

ELEXON

BSC SANDBOX RISK ASSESSMENT FOR EMERGENT ENERGY

An assessment of the risks
to settlement of the BSC
derogation requested by
Emergent Energy

Confidential

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Emergent Energy Proposal

Emergent Energy propose to employ proprietary technology to perform an 'on-site aggregation' calculation on Private Wire Networks. Currently, the aggregate boundary meter reading for each Private Wire Network is submitted into settlement and allocated to the energy account of the registering Supplier. Some customers on the networks have exercised their right to be supplied by a Third Party Supplier. The readings for these meters are submitted to settlement by the Third Party Supplier's Agents, but also contribute to the aggregate boundary meter readings.

The effect of the current scenario is that consumption volumes are being double counted, because difference metering is not being applied to the Boundary Point Metering System. This means that the Supplier for the site's boundary meter is being charged imbalance for energy they did not supply. Additionally, the submitted data will be distorting GSP Group Take volumes, resulting in incorrect profiles being applied to the areas affected. The effect of each individual Private Wire will be small, but in aggregate the effect could become material.

The existing BSC solution for this scenario is to establish a difference metering meter splitting arrangement via BSCP550, or to utilise a 'full settlement' metering solution. However, the BSCP550 difference metering solution is time consuming and expensive to set up. This is particularly the case where there are multiple Third Party Suppliers. It is also not of any direct benefit to the Third Party Suppliers, and therefore they are not incentivised to participate in the process. Additionally, customers would have to be settled Half-Hourly, reducing the choice of Suppliers and increasing costs prior to the implementation of Market-Wide Half Hourly Settlement. The 'full settlement' solution means that customers connected to the Private Wire Network cannot benefit from netting against on-site generation, and would have to pay system charges for that generation even though they are not using the Total System. Additionally, not all customers are currently using fully CoP10 compliant metering and would need to upgrade their metering equipment.

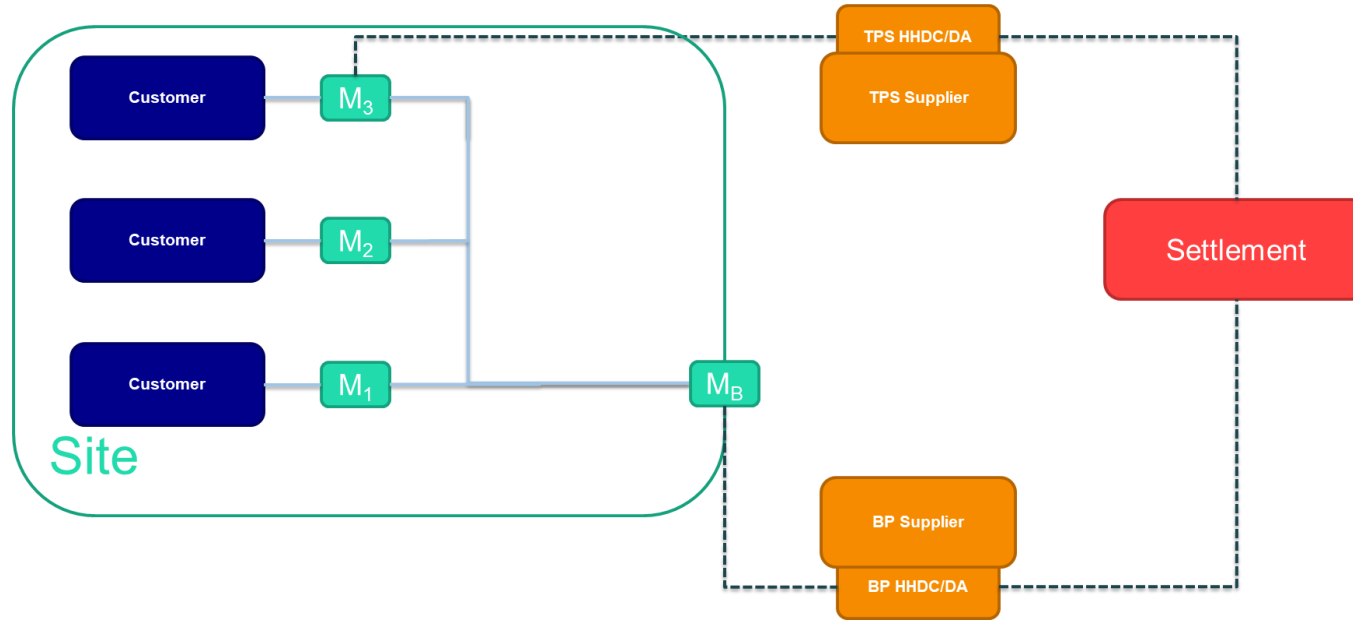
Each customer supplied by the Private Wire Network's boundary point Supplier has their own metering, with half-hourly consumption data available and currently used for retail billing. Emergent Energy propose to use this data to aggregate and submit into settlement, in lieu of the reading from the site's boundary meter. This volume will therefore not include the volumes supplied by Third Party Suppliers, correcting the data submitted into settlement. Emergent Energy are effectively acting as a Data Retriever for the site, with DC functions provided by a qualified DC.

