4.3 CP Form

Change Proposal – BSCP40/02	CP No: 1566 *Version No:* **1.0** *(mandatory by BSCCo)*
Title (mandatory by originator) Introducing the CVA Commissioning End-to-End Check (CEEC) process	
Description of Problem/Issue (mandatory by originator)	

Central Volume Allocation (CVA) Metering Systems record flow of energy for large capacity circuits, so any undetected Commissioning errors represent a high risk to Settlement. During an internal review of Trading Dispute DA797[1], in May 2018, Elexon instigated an informal 'post energisation' check with the Central Data Collection Agent (CDCA). This informal check has already helped detect a Commissioning error and prevented a Trading Dispute having to be raised (by any BSC Party, including BSCCo and the NETSO) to resolve a Settlement Error.

Before the registration of a CVA Metering System becomes effective, the Registrant of a CVA Metering System needs to ensure the CVA Metering Equipment comprised within it has:

- been installed and commissioned in accordance with Code of Practice (CoP) 4 'The Calibration, Testing and Commissioning Requirements of Metering Equipment for Settlement Purposes'[2]; and
- successfully completed a proving test, in accordance with BSCP02 'Proving Test Requirements for Central Volume Allocation Metering Systems'[3],

The relevant Licensed Distribution System Operator (LDSO) will not energise (or permit to be energised) the relevant circuit connection until the Balancing and Settlement Code Company (BSCCo) confirms that the Registrant has:

- met the requirements of CoP4;
- completed a proving test;
- and has also completed other registration activities, e.g. registered the CVA Metering System, the Meter Technical Details (MTDs)

The Registrant is responsible, via the appointed CVA Meter Operator Agent (MOA), for commissioning all the CVA Metering Equipment it registers, unless the Equipment Owner[4] is a BSC Party, and then the Equipment Owner must commission the relevant items of CVA Metering Equipment in accordance with CoP4, e.g. measurement transformers.

CoP4 requires the CVA MOA to confirm that 'The output of the Metering System correctly records the energy in the primary system at the Defined Metering Point (DMP)'. Since different parties can install and commission different items of Metering Equipment (e.g. the

[1] https://assets.elexon.co.uk/wp-content/uploads/2015/10/28162313/256_15_Trading-Dispute-DA797-update_PUBLIC.pdf
[2] https://www.elexon.co.uk/csd/cop-code-of-practice-4/
[3] https://www.elexon.co.uk/csd/bscp02-proving-test-requirements-for-central-volume-allocation-metering-systems/
[4] Section X, Annex X-1 defines Equipment Owner as "in relation to a Metering System, a person which is the owner of Metering Equipment comprised in that Metering System but is not the Registrant of that Metering System".

measurement transformers), the CVA MOA often has to rely on other parties' commissioning records. In addition, other parties can install and commission those items at different times. This can mean it is not always practicable for the CVA MOA to, ideally, carry out an 'end-to-end' commissioning test (e.g. via primary injection testing[5]) after it installs and commissions the Meters, and prior to the relevant System Operator energising (or permitting the energisation of) the circuit.

In contrast, Supplier Volume Allocation (SVA) MOAs can commission SVA Metering Equipment after energisation and could carry out a prevailing load test[6] to confirm the SVA Metering System is recording energy correctly.

If the party responsible for commissioning the relevant items of CVA Metering Equipment does so incorrectly, or not at all, the CVA Metering System may not record energy correctly. Without robust controls in place to mitigate this event, this represents a risk to Settlement.

Under the Performance Assurance Framework (PAF), the risk that covers commissioning of CVA Metering Equipment is Risk 020 'CVA Metering Equipment is installed, programmed or maintained incorrectly, including where Commissioning is performed incorrectly or not at all'[7].

There is an enduring risk to Settlement if this informal check is not included in the relevant Code Subsidiary Documents (CSD).

[5] Primary injection testing involves applying a known current and voltage to the primary windings of the measurement transformers and confirming the output of the secondary windings is as expected, taking into account the ratio and polarity of the measurement transformers, at certain points in the 'measurement chain' i.e. at the Meter Testing Facility, the Meter terminals, the relevant Meter registers and the relevant Outstation channels.

[6] A prevailing load test involves waiting until the System owner/operator energises the circuit and it is carrying a sufficient load (e.g. 5 or 10% of rated primary current of the current transformers), knowing the amount of energy flowing in the circuit at the time of the test and comparing this with the energy the Meter (and its Outstation) records.

[7] https://www.elexon.co.uk/reference/performance-assurance/performance-assurance-processes/performance-assurance-risk-evaluation-register/020-cva-risk-cva-metering-equipment-installation-and-commissioning/

Proposed Solution (mandatory by originator)

This Change Proposal (CP) proposes to formally recognise the CVA End to End Check (CEEC), in BSCP02, BSCP20 'Registration of Metering Systems for Central Volume Allocation'[8] and CoP4, placing obligations on the CDCA and CVA Registrant to complete the CEEC, where applicable.

