Change Proposal – BSCP40/02	CP No: 1414 *Version No: v2.0* *(mandatory by BSCCo)*

Title *(mandatory by originator)*
Combining LDSO and Embedded LDSOs UMS Inventories on to single LDSO MSID.

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

Under the Distribution Connection and Use of System Agreement (DCUSA) Portfolio Billing arrangements, registration of Metering Systems requires that end user's Metering Systems be linked to a Line Loss Factor Class (LLFC) identifier. The LLFC identifier shows the voltage of connection of the embedded Licensed Distribution System Operator's (LDSO's) Distribution System to the upstream LDSO's network (i.e. embedded LDSO boundary network level) and the network voltage of the embedded LDSO's end user customer. This information is used by the upstream LDSO to bill the embedded LDSO for the use of its Distribution System.

This process works effectively for metered customers as such customers tend to have a single, or a small number of exit points per Metering System ID (MSID), typically confined to a single embedded LDSO network. In the case of Unmetered Supply (UMS) connections provided to UMS customers (and Street Lighting Authorities (SLAs) in particular), exit points are often distributed amongst a wide geographic area containing a number of different embedded LDSO Distribution Systems. Such a scenario requires that each UMS customer must trade an additional separate MSID for each embedded LDSO operating in its area. Furthermore, to accommodate inter-distributor billing, the embedded LDSO must also ensure that a separate MSID is raised for each different embedded LDSO boundary connection arrangement it has with the upstream LDSO that provides UMS connections to the UMS customer. This means that a UMS customer could potentially be required to trade, 180 separate MSIDs[1] against its portfolio of UMS connections. These additional MSIDs are required solely for inter-distributor billing purposes. Although technically possible, the 180 MSIDs are unlikely to be reached, however the numbers of MSIDs required to be issued by the embedded LDSO(s) is still high enough to be considered a significant cost burden for the customer. As an example, one embedded LDSO could connect at all voltage levels defined in the Common Distribution Charging Methodology (CDCM) and Extra-high Voltage (EHV) Distribution Charging Methodology (EDCM). Therefore this would have to generate at least seven MSIDs for each class of UMS. The most common would be seven x Continuous, seven x Dusk till Dawn, and seven x Pseudo Half Hourly (HH) – that's 18 more MSIDs than the upstream LDSO is required to provide.

The intent of this Change Proposal (CP) is to place an obligation on an LDSO/Unmetered Supplies Operator (UMSO) to accept the combining of inventories (should the customer so wish) under a

1 There are currently seven different embedded LDSO boundary network level interface connection arrangements, namely low voltage (LV)/LV, high voltage (HV)/LV, HV Plus, extra HV (EHV), 132kV/EHV, 132kV, and Grid Supply Point (GSP). There are currently five active embedded LDSOs including one host LDSO active outside its distribution services area. Each LDSO operating in the customer's area, could be required to provide a suite of MSIDs for each network level and then for each different 'switch regime' e.g. dusk till dawn, continuous etc. This would result in seven network levels per five MSIDs (four UMS operational hour bands and one half hour (HH)) per five embedded LDSOs plus five LDSO MSIDs, which would result in potentially 180 MSIDs. Whilst this number of MSIDs is technically possible, realistically this level would unlikely be reached for a single customer as competition in connections on new housing developments grows the number of MSIDs that UMS customer may require.

single inventory on an already-registered LDSO's MSID(s). Most likely it would be that of the host LDSO[2].

Under the current arrangements, BSCP520 'Unmetered Supplies Registered in SMRS' and the Operational Information Document (OID) sets out the processes to be followed where an embedded LDSO is connected to an upstream[3] LDSO and subsequently connects unmetered end users to that embedded LDSO's Distribution System.

Proposed Solution *(mandatory by originator)*

This CP proposes to make the required amendments to BSCP520 and the OID to give UMS customers the option to trade their UMS connections from embedded LDSO networks under a single LDSO MSID by combining such inventories of connections with the existing inventory linked to the already-registered LDSO's MSID.

