

BSC Audit

Scope 2014/15

Scope of the BSC Audit and terms of reference for the
BSC Auditor for 1 April 2014 to 31 March 2015

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Scope of the BSC Audit

- 1. The scope of the BSC Audit for 2014/15 will include the functions and processes described below.**

Central Registration

The Central Registration Agent (CRA) collects, validates, stores and distributes shared reference data used by other related business processes. This includes the registering of all Meter Points, Metering Systems, BM Units, Trading Units, and sets of Aggregation Rules for each BSC Party.

The BSC Audit will include:

- Maintenance of the BM Credit Assessment Export Capability (BMCAEC)
- Maintenance of the BM Credit Assessment Import Capability (BMCAIC)

Aggregate and Check Contract Volume

The Energy Contract Volume Aggregation Agent (ECVAA) accepts or rejects Energy Contract Volume Notifications (ECVNs) and Metered Volume Reallocation Notifications (MVRNs). The ECVAA aggregates valid ECVNs and MVRNs to determine the Account Bilateral Contract Volume for each Party's Energy Account. The ECVAA reports the Account Bilateral Contract Volume for each Party and Settlement Period for that Settlement Day to the Settlement Administration Agent (SAA) on a daily basis.

The BSC Audit will include:

- Acceptance of ECVN and MVRN
- Aggregation of valid Energy Contract Volume Reallocation Notifications and Metered Volume Reallocation Notifications
- Submission of data to the Settlement Administration Agent

Credit Cover Management

Credit monitoring of BSC Parties is the responsibility of the Funds Administration Agent (FAA), ECVAA and BSCCo. Letters of credit/cash are lodged with the FAA. The ECVAA calculates the Credit Cover Percentage and notifies BSCCo if the agreed Default limits are exceeded.



Scope of the BSC Audit

The BSC Audit will include:

- Application of Credit Cover rules as defined within the BSC

Balancing Mechanism Reporting

The Balancing Mechanism Reporting Agent (BMRA) publishes a range of public market information for users of the service and calculates data for submission to Settlement.

The BSC Audit will include:

- The consistency of the data that is included within the reports that are published by the BMRA

Calculation of Market Index Data

The Market Index Data Providers (MIDPs) calculate and provide to the BMRA and SAA a market price in respect of each Settlement Period on a half hourly and daily basis. The market price reflects the price of wholesale electricity in the short term market. The BMRA uses the market price when calculating the System Sell Price (SSP) and System Buy Price (SBP).

The BSC Audit will include:

- The controls surrounding the calculation and transfer of the Market Index Data to the BMRA and SAA
- Determination and calculation of the Market Index Data (in accordance with the Market Index Data Provider Statement)

Calculation and Aggregation of Metered Data

The Central Data Collection Agent (CDCA) collects and aggregates the metered data from Metering Systems registered in CRA. The volumes for missing or disputed data are estimated in accordance with the BSC and reported to the Meter Operator Agent (CVA MOA) and BSCCo; the GSP Group Take is calculated in accordance with the Settlement timetable (published on the BSCCo Website). This information is passed to the Supplier Volume Allocation Agent (SVAA) and is used as the basis for calculating the Supplier Volume Allocation.

The BSC Audit will include:

- Aggregation of metered data registered in CDCA
- Calculation of GSP Group Take

Calculate Settlement Debits and Credits

The SAA receives Supplier Volume Allocations, Contract Volume and reallocation data, GSP Group Take and Information Imbalance Price. The SAA performs the Interim, Initial Settlement and Reconciliation runs



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according to the Settlement timetable and calculates the Credits and Debits resulting from the Settlement of Balancing Mechanism actions and Imbalance cash-out. Settlement reports are then sent to BSC Parties to validate, and to the FAA.

The BSC Audit will include:

- Calculation of Credits and Debits to BSC Parties via Balancing Mechanism and the imbalance settlement arrangements

Funds Transfer

The FAA manages the funds transfer process.

The BSC Audit will include:

- Calculations of the charges for each BSC Party for each Settlement Run
- Aggregation of instructions for Initial Settlement related transfers of money into one charge/payment per BSC Party per Day
- Production of Advice Notes/Statements to be sent to BSC Parties on the basis of the required charge payments

Market Domain Data

Market Domain Data (MDD) is standing data required for the operation of Supplier Volume Allocation. The data falls into two categories - Organisation Data and Classification Data. Organisation Data includes company name and identifiers for Distributor, Supplier and relevant Supplier Agents. Classification Data includes Valid Measurement Requirement Profile Classes, Time Pattern Regimes and Standard Settlement Configurations.