An enduring solution is likely to entail introducing a new type of differencing arrangement for Private Wire Networks. This solution would permit the aggregation of consumer meters in place of the boundary meter readings or a 'full settlement' solution. The solution could be limited, based on the customer classes involved, the size of the site, and other such requirements. It may also introduce a new, formalised role for retrieval and processing of data for complex sites, which could have utility in applications beyond the one being trialled.

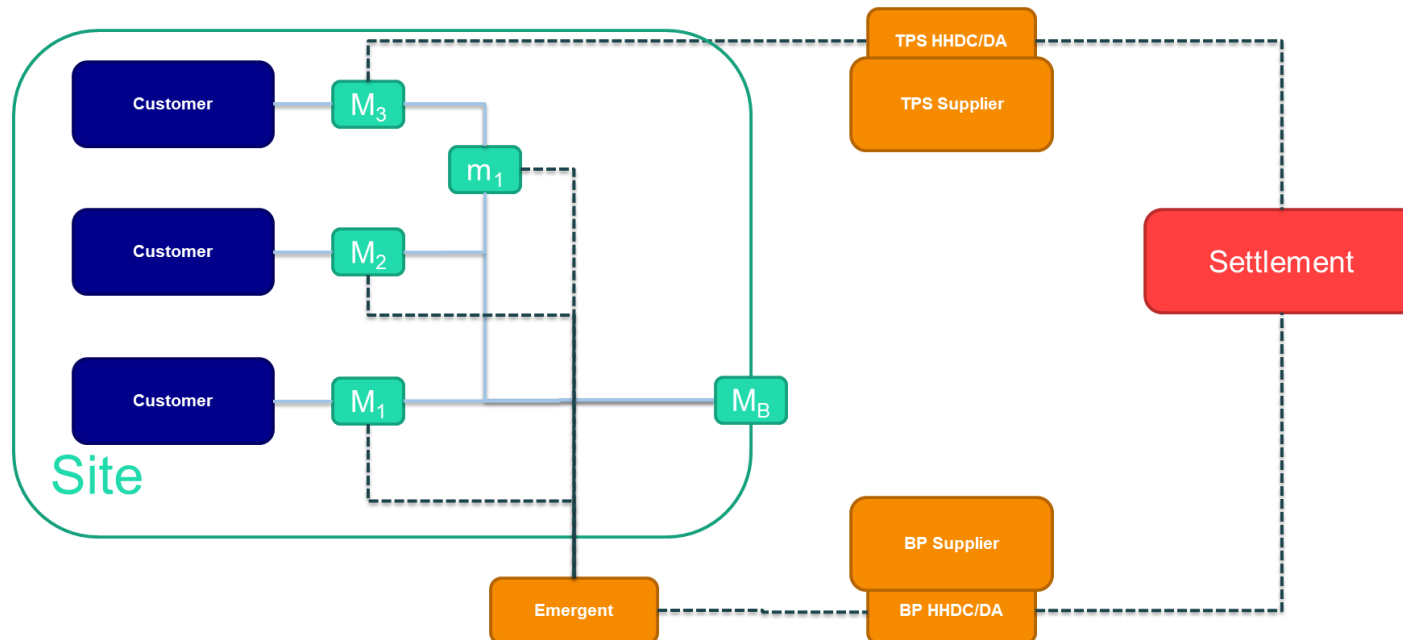
The next page contains a diagram illustrating the proposed arrangements. Customers are metered via meters M_1 , M_2 and M_3 and the boundary is metered via M_B . The customer behind meter M_3 is supplied by a Third Party Supplier (TPS) while customers behind meters M_1 and M_2 are supplied by the Boundary Point Supplier (BP). Currently, the BP Supplier is submitting the reading from M_B into settlement, while the TPS is submitting the reading from M_3 into settlement, resulting in a total recorded settlement volume of $M_1+M_2+2xM_3$. Emergent Energy's proposal is to collect data from meters M_1 and M_2 and submit them in aggregated form into settlement in lieu of the M_B meter reading. For the purposes of the trial they will be conducting an initial proving test by obtaining data from M_3 directly from the meter or from an in-line measuring device (m_1). This will check that $M_1+M_2+m_1 = M_B$, which enables adjustments for losses and any unmetered landlord supplies on the site.