The embedded LDSO will continue to have full legal and regulatory responsibility for connections made to its Distribution System, including being responsible for validation and auditing of items in the customer's inventory connected to its Distribution System.

For clarity, the upstream LDSO will not be required to validate the embedded LDSO's inventory. Instead the obligation to validate the inventory will remain with the UMS customer and the embedded LDSO – governed by the Connection Agreement between the customer and the embedded LDSO. BSCP520 will be amended to state that the embedded LDSO will need to provide evidence to the host LDSO that a Connection Agreement is in place. This approach releases the host LDSO from any obligation to validate and maintain the inventory.

BSCP520 will also be amended to state that the embedded LDSO will issue a UMS Certificate to the Customer and the host LDSO to provide confirmation that the inventory has been validated.

Auditing responsibility will remain with the UMS Customer and the embedded LDSO via the Connection Agreement. The results of the audits will be shared between the embedded and the host LDSO.

Importantly, the host LDSO is afforded additional protection under the current arrangements defined in the DCUSA (Section 2B, Clause 39) which defines the user's right to be and remain connected and energized i.e. 'where the Connection Point is a Systems Connection Point, such Connection Point being registered in accordance with the provisions of the BSC".

For Inventory Updates and Audit purposes[4] it will be the UMS Customer's responsibility to differentiate between the embedded inventory and that of the host LDSO. Furthermore, in the case of inventory items connected to embedded LDSO's networks, the customer will apply a code, specified in Connection Agreement, to each line in its inventory, which identifies the embedded LDSO providing the UMS connection and also shows the voltage of connection of the embedded LDSO's distribution system to the host LDSO's network (i.e. embedded LDSO boundary network level). This responsibility will be defined in the Connection Agreement between the embedded

2 This will be the LDSO whose Distribution Services Area encompasses UMS customer's UMS connection portfolio.

3 'Upstream' means the LDSO providing a connection to the embedded LDSO and can be the incumbent LDSO or an independent LDSO. We have used the words 'upstream' to determine the LDSO with the MSID for the original inventory that the new inventory will be added to.

4 This can also be used for fault reporting purposes, although this aspect is beyond the scope of the BSC

LDSO and the UMS Customer to ensure that the embedded LDSO receives updates to their inventory. A precedent already exists where a UMS Customer has inventories that cross-border two or more Grid Supply Points (GSPs) currently. The same inventory management will be deployed and will remain the responsibility of the UMS Customer.

The recovery of Distribution Use of System (DUoS) charges by the embedded LDSO will be governed by additional clauses to the DCUSA. Similar to Schedule 21 (Nested Networks) the embedded LDSO will be given the opportunity to collect revenue by notifying the Host LDSO that they intend to do so. This is outside the scope of the BSC and will be addressed by raising a DCUSA CP.

There is no perceived impact on BSC Systems, as Settlement will only see aggregated data; and all UMS concerned will be connected at low voltage to LDSO and embedded LDSO networks, and therefore will have common Loss Adjustment Factors (LAFs) within a GSP Group. Therefore any embedded LDSO UMS consumption added to the LDSO MSID will simply be accumulated into the Supplier's reporting. The embedded LDSO would not require additional reporting under this proposal.

The steps outlined below, for the registration and Settlement process for Non Half Hourly (NHH) and HH UMS MSIDs, consider a typical scenario. This change is not intended to change the relationship between the upstream LDSO and embedded LDSO in any respect apart from improving the efficiency of inter-distributor billing. Under this scenario, a new development is constructed and UMS connections are provided to the developer's street furniture, which the UMS Customer will subsequently adopt following completion of the development. These steps are listed to provide context only to the required changes to the BSCP and OID. These changes will enable UMS connections to be carried out without the need for the UMS customer to trade their UMS connections portfolio under a separate MSID for each permutation of LDSO and embedded LDSO boundary network level. Typically (although not exclusively) the UMS customer will be an SLA, adopting street lighting that has been installed as part of a Section 38 'highway adoption of a new development' of The Highways Act 1980.

