SVG209/02 – APPROVAL OF THE CITYEV AND UBITRICITY MEASURED CENTRAL MANAGEMENT SYSTEMS

MEETING NAME	SVG 209

Date of meeting	3 July 2018
Paper number	209/02
Owner/author	Sam Daoudi
Purpose of paper	Decision
Classification	Public
Summary	ELEXON has conducted witness testing of the CityEV and Ubitricity measured Central Management Systems (mCMS). The systems met all BSC requirements. We invite the SVG to approve the two mCMS for use in Settlement.

1. What are the CityEV and Ubitricity mCMS?

1.1 CityEV and Ubitricity have developed electric vehicle (EV) charge points suitable for installation on street lamp posts.

1.2 Instead of a Meter, a measuring device is installed in the charge point. Both sets of mCMS software are capable of measuring energy delivered to any connected EVs and producing an event log that details the levels of consumption and times of use.

1.3 The accuracy of the energy calculation is determined through a combination of the test evidence supplied in the test report and the witness testing conducted by ELEXON. All testing is conducted against our mCMS Test Specification. The requirements in the Test Specification are mapped to the requirements for a Central Management System (CMS) set out in BSC Procedure (BSCP) 520 'Unmetered Supplies Registered in SMRS'.

1.4 The Electricity (Unmetered Supply) Regulations 2001 (secondary legislation) require the electrical load of Unmetered Supplies to be predictable. The Department for Business, Energy and Industrial Strategy's (BEIS's) Guidance on the UMS Regulations states that 'BEIS considers that […] predictable shall be assumed to mean a load that can be consistently understood throughout its usage period, such that billing can be correctly estimated or accurately calculated based on pre-defined operational profiles or based on event records. BEIS considers that to maintain settlement accuracy, there should be a maximum permitted variation of +/- 3.5% which means the calculated usage should be equivalent in accuracy to that of a metered supply.'

1.5 You can find more background information on the mCMS arrangements for EV charge points in separate SVG paper 206/04.

2. CityEV mCMS

2.1 The Cityline series of EV charge points provide urban on-street residential charging infrastructure.

2.2 In May 2018, CityEV formally applied for approval of its mCMS. It provided a test report detailing its own testing against all of the test scenarios in our mCMS Test Specification. ELEXON undertook witness testing of Version 1.03 of CityEV's mCMS on 30 May 2018. ELEXON witnessed tests on the day that aimed to replicate all but one of the test scenarios in the Test Report.[1]

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[1] The only scenario ELEXON didn't test is where the EV charging crosses midnight, but evidence was provided in CityEV's own test report.

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2.3   The CityEV mCMS was deemed to have met all Settlement requirements. Therefore, ELEXON recommends that the SVG approves it for use in Settlement.

2.4   A Meter Administrator (Power Data Associates) has confirmed that the daily CityEV event log files can be accessed, downloaded and processed correctly.

2.5   The testing conducted for CityEV's mCMS demonstrates that its accuracy was +0.32% for the scenarios tested. This falls within the BEIS guidance of +/- 3.5%.

2.6   ELEXON's witness test report is detailed in Attachment A and a non-confidential version of CityEV's own test report in Attachment B (with any commercially-sensitive information such as screen shots redacted). Appendix A contains photos from the witness testing. Due to the file sizes, all the detailed (confidential) test evidence or the full confidential version of CityEV's test report have not been issued to SVG Members. ELEXON can provide these to SVG Members on request.

3.   Ubitricity mCMS

3.1   In March 2018, Ubitricity formally applied for approval of its mCMS. It provided a test report detailing its own testing against all of the test scenarios in our mCMS Test Specification. ELEXON undertook witness testing of Version 2.05 of Ubitricity's mCMS on 30 May 2018.

3.2   The solution tested in May 2018 is a variant of the previously-approved Ubitricity solution (SVG194/02) that used a 'moveable' Meter within the SmartCable. The new application includes the measuring device within the SimpleSocket.[2]

3.3   ELEXON witnessed Scenarios 1, 2 and 6 as the rest of the test scenarios were previously approved as part of the SmartCable witness test.

3.4   The Ubitricity mCMS was deemed to have met all Settlement requirements. Therefore, ELEXON recommends that SVG approves it for use in Settlement.

3.5   A Meter Administrator (Power Data Associates) has confirmed that the daily Ubitricity event log files can be accessed, downloaded and processed correctly.

3.6   The testing conducted for Ubitricity's mCMS demonstrates that its accuracy was -1% for the scenarios tested. This falls within the BEIS guidance of +/- 3.5%.

3.7   ELEXON's witness test report is detailed in Attachment C and a non-confidential version of Ubitricity's own test report in Attachment D (with any commercially-sensitive information such as screen shots redacted). Appendix B contains photos from the witness testing. Due to the file sizes, all the detailed (confidential) test evidence or the full confidential version of Ubitricity's test report have not been issued to SVG Members. ELEXON can provide these to SVG Members on request.

4.   UMSUG views

4.1   ELEXON provided the Unmetered Supplies User Group (UMSUG) with the full confidential test reports and evidence, noting that the two mCMS had passed testing and that ELEXON would be seeking SVG approval at this meeting 209. There were no comments from UMSUG members.

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[2] ELEXON has confirmed that both Ubitricity products are interoperable. In the event that a motorist plugs an Ubitricity SmartCable containing a Meter into an Ubitricity SimpleSocket containing a measuring device, the SmartCable takes precedence. There is therefore no risk of double-counting consumption for Settlement.

5.   Recommendations

5.1   We invite you to:

a)   **NOTE** that the CityEV and Ubitricity mCMS have passed ELEXON's witness testing against the requirements specified in BSCP520;

b)   **APPROVE** the CityEV mCMS (Version 1.03) for use in Settlement;

c)   **APPROVE** the Ubitricity mCMS (Version 2.05) for use in Settlement; and

d)   **NOTE** that we will update the CMS page of the BSC Website to reflect these approvals.

Appendices

Appendix A – Witness testing photos (CityEV)

Appendix B – Witness testing photos (Ubitricity)

Attachments

Attachment A – ELEXON's witness testing report for CityEV's mCMS

Attachment B – CityEV's own test report (commercially-sensitive information redacted)

Attachment C – ELEXON's witness testing report for Ubitricity's mCMS

Attachment D – Ubitricity's own test report (commercially-sensitive information redacted)

For more information, please contact:

Sam Daoudi, Settlement Operations Analyst

sam.daoudi@elexon.co.uk

020 7380 4151

APPENDIX A – CITYEV WITNESS TESTING PHOTOS

CityEV test set up. A heater is used to represent the load of the EV.

Test set up and testers on the day.

APPENDIX B – UBITRICITY WITNESS TESTING PHOTOS

Ubitricity test set up. A heater is used to represent the load of the EV.

Testers on the day.