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Current Arrangement



Proposed Arrangement



Potential risks

Elexon have identified and considered the following potential risks when assessing this application.

1. On-site losses/unmetered consumption

- 1.1 The proposal involves submitting individual customer meter readings, in aggregate, in lieu of the site's boundary meter reading. While each individual customer's data will end up in settlement, any unmetered consumption at the site will not.
- 1.2 To mitigate this risk, Elexon proposes that a condition of the derogation is that the consumption of each customer is measured at the beginning of trial, and the volumes compared with the volumes recorded at the boundary. Any material deviation should result in an alteration to the methodology used to calculate submitted volumes, and contribute to any eventual Modification. This activity could be performed at the beginning of the trial, and repeated annually, depending on the impacts on trial viability.

2. Non-CoP metering

- 2.1 Emergent Energy has indicated that for the trial, the meters used to determine the volume submitted for settlement are not CoP10 compliant, but differ in respect of the amount of real-time clock backup power. The meters have only 14 days of real-time clock backup power whereas BSCP10 requires 20 days.
- 2.2 The non-compliance should not result in any difference in volumes submitted to settlement than if a CoP10 compliant meter had been used. Elexon proposes that a metering dispensation be considered as part of the initial derogation, and that subsequent metering dispensations can be considered if a Modification introduces an enduring solution and CoP10 meters are not installed.
- 2.3 Elexon notes that the premises involved are primarily residential, and therefore the expectation is that Smart metering will be installed in the future.

3. Under/over counting

- 3.1 The biggest risk to settlement is that the volume provided in lieu of the boundary meter reading over or under estimates the volume supplied by the boundary point Supplier, for example by including too many or too few meters in the aggregation (i.e. 'unregistered' meters).
- 3.2 This risk is related to the risk of differencing based on non-settlement metering, however a key difference is that the risk in this instance is borne by all Parties, whereas in a standard differencing arrangement the risk is borne by one of the Suppliers entering into the arrangement.
- 3.3 In the event that the aggregation of meters Supplied by the boundary Supplier is too high, there will be double counting between that Supplier and Third Party Suppliers. This is currently happening in settlement on the full volumes, and therefore there would still be neutral against the baseline.
- 3.4 The scheme will also need to have a process to account for customers switching from the site Supplier to a Third Party Supplier, and from a Third Party Supplier to the site Supplier.
- 3.5 The greatest risk in this category is undercounting. In this case the settlement data for Third Party Suppliers may be correct, but the submitted volume for the boundary Supplier would be artificially low. This would result in missing volumes in settlement.
- 3.6 For the purposes of the trial, Emergent will be monitoring aggregate data from all premises against the boundary meter reading to ensure correct settlement data is submitted. Elexon proposes that the derogation also require that an inventory of meters for the site is maintained, covering all meters on the site not supplied by Third Party Suppliers, and this is subject to an annual audit.
- 3.7 Where export volumes for on-site generation exceeds the consumption of all on-site customers, the excess volumes will need to be treated as export, and submitted to Settlement against the Export MSID of the Boundary Point Metering System.
- 3.8 Elexon proposes that in the event of discrepancy between total recorded volume and the aggregate of customer recorded volumes, the additional volume is assumed to have been supplied by the boundary meter

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Supplier. Elexon further proposes that in the event of any systems failure in gathering data the settlement data for the boundary meter Supplier defaults to the entire boundary meter reading.