1 At this time we do not envisage a necessity to make changes to the Settlement system itself or the Master Registration Agreement (MRA) to allow the steps listed below for the process to be implemented

2 The UMSO of the embedded LDSO will provide a new UMS MSID to a new development, registering new MSIDs issued by the embedded LDSO, as required.

3 At the time of adoption of the new assets by the SLA, the following will occur:

   a. The SLA will be required to enter a Connection Agreement with the embedded LDSO; this Connection Agreement requires the SLA to copy the embedded LDSO's Nominated Collection Agent into any future inventory updates it sends to the host LDSO and to identify each item in its inventory as connected to either the Host LDSO or an embedded LDSO.

   b. Upon completion of the Connection Agreement between the SLA and the embedded LDSO, the MSIDs issued by the embedded UMSO to the developer will follow the disconnection procedure or amendment to inventory (to remove the adopted assets)

process if the inventory covers more than one development.

c. The adopted assets connected to the embeddedLDSO network are then added to the inventory that the street lighting authority sends to the UMSO of the upstream LDSO (usually the Host LDSO) as an inventory amendment. The upstream UMSO would follow the same process as if the adopted assets had originally been connected to the network of the upstream LDSO.

4 A process for liaison between the upstream UMSO and the embedded UMSO could be established, through the Bilateral Connection Agreement (BCA) between the upstream UMSO and the embedded UMSO, to ensure that the adopted assets are included in the single inventory[5]. This will require that the embedded UMSO issues a UMS certificate to the host LDSO UMSO at the point of adoption of the new assets by the street lighting authority. In addition to the normal function of a UMS certificate, in this instance the UMS certificate also serves a number of purposes:

a. Evidence that the embeddedLDSO has validated the SLA's inventory, as an accurate reflection of the site installation, thereby negating the need for any inventory validation by the Host LDSO,

b. The total EAC of the SLA's inventory connected to the embedded LDSO network, and

c. The LLFC that will dictate the LLDSO discount percentage to be used in determining the embedded LDSO's share of the DUoS recovered from the end user in respect of the inventory connected to the embeddedLDSO network. A separate LLFC will be required for each subset of the customer's inventory that has connections to embedded LDSO's networks that have different boundary network levels of connection with the host LDSO.

d. The embedded LDSO will recover their share of the DUoS provided that such an inter-distributor billing arrangement is in place between the host LDSO and the embedded LDSO and embedded LDSO informs the host LDSO of its intention to bill the host LDSO for its share of the total DUoS recovered from the customer.

The BCA could also specify the requirements for the embedded LDSO to audit the customers' inventory connected to the embedded LDSO network and to oblige the embedded LDSO to validate changes in the customer's inventory relating to connections to the embedded LDSO's network post adoption of the highways by the SLA. This will be achieved via the extraction of the relevant inventory lines by the embedded LDSO's appointed Nominated Collection Agent from the inventory updates provided to the Host LDSO and the embedded LDSO's Nominated Collection Agent. The frequency of such updates will be agreed between the Host LDSO and the SLA.

A similar process already exists for the connection of small scale embedded generation (SSEG) to embedded networks where there BCA mandates that the embedded network operator must inform that upstream network operator when additional SSEG is connected to the embedded

[5] This will be particularly important where new connections to an embedded network are requested directly by the Street Lighting Authority or by any other UMS customer with multiple unmetered connections on both upstream LDSO and embedded networks.

network.

5 The upstream UMSO processes the inventory in the normal manner following existing BSCP520 procedures (either HH or NHH) and the UMS connections are traded in Settlement under the upstream LDSO's MSID(s).