The high level process shall include the following activities:

i. The CDCA checking the metered data for these new (or post transfer) circuits each month to identify when energy begins to flow (Imports or Exports);
ii. The CDCA then submits a sample of Half Hourly (HH) data from each channel of the CVA Outstation(s) to the Registrant and asks them to confirm that the CVA Metering System is recording energy with the same order of magnitude, and in the correct direction, to that expected;
iii. The CDCA recommends, wherever possible, that the Registrant compares the HH readings provided with readings from an independent measurement source from the Settlement measurement transformers, e.g. independent transducers[9] used as part of a Substation Control System (SCS) or a Supervisory Control and Data Acquisition (SCADA) system; and
iv. The CDCA ensures the Registrant confirms the status of the circuit (correct or incorrect data (at which point the Registrant proceeds to correct the underlying issue)). If the Registrant fails to respond after three attempts, the CDCA escalates the issue to BSCCo.

This CP also proposes to expand the scope of this check to include existing CVA metered circuits where parties replace/reconfigure certain items of CVA Metering Equipment, which could affect the integrity of the CVA Metering System. For example, replacing/reconfiguring both, duplicated, items of Metering Equipment or a non-duplicated item of Metering Equipment.

It is proposed that registration transfers from SVA to CVA are excluded from the CEEC as BSCP68 'Transfer of Registration of Metering Systems between CMRS and SMRS' currently has a process step (3.1.1.44) where the relevant Licensed Distribution System Operator confirms to the Transfer Co-ordinator that the data values before and after transfer are comparable and acceptable. The CEEC would be an unnecessary duplication of this process.

Justification for Change (mandatory by originator)

Although commissioning issues in CVA are rare, when they do happen they usually result in very high materiality impacts to Settlement. In addition, commissioning issues can go unidentified for long periods, which would further increase the materiality.

[8] https://www.elexon.co.uk/csd/bscp20-registration-of-metering-systems-for-central-volume-allocation/
[9] A device that converts energy from one form to another

In the case of Trading Dispute DA797, the root cause identified was that the wiring from the measurement transformers to the Meters was reversed. This resulted in the CVA Metering System recording Exports instead of Imports at a Grid Supply Point. It took the Registrant two years to raise the Trading Dispute from the point the System Operator re-energised the existing circuit. The Trading Disputes Committee (TDC) upheld the Trading Dispute and the materiality of the 'correctable' Settlement Error was £25m (£23.6m of which was due to the TDC agreeing exceptional circumstances). £5.25m worth of Settlement Error was invalid, as it had missed the valid Dispute Deadlines.

Formalising the existing (informal) process with the exception of registration transfers from SVA to CVA, and expanding its scope to include other commissioning scenarios, will provide greater assurance to BSC Parties that the CDCA and BSCCo (Elexon) are doing more to protect the integrity of Settlement.

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

- Section L 'Metering'
- Section K 'Classification and Registration of Metering Systems and BM Units'

Estimated Implementation Costs (mandatory by BSCCo)

- Less than £4,000 to implement the relevant document changes

BSC Configurable Items Affected by Proposed Solution(s) (mandatory by originator)[10]

- BSCP02 'Proving Test Requirements for Central Volume Allocation Metering Systems'
- BSCP20 'Registration of Metering Systems for Central Volume Allocation'
- BSCP38 'Authorisations'
- CoP4 'Code of Practice for the Calibration, Testing and Commissioning Requirements of Metering Equipment for Settlement Purposes'
- Service Description 'Central Data Collection Agent'

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

None identified.

Related Changes and/or BSC Releases (mandatory by BSCCo)

None identified.

Requested Implementation Date (mandatory by originator)

3 November 2022 as part of the standard November 2022 BSC Release

[10] https://www.elexon.co.uk/csd/service-description-for-central-data-collection/

Reason: This is the next available BSC release CP1566 can target. In addition, the introduction of a fully formalised CVA CEEC process will help protect BSC Settlement. Therefore, it is important that industry is able to benefit from this process as early as practicable.
Version History (mandatory by BSCCo)
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Date: 5 July 2022
Attachments: **Y** BSCP02 'Proving Test Requirements for Central Volume Allocation Metering Systems' BSCP20 'Registration of Metering Systems for Central Volume Allocation' BSCP38 'Authorisations' CoP4 'Code of Practice for the Calibration, Testing and Commissioning Requirements of Metering Equipment for Settlement Purposes' Service Description 'Central Data Collection Agent (CDCA)