The BSC Audit will include:

- Completeness and consistency of data items entered into MDD
- Input of key data items received from MDD by Data Aggregators including Line Loss Factors (LLFs)

Supplier Meter Registration Data

Each Supplier Meter Registration Agent (SMRA) identifies all Metering Systems attached to a Distribution Network. SMRAs will hold the history of Supplier registrations for each Metering System. They provide information on unmetered exit points with the history of their Supplier registrations. In addition SMRAs will provide Line Loss Factor Classes. The contractual relationship between Suppliers and SMRAs is encapsulated in the Master Registration Agreement (MRA).



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The BSC Audit will include:

- Consistency of relevant data held by SMRAs
- Comparison of MSIDs registered on the Supplier Meter Registration Service (SMRS) against Supplier/Data Collector/Data Aggregator/Standard Settlement Configuration etc
- Comparison of Supplier IDs / MSIDs registered on SMRS based against records held by the SMRA (note: excludes checking accuracy of records held by SMRA)
- Consistency of standing data between SMRS and the Suppliers' databases
- Consistency of relevant data held in SMRS & CRA

Data Retrieval & Data Processing (Data Collection)

Retrieval encompasses Meter reading and detection of potential Meter reading faults (on behalf of the MOA).

Data Processing is the validation and conversion of Meter readings into energy consumption, the estimation of missing data using an approved method and the transmission of this data to the Data Aggregator.

The BSC Audit will include:

- Retrieval of data used in Data Processing from Suppliers / MOAs including:
 - Half hourly (HH) Meter readings
 - Non half hourly (NHH) Meter readings
- Calculation of KWh consumption data
- Application of profile information used in Data Processing
- Calculation and application of EACs/AAs and HH consumption data Transmission of data to correct Data Aggregator
- Application of instructions from Disputes
- Estimation of Missing Data/Deemed Advance
- Processing/application of instructions to increase Meter readings (from the Revenue Protection Board)
- Operational controls relating to the collection, recording and validation of (HH and NHH) Meter readings entered into Settlement



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Data Aggregation

Data Aggregation is the aggregation of Supplier or BM Unit specific energy consumption data, after the application of LLF for half hourly metered data, to produce the aggregated data.

The BSC Audit will include:

- Aggregation of EACs/AAs produced by the Data Collector for MSID/Supplier for use in Supplier Purchase Matrices
- Aggregation to BM Unit level for HH energy where agreed with the Supplier
- Application of NHH/HH registration data and LLF (for HH) by the Data Aggregator
- Trading Dispute DF Run checks

Meter Operation

MOAs hold key information on all Metering Systems attached to the Distribution System including Meter history and technical details. MOAs are also responsible for the installation and removal of Meters and their general maintenance in compliance with the relevant Codes of Practice. MOAs form part of the Supplier Hub and as such operate several key interfaces with other Supplier Agents (particularly Data Collectors).

The BSC Audit will not directly cover accuracy of metering or standards of metering installation, however the findings of the Technical Assurance Agent (TAA) under the Technical Assurance of Metering (TAM) technique will be sent to the BSC Auditor for consideration in his reporting.

The BSC Audit will include:

- Fault resolution
- Checks on the Meter registration process
- Interfaces with other agents in the Supplier Hub
- Performance relating to requests for proving tests
- Operational controls in relation to Meter Technical Details changes and the validation of changed Meter Technical Details provided to Suppliers and Data Collectors

Licensed Distribution System Operation

Licensed Distribution System Operators (LDSOs) are responsible for the overall management and maintenance of Distribution System in addition to the registration of Metering Systems in SMRS.

The BSC Audit will include:



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- Provision of site technical details
- Preparation and notification of GSP Group Aggregation Rules to CDCA
- Notification of LLFs to BSCCo
- Interfaces with Suppliers and Supplier Agents
- Disconnection of Metering Systems
- Changes to energisation status
- Provision of appropriate CT/VT information as required by the BSC
- Notification of new Small Scale Generation Plants to Suppliers

Unmetered Supplies

LDSOs are responsible for the Unmetered Supplies Operator (UMSO) function. UMSOs are responsible for managing any Unmetered Supplies (UMS) attached to a Distribution Network, and are required to provide specific details to Suppliers and Supplier Agents in order that they can meet their Settlement obligations.