6 The Supplier bills the customer under the upstream LDSO MSID(s).

7 The upstream LDSO bills the Supplier for UoS charges with the same consumption information.

8 Inter-distributor billing for UoS charges will be covered under a DCUSA CP as outlined above.

Items and Questions raised by Issues Group Member

The paragraphs below outline all of the potential issues and questions that were raised during the Issues Group meeting and where participants were given the opportunity to provide their feedback on the viability of the proposal.

1. The latest Distribution Price Control ED1 introduced losses incentive through Distribution License Condition 49. A question was asked as to whether this change would reduce the validation of losses.
    - This scenario is no different to the current arrangements where the requirement for a boundary meter between the upstream and embedded LDSO was removed in April 2010. The issue for metered customers was addressed at that time (through Portfolio Billing) and a similar approach can be taken here. However, this is beyond the scope of BSCP 520. In this regard, the Host LDSO will have sight of the unmetered consumption on the embedded network regardless of whether the embedded LDSO opts to recover DUoS revenue – this will be provided via the UMS Certificate outlined above.

2. How does it work for the host LDSO's reporting distributed units?
    - Embedded LDSO's units can be netted off the host LDSO's figures –as covered off in the removal of Boundary Meters in April 2010.

3. How can we ensure effective communication of inventory updates to embedded LDSOs:
    - It is proposed that a Nominated Collection Agent will be appointed by the embedded LDSOs, to require that the UMS Customer add the Nominated Collection Agent to their circulation list when forwarding inventory updates to the host LDSO. The Nominated Collection Agent can then forward a breakdown of each host LDSO's inventory to each embedded LDSO extracting only the inventory lines to that embedded LDSO's UMS connections. This responsibility will be defined in the connection agreement between the customer and the embedded LDSO.

4. Will a customer be able to trade their entire inventory under the embedded LDSOs MSID?
    - The solution will only allow multiple inventories under a single MSID where the majority of the inventory items relate to the single MSID. In other words a customer can add its inventory connected to another the embedded LDSO network to an existing MSID only if the existing MSID has a larger inventory and greater

consumption. It will not be permitted to transfer the inventory to an MSID with a smaller inventory. Discussions were had in the issues group regarding the possibility of a threshold whereby when reached; the embedded LDSO will be required to issue its own UMS MSID. Due to the fact that differing suppliers have differing thresholds of their own on which they decide whether to contract with the customer or not, it would be difficult to set a threshold that meets all supplier's requirements. Additionally, one supplier advised that their threshold was 50,000kwh per MSID – a figure unlikely to be reached by an embedded LDSO. Not permitting the transfer of an inventory to an MSID with a smaller inventory is a pragmatic approach to a threshold question.

5. One member stated that he believed that LDSOs/ILDSOs have a licence to bill DUoS for their distribution services area so would a LDSO/ILDSO be in breach of its Distribution Licence by billing DUoS for equipment on another network.

    - Precedence already exists for this arrangement in a number of existing arrangements where Transmission Exit Charges are included in all the way CDCM tariffs levied by LDSOs to their own customers, yet these charges relate to equipment on another network. Similarly embedded LDSOs apply all the way charges to their customer and again these charges relate to the equipment on the upstream network and the transmission system.
    - Given these points the Change proposer is satisfied that no breech of distribution licence conditions would arise from this change proposal.

6. One member of the issues group noted that the crux of the problem was initially based around Supplier and Meter Administrator costs, and asked if there was the potential for Suppliers to aggregate up the invoices and just issue one covering their customer's whole portfolio?
    - It is unclear if there is an ability to mandate that suppliers would be required to aggregate separate MSIDs into a single invoice. However even if there was such an arrangement it would not address the issue of additional meter administration cost as the inventories against each MSID would still need to profiled for half hourly trading purposes. These charges tend to outweigh the additional administration costs suppliers levy. Meter Administration is an unregulated service provision and therefore it is not within the remit of the BSC or Ofgem to set charges for this service.