- 3.9 Elexon proposes that in an enduring arrangement, the Performance Assurance Framework includes provisions for our audit provider to compare submitted figures with actual and boundary figures for affected sites. Elexon also proposes that there should be enduring rules for estimation of missing data, which are likely to be materially similar for existing rules for estimating data. There will also need to be rules for maintaining an inventory of meters, with requirements that the inventory matches the meters on the site not Supplied by Third Party Suppliers.

Scale of risks

The trial will be operating on a limited number of sites with a limited number of total customers (final figures to be determined). A trial that scales to eventually involve 10000 domestic customers represents an average consumption volume of 1660-2400kWh¹ per settlement period, or around 0.008-0.012% of total average consumption².

This scale means that errors could quickly accumulate beyond the £3000 trading disputes threshold. The monitoring requirements Elexon proposes will mean that any errors can be quickly identified and rectified, or be made subject to a disputes process if necessary.

Risk in respect of enduring implementation

As the trial will be operating using non-CoP compliant meters, it is not fully representative of the enduring solution. However, the purpose of the trial is not to evaluate the physical metering arrangements, but rather the new on-site aggregation concept. As the meters involved will provide metered data that is equivalent to CoP compliant metered data in normal operation, Elexon proposes that this trial will be representative of an enduring solution.

Disruption to normal BSC Operation

The operation of this derogation occurs entirely within the remit of the boundary point Supplier and the Agents appointed to act on their behalf. Therefore, Elexon does not anticipate any disruption to normal BSC operation caused by the operation of the requested derogation.

Assessment against Risk Evaluation Register

The Risk Evaluation Register³ (RER) provides an overview of the Settlement Risks monitored by Elexon Performance Assurance function. It is important that any BSC Sandbox application is assessed against each of the risks present in the RER. The assessment uses a Red, Amber, Green (RAG) assessment, where Red indicates that a risk is negatively impacted by the trial and requires mitigation, Amber indicates that a risk is not affected or is neutrally affected by the trial, and Green indicates that a risk is reduced by the trial.

Id Number	Risk Title - The risk that...	RAG	Commentary
001	SVA Metering Point is registered incorrectly or not at all, such that metered data is not collected or aggregated	A	The trial does not propose to make any changes to the registration of meter points

¹ Typical domestic consumption values for medium consumption Profile Class 1 customers up to typical domestic consumption values for medium consumption Profile Class 2 customers; <https://www.ofgem.gov.uk/gas/retail-market/monitoring-data-and-statistics/typical-domestic-consumption-values>

² DUKES Statistics, total electricity demand for 2019, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/904805/DUKES_2020_Chapter_5.pdf

³ <https://www.elexon.co.uk/reference/performance-assurance/performance-assurance-processes/performance-assurance-risk-evaluation-register/>

