**Data Specification Document**

**BSUoS Invoice and Backing Sheet CSV Files**

**Version 1.2**

**26th September 2024**

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# Usage

# Revision Information

Classification: External Use

|  |  |  |  |
| --- | --- | --- | --- |
| **Author** | **Version** | **Date** | **Comments** |
| Data Services Team | 1.0 | 7th August 2024 | Initial Document |
| Data Services Team | 1.1 | 28th August 2024 | BMU Charge data type in backing sheet and CSV File name updated |
| Data Services Team | 1.2 | 23rd September 2024 | Files attached to email in zipped format, backing sheet run type information updated |

**Backing File Layout Version**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Charge** | **Document Type** | **Version** | **Bill Date** | **Comments** |
| BSUoS | Invoice | BSUSIN01 | Oct-24 | Invoice Initial Layout |
| BSUoS | Backing Sheet | BSUSBS01 | Oct-24 | Backing Sheet Initial Layout |

**Document Location**

The online version of this document will be located [in this area](https://www.nationalgrideso.com/industry-information/charging/charging-guidance) of the National Grid Energy System Operator (ESO) website.

# Control List – Redacted for Public Release

|  |  |  |
| --- | --- | --- |
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|  |  |  |

# Purpose

This Data Specification document describes the source data and formats for the BSUoS invoice and backing sheet CSV files. ESO publish BSUoS invoice and backing sheet data daily to BSUoS customers.

This document specifies the data requirements the participating systems must meet to receive and ingest CSV data from ESO. It describes the file structure and data formats pertaining to this data.

The intended audience of this Document are all external and internal stakeholders, including the industry customers, senior leadership, and the ESO internal teams associated with development and operations of the systems connected to the CSV data.

The document provides the following information:

* Data specifications including data formats, data types and sample data.
* Assumptions where appropriate.

# Overview

The Revenue billing system, STAR, processes the BSUoS charges and produces invoice and backing sheet CSV files to be sent to the customer. The invoice and backing sheet CSV data will exist in a standard format to be ingested into target systems.

Changes to the CSV format will require a new version of this document and will be reflected in the header record of the CSV file. This document is located in the STAR billing system area of the ESO website, drilling down through the Industry Information and Charging sections.

The scope of the document is the CSV data being transferred from ESO to the customer. The source files contain samples of the invoice and backing sheet data produced during the daily billing for BSUoS in the form of CSV files.

The invoice CSV file contains a large proportion of the information produced on the invoice PDF and the backing sheet CSV file contains supporting information for the BSUoS charges.

For each customer, the billing invoice and backing sheet CSV files will be sent daily (Mon-Fri) from ESO. This document describes the format of the CSV files which are applicable both for viewing in Excel and ingesting into data stores.

The BSUoS backing sheet(s) will be sent via email as a zipped attachment. The zipped file format is referenced in this document.

# Assumptions/Dependencies/Risks/Issues

## Assumptions

|  |  |
| --- | --- |
| **#** | **Assumption** |
| 1 | Column titles contain no spaces |
| 2 | Company name in filename contains no spaces |
| 3 | All sample data is test data |

## Dependencies

There are no documented dependencies.

## Risks/Issues

There are no documented risks or issues.

# Data Specification

## 6.1. Data File Format

**BSUoS Daily Invoice CSV**

**Filename**: BSUoS\_<CustomerName>\_<BSCPartyID>\_<InvoiceID>.csv

**File Format**: CSV File

**File Size**: < 1KB

**Frequency**: Daily (Mon-Fri)

The BSUoS Invoice CSV file is referenced using the filename BSUoS\_<CustomerName>\_<BSCPartyID>\_<InvoiceID>.csv e.g., BSUoS\_ABCEnergy\_ABCE\_7527786321.csv. Each file contains one header record, one footer record and data records, each record consisting of comma separated fields (see sample in [section 7.1](#_Sample_Files)). The first field of each record is the record type and each record, apart from the last line, terminates with LF. The Customer name text and BSC party ID will not have any space.