7. During the issues group discussions the SLA present did confirm that if the work was completed to the Section 38 or 278 standard they were unable to refuse to adopt, yet CP1414 also refers to the fact that Local Authorities will not adopt equipment on an ILDSO network
    - This view does not reflect the actual case on the ground where embedded LDSO customers continue to struggle to have Section 38 agreements completed with their local authority. This is self-evident by the lack of embedded LDSO MSIDs that are currently traded by LAs. LAs are either delaying the adoption or threatening to impose substantial costs on developers for opting to go with an embedded LDSO, to cover their admin burden. One LA has been quoted as stating the figure could be as much as £140K to be recovered from a developer as a result of choosing an embedded LDSO for their development.

Justification for Change *(mandatory by originator)*

We believe that BSC Objective (c)[6] is better met as the CP seeks to:

- Reduce costs and administration, which will initially benefit UMS customers, and as a result the embedded LDSO, because the barrier to adoption by the SLA will have been removed – thereby promoting competition in connections and in the distribution of electricity.
- Reduce the number of separate small inventories required to be traded by UMS customers. There is a relatively small number of electricity Suppliers in UMS market and smaller inventories are less attractive to many Suppliers. This change will significantly reduce the number of small inventories in the market, which in turn will make the UMS market more attractive to competition in supply[7].
- Reduce the Meter Administration burden associated with separately trading multiple inventories. The current arrangement inhibits competition in HH UMS market. Currently customers need to appoint a Meter Administrator for several inventories as opposed to one. This inhibits significantly competition in HH market due to relatively high Meter Administration charges for multiple inventories.

We believe that BSC Objective (d)[8] is better met as the CP seeks to:

Improve the efficiency and accuracy of the administration of UMS trading by:

- Reducing the number of small inventories that require to be traded by UMS customers. Due to the relatively low number of items on a typical embedded inventory settled NHH (average 10 streetlights), the Estimated Annual Consumption (EAC) are so small that they do not register in the 'TOT' group of the daily D0030 'Non Half Hourly DUoS Report'. This is because this field is measured in MWh to three decimal places and the EAC can be 0.000[n] of a MW. The result is that a zero charge is invoiced to the Supplier and the upstream LDSO applies a zero charge under its inter-distributor billing arrangements. This zero charge however is not passed through the customer.

- Reducing the requirement to maintain multiple separate inventories for trading purposes. Under the current arrangement customers have to maintain several inventories. This can lead to UMS apparatus being:

    - maintained on wrong inventory
    - not maintained on any inventory
    - double counted - maintained on more than one inventory

    This is already an issue for the industry, as we have been informed by some UMS customers that they already combine inventories (adding the embedded networks inventory to the host LDSO's MSID) both accidentally and intentionally (to reduce the MSID charges). This change applies governance to this practice.

[6] (c) promoting effective competition in the generation and supply of electricity, and (so far as consistent therewith) promoting such competition in the sale and purchase (as defined in the Transmission Licence) of electricity;
[7] This point has recognised by KPMG during an audit of an embedded UMSO inventory management arrangements
[8] (d) promoting efficiency in the implementation and administration of the balancing and settlement arrangements;

By allowing the customer to combine the inventory prior to submission to the relevant LDSO/UMSO, the LDSO/UMSO will process the request as normal and pass on the details to the relevant Supplier. We do not foresee additional administration on the part of the Host LDSO as result of this change. However, by providing the UMS Certificate to the Customer and to the Host LDSO (as outlined above), the LDSO has validation of the inventory over and above the customer's submission.

UMS customers already have the ability to 'split' inventories between different MSIDs and LDSOs/UMSOs e.g. when operating in a location bordering more than one GSP. This change can be supported by the same process.

- Reducing the number of HH traded MSIDs with relatively small consumption. The proposed solution also has the added benefit of increasing the overall efficiency of UMS trading. Under proposed solution, for HH trading, only one pecu array (or alternative system) is required to profile inventory for HH trading as opposed to multiple arrays for multiple HH MSIDs.

- Reducing compliance auditing costs. Fewer inventories will result in lower auditing costs because less sampling will be required due to there being fewer and larger inventories in place. As a result the required sample size is smaller in proportion to total inventory size.