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			nor is it more likely to cause any problems with that process.
002	SVA Metering System attributes held in the Supplier Meter Registration Service (SMRS) or by any party in the Supplier Hub are incorrect	A	The trial does not propose to make any changes to data held in or submitted to SMRS nor is it more likely to cause any problems with that process.
003	SVA Metering Equipment is installed, programmed or maintained incorrectly including where Commissioning is performed incorrectly or not at all	A	The trial does not propose to make any changes to the way that SVA Metering Equipment is installed, programmed or maintained.
004	Changes to SVA Metering Equipment are not notified, such that all members of the Supplier Hub do not use the current Meter Technical Details	A	The trial does not propose to make any changes to the way that changes to SVA Metering Equipment are notified, nor alter Meter Technical Details.
005	A fault with SVA Metering Equipment is not resolved, such that metered data is recorded incorrectly or cannot be retrieved	A	The trial does not propose to make any changes to the way that faults are resolved, nor is it more likely to cause problems with that process.
006	On a change of agent, Meter Technical Details are not transferred or processed correctly or at all, such that parties do not use the latest Meter Technical Details	A	The trial does not propose to make any changes to the Change of Agent processes, nor is it more likely to cause problems with that process.
007	SVA Metered data is not retrieved, such that the proportion of estimated data being used in Settlement contributes to performance standards not being met	R	The trial will result in different collection procedures for SVA Metered data, which may make errors more likely. This is being mitigated by using checks based on existing SVA Metered data processes.
008	SVA metered data is not processed or transferred correctly, or at all	A	The trial does not propose to make any change to SVA Metered data processing, nor is it more likely to cause problems with that process.
009	The Data Aggregator does not process metered data correctly or at all, including transfer to SVAA, such that the energy volumes required for Settlement are incorrect or missing	A	The trial does not propose to make any change to the way that Data Aggregators process metered data
010	On change of Data Collector, meter read history is incorrect or not transferred such that sufficient history is not available for validating and estimating energy volumes	A	The trial does not propose to make any change to the Change of Agent process, nor is it more likely to cause problems with that process.
011	Unmetered Supplies volumes are calculated incorrectly or not at all	A	UMS – Not applicable
012	SVA Metering System technical details are created incorrectly	A	The trial does not propose to make any changes to the way that SVA Metering System technical details are created, nor is it more likely to cause problems with that process.
013	Manual adjustments to Metered Data are not completed correctly, or at all	R	The trial proposes to create a new process for manually adjusting metered data, which introduces a new risk. This is mitigated by ongoing monitoring during the trial and a inventory audit. The manually updated data will result in correct volumes being submitted to settlement, addressing an existing settlement issue.
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014	Agents are not appointed or de-appointed correctly, such that SMRS is not complete or up to date, members of the Supplier Hub do not hold the correct MPID of other Hub members or the appropriate agents are not appointed	A	The trial does not propose to make any changes to the Change of Agent process, nor is it more likely to cause problems with that process.
015	SVA reference data is not created or transferred correctly, or at all	A	The trial does not propose to make any changes to the SVA reference data processes, nor is it more likely to cause problems with that process.
016	The energisation status held in SMRS or by any party in the Supplier Hub does not match the physical energisation status of the SVA Metering System	A	The trial does not propose to make any changes to the energisation process, nor is it more likely to cause problems with that process.
017	Exception reports are not sufficiently managed, such that material exceptions are not addressed at all or in a timely manner	A	The trial does not propose to make any changes to the exception reporting process, nor is it more likely to cause problems with that process.
018	Revenue protection processes are not managed sufficiently, such that unrecorded energy volumes are excluded from Settlement	A	The trial does not propose to make any changes to revenue protection processes, nor is it more likely to cause problems with those processes.
019	A Volume Allocation Unit is registered incorrectly or not at all, such that the CDCA does not collect any or the relevant data	A	CVA – Not applicable
020	CVA Metering Equipment is installed, programmed or maintained incorrectly including where Commissioning is performed incorrectly or not at all	A	CVA – Not applicable
021	CVA Metered Data is not retrieved, or processed correctly, or at all, by the CDCA	A	CVA – Not applicable
022	Changes to CVA Metering Equipment are not notified to CDCA	A	CVA – Not applicable
023	A fault with CVA Metering Equipment is not resolved, such that Metered Data is recorded incorrectly or cannot be retrieved	A	CVA – Not applicable
024	CVA reference data is not created or transferred correctly, or at all	A	CVA – Not applicable
025	Balancing Services provided by Virtual Lead Parties allow error to enter Settlement, such that the energy volumes required for Settlement are incorrect or missing	A	VLP – Not applicable
026	Aggregation Rules in CDCA are incorrect such that CVA Metered Data is not correctly aggregated and the energy volumes required for Settlement are incorrect or missing	A	CVA – Not applicable
027	Trading Parties do not or are unable to pay Trading Charges fully or at all, such that it triggers an Event of Default	A	CVA – Not applicable
028	NETSO does not submit or submits incorrect Settlement data	A	NETSO – Not applicable
029	The SAA's calculations and processing are incorrect or use incorrect data	A	BSC Agent – Not applicable
A030	The ECVA does not carry out processes correctly, such that output files are inaccurate	A	BSC Agent – Not applicable

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031	The FAA does not accurately process Trading Charges or calculate ad-hoc charges correctly, such that Advice Notes are incorrect	A	BSC Agent – Not applicable
032	Manual adjustments to CVA Metered Data are not completed correctly, or at all	A	CVA – Not applicable
033	An Interconnector Administrator does not submit, or submits inaccurate BM Unit Metered Volume data	A	IA – Not applicable
034	The SVAA does not process or transfer the correct data or does not use approved default data.	A	BSC Agent – Not applicable