The BSC Audit will include:

- Maintenance and provision of UMS summary inventories
- Calculation and provision of NHH Estimated Annual Consumption
- Provision of Standard Settlement Configuration and Profile Class details including disconnections and energisation status
- Creation and provision of UMS Certificates
- Provision of Equivalent Meter Technical Details
- Interfaces with Suppliers and Supplier Agents
- Maintenance and provision of connection agreements

Meter Administration

Meter Administrators are responsible for calculating the half hourly allocation for HH SVA Unmetered Supplies and providing this information to the Data Collector.

The BSC Audit will include:

- Receipt and recording of Equivalent Meter Technical Details and other information required to perform the function of a Meter Administrator



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- Calculation of deemed metered volumes (estimated energy consumption) for Equivalent Unmetered Supplies relating to SVA Customers
- Provision of data to the Half Hourly Data Collector, SVAA, LDSO and Supplier
- Fault Reporting

Supplier Volume Allocation & Reconciliation

Supplier Volume Allocation & Reconciliation is the aggregation of Supplier/BM Unit Purchase Matrices to a Grid Supply Point (GSP) Group and calculation/recalculation of the Deemed Take for each GSP Group.

The Temperature Provider is sub-contracted by the SVAA to provide Noon Temperature Data.

The Time of Sunset Provider is sub-contracted by the SVAA to provide Time of Sunset Data.

The Teleswitch Agent provides the Teleswitch Data.

The Profile Administrator is the agent contracted by BSCCo to derive sets of Regression Coefficients for each Profile Class. The Profile Administrator will monitor the accuracy of profiles delivered from the Profile Coefficients.

The BSC Audit will include application of key standing and dynamic data items used by the SVAA including:

- NHH data (from Supplier Purchase Matrix)
- HH data
- Daily profile variables (Noon Temperature Data, Time of Sunset Data, Teleswitch Data)
- GSP Group Take (from CDCA)
- Line Loss Factors (LLFs)
- Application of Regression Coefficients
- Application of Time of Sunset/Teleswitch Data
- Application of Default data (including BM Units)
- Production of Daily Profiles
- Calculation of Deemed Take
- Calculation of Volumes by BM Unit

Disputes

The Trading Disputes process is used to correct errors in Settlement or in payments for energy.



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The BSC Audit will include:

- Procedures and documentation for registration and logging of Trading Disputes in respect of Reconciliation Runs
- Procedures and documentation in operation for the registration/logging of queries and Requests for Information
- Resolution of Trading Disputes and application of dispute payments
- Trading Dispute processes operated by the Trading Disputes Committee Chairman

Data Transfer

The Data Transfer Service and NETA network service are outside the scope of the BSC Audit but the audit will include reviews at market participants' premises to check despatch and receipt of data messages.

The BSC Audit will include:

- Reviews at Selected market participants' premises to check despatch and receipt of data messages

Supplier Systems and Associated Internal Procedures

Suppliers are responsible for managing their Supplier Agents and for providing key data to their Supplier Agents as set out in the BSC and BSC Procedures.

The BSC Audit will include:

- Information provided by Suppliers on Change of Supplier, new connections and changes of Meter technical information including Energisation status
- Meter readings collected by Data Collectors and provided to Data Aggregators
- Review and follow up of validation exceptions as reported by Supplier Agents
- Treatment of Long Term Vacant Sites

Balancing Mechanism

The System Operator shall be audited by the BM Auditor against the requirements of Section H 5.1.6 of the BSC which relates to the compilation and submission of data to the SAA.



Scope of the BSC Audit

2. Areas Out of Scope

ACTIVITIES/DATA WHICH FALL OUTSIDE THE SCOPE OF THE BSC AUDIT

Activity/ Data	Reason For Exclusion
<ul style="list-style-type: none">Customer billing.	Outside scope of BSC.
<ul style="list-style-type: none">Production of TNUoS/DUoS reports.	Outside scope of BSC - does not form part of calculation and allocation of funds under the BSC.
<ul style="list-style-type: none">MRA Disputes procedures.	Outside scope of BSC – included within the Master Registration Agreement.
<ul style="list-style-type: none">Contractual relationship between Parties and their Party Agents and between BSCCo and BSC Agent.	Does not form part of calculation and allocation of Trading Charges under the BSC.

3. Materiality Threshold

The BSC Auditor will 'Qualify' its audit opinion if it cannot provide reasonable assurance that the total level of error in Settlement is less than the Materiality Threshold.

The Materiality Threshold for the BSC Audit for 2014/15 is 1.5TWh which represents approximately 0.5% of the total annual electricity supplied across Great Britain in 2013.

4. Reporting

Unless otherwise agreed with the BSC Panel, the BSC Audit Report for 2014/15 will be presented to the Panel in June 2015.