testing'.

4.7.7 Data retention

The Group noted that the SMETS is silent on power outages with respect to data retention. The Group was concerned over potential issues with the Outstation[11] clock and how the UTC would maintain accuracy (through trimming) and the source of the UTC (for setting time) in the event of an outage. The Group noted that the Outstation would record an event if greater than 10 seconds but would not if under 10 seconds. The Group therefore asked ELEXON to flag these two issues as part of the assurance activities, under the Smart Energy Code (SEC) and BSC, as appropriate.

Associated Discussions

4.8 The Group discussed associated issues.

4.9 The Group came up with a recommendation that ELEXON look into what the SEC assurance framework will look at and any gap between it and the BSC Performance Assurance Framework (PAF). ELEXON will look into this issue as part of its on-going engagement with the SMIP.

4.10 The Group discussed SMETS v1.0 metering that will need to be replaced with SMETS v2.0 Meters by 2020, and the potential for a generic Metering Dispensation to cover SMETS v1.0 Meters. ELEXON suggested to the Group that the dispensation process exists as a means of dealing with a small number of exceptions and probably wouldn't be appropriate for the millions of Meters that ultimately would not comply with the SMETS v2.0 requirements.

4.11 The Group also expressed concern that the DECC wasn't present at the Group meeting, as it believed that it would have been useful to have them there. It was also concerned over what it perceives to be inaccessibility of some of the SMIP Work Groups and lack of an ELEXON presence on these. ELEXON advised that it was in regular contact with DECC and did respond to consultations.

Conclusion

4.12 Overall the Group agreed that no further action should be taken and agreed that Issue 48 should be closed. However, the Group did agree that the Issue should be revisited at a later date once SMETS Metering Systems were widely installed and an assessment of how CoP10 in parallel with the SMETS was working can be carried out.

[11] An Outstation is a piece of Metering Equipment that receives and stores data from a Meter(s) and is used to transfer that data to the DC. It may also perform some processing of the data before transfer.

Appendix 1 – Workgroup Membership and Attendance

Name	Organisation	25-Jul-13
David Barber	ELEXON *(Chair)*	✓
Simon Fox	ELEXON *(Lead Analyst)*	✓
Jon Spence	ELEXON *(Technical Expert)*	✓
Keith Campion	ELEXON *(Technical Expert)*	✓
Chris Lawton	British Gas	✓
Bob Gibbs	EDF Energy (ESCS)	✓
Alastair Barnsley	E.on Energy services	✓
Mark Powell	E.on Energy Solutions	✓
Nigel Orchard	ESTA Metering MG / Pilot Systems	✓
Andrew Campbell	npower	✓
Bob Dryden	npower	✓
Hanna Pain	MRASCo	✓
Vijay Chikoti	Total Gas & Power	✓