The proposed solution will improve customer service:

- The proposed changes will deliver improved service to UMS customers by simplifying the current administration process for unmetered connections. The simplification of this process will allow customers (e.g. property developers) to award contracts to embedded LDSOs without the fear of highway adoption issues, this in turn will promote effective competition in the provision of connections and distribution services to distribution networks.

- We are also aware that some Suppliers may be levying administration charges to UMS customers on a per MSID basis. Furthermore, there is evidence that administration charges are levied against UMS customers by their nominated Meter Administrators in respect of each additional MSID that the Meter Administrator processes for the UMS customer. This practice has led to SLAs refusing to complete highway adoption agreements with developers who opt to make connections to an embedded LDSO network on the grounds of the increased administration costs that the SLA could be exposed to due to the UMS administration issues. This distorts competition as developers face additional obstacles in achieving highway adoption when connecting to an embedded LDSO rather than the host LDSO network.

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 S 8, in relation to inventories.

Estimated Implementation Costs *(mandatory by BSCCo)*

£240 (1 man-day)

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

BSCP520 to be amended to allow the combining of inventories and the OID with further guidance on under what circumstances, and how, inventories can be combined.

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

None perceived.

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

DCUSA DCP 203 'The Rationalisation of Discount Factors Used to Determine LLDSO Use of System Tariffs Relating to UMS Connections on Embedded Distribution Networks and the Associated LLDSO Tariffs" is currently out for consultation. It proposes new clauses to the Portfolio Billing schedule that entitles the embedded LDSO to either opt for the current arrangements or settle on one inter-distributor billing discount factor which would be governed by the boundary network level that connected the majority of the embedded LDSO's UMS portfolio. This change proposal will not have any impact on this CP 1414 as CP 1414 could proceed in the absence of DCP203 as neither CP 1414 or DCP203 are interdependent and could be progressed in isolation.

If DCP 203 is implemented, whilst it would reduce the number of MSIDs required to be issued by the embedded LDSO, it does not remove all the issues highlighted and resolved by this Change Proposal, namely:

- Number of MSIDs required to be issued by the embedded LDSO is still high enough to be considered a significant cost burden for the customer.
- Impacts on embedded LDSOs and competition in distribution of electricity.
- Reluctance for UMS Customers to trade HH and reap the benefits of carbon reduction due to the relatively high MA costs for multiple inventories
- With the relatively low number of items on a typical embedded inventory, the Estimated Annual Consumption (EAC) are so small that they do not register in the 'TOT' group of the daily D0030 'Non Half Hourly DUoS Report' and therefore zero charge applied to Supplier and embedded LDSO but is not passed through the customer.
- Customer maintains apparatus on the wrong MSID (either accidentally or intentionally) and embedded LDSO's UMS MSID remains unregistered in Settlement.

A further DCUSA CP (DCP168) was subsequently withdrawn and amended DCP203 re-submitted.

Details of the withdrawn DCP168 and the consultation responses to combining inventory queries can be found here: http://www.dcusa.co.uk/Public/CP.aspx?id=190

Should this Elexon change be successful, a further change to the National Terms of Connection (ensuring the term UMSO captures all inventories) may need to be raised under DCUSA governance.

It is also likely that a further change would be required to the DCUSA to enable the embedded LDSO recover its share of the revenue by the host LDSO in respect of all the customer's inventory connected to both the host LDSO and any embedded LDSO networks.

This Change Proposal was also discussed in an Issues Group specifically formed for this CP. The outcome of those discussions has formed the basis of this Version 2

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

June 2015

Reason:

The next available release.

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

Originator's Details:

BCA Name…Donna Townsend

Organisation…ESP Electricity Ltd

Email Address……donnat@espipelines.com

Telephone Number……01372 227 560

Date……31st October 2014

Attachments: Y (If Yes, No. of Pages attached: BSCP520