**BSUoS Backing Sheet CSV**

**Filename**: BSUoS\_<CustomerName>\_<BSCPartyID>\_<SettlementDate>\_<RunType>.csv

**File Format**: CSV File

**File Size**: < 10KB

**Frequency**: Daily (Mon-Fri)

The BSUoS Backing Sheet CSV file is referenced using the filename BSUoS\_<CustomerName>\_<BSCPartyID>\_<SettlementDate (Date Format DDMMYYYY)>\_<RunType>.csv e.g., BSUoS\_ABCEnergy\_ABCE\_20042024\_RF.csv. The Run Type is either II, SF, INTERIM-SF, FINAL-SF or RF. Each file contains one header record, one footer record and data records, each record consisting of comma separated value fields (see sample in [section 7.1](#_Sample_Files)). The first field of each record is the record type and each record, apart from the last line, terminates with LF. The Customer name text and BSC Party ID will not have any space.

**BSUoS Zipped Attachment**

**Filename**: BSUoS\_<CustomerName>\_<BSCPartyID>\_<NotificationDate>.zip

**File Format**: ZIP File

**File Size**: < 50KB

**Frequency**: Daily (Mon-Fri)

The BSUoS zipped file attachment is referenced using the filename BSUoS\_<CustomerName>\_<BSCPartyID>\_<NotificationDate (Date Format DDMMYYYY)>.zip e.g., BSUoS\_ABCEnergy\_ABCE\_21052024.zip. The Customer name text will not have any spaces. The BSUoS backing sheet(s) will be sent daily via email in a zipped attachment. There is an option to receive the invoice PDF without an invoice CSV file and zipped backing sheets.

## 6.2. Data Field Format

The Data source section comprises a full description and logical display in a tabular format for each BSUoS CSV file. Please also see the excel sheet embedded below for the source tables described.



**BSUoS Invoice CSV description – layout version 01**

The header record with record type ‘AAA’ consists of the file type and version, the message role, the creation time, the ‘from role’ and ‘from participant’, the ‘to role’ code and ‘to participant’ ID, the sequence number and the test data flag.

The file type for the invoice CSV file consists of eight characters, the first four characters a billing stream reference, BSUS, the fifth and sixth characters a document type reference e.g., IN for invoice and the final two characters the document layout version e.g., 01.

The message role containing either ‘D’ for data or ‘R’ for response will always be ‘D’ for data.

The creation time is the system date and time in GMT and in the format YYYYMMDDHH24MISS e.g., 20240603061625.

The ‘From Role’ is ‘SO’ for National Electricity Transmission System Operator (NETSO) and ‘NG’ the participant code for ESO. The ‘To Role’ is ‘BP’ for BSC Party and the Participant ID of the BSC Party, if available in MSM, else blank.

The sequence number contains the version of that invoice CSV file starting at 1.

The final header record field, test data flag, contains ‘OPER’ or blank for operational data and any other value is considered test data, please see a sample header record below.

AAA,BSUSIN01,D,20240603062240,SO,NG,BP,TEST1,1,OPER

The footer record consists of the record type ‘ZZZ’ and a field containing the number of records in the file, including the header and footer records, see sample below.

ZZZ,21

The data records consist of five sections, the invoice header details, invoice details, charge details, charge totals and a payment section. Each section is separated by a section separator line, see sample below.

BLANK

The invoice header section contains a standard title record and one or more header records with the record type format ‘INHD’ followed by an incremental number. The invoice CSV file header records display an invoice disclaimer and the type of invoice, see sample below.

SCHDR,InvoiceDetails

INHD1,THIS IS NOT A VAT INVOICE

INHD2,BSUoS Charges

The invoice details section contains the customer account and invoice information. The type of document for BSUoS Invoice CSV is ‘SALESINVOICE’. The Company Name is displayed followed by the Account ID, then the invoice number, which is up to ten characters, and the invoice date in the format DD.MM.YYYY. Your Order reference is either the customer PO number, if available, or standard text e.g. ‘BSUoS Charges’. Our Reference is MSM\_BSUoS\_nnnnnnnnnnnn where nnnnnnnnnnnn is the internal MSM Bill reference, twelve digits, see invoice details sample below.

SCTTL,Type,Company,Account,InvoiceNumber,InvoiceDate,YourOrderReference,OurBillingReference

INTTL,SALESINVOICE,ABC Energy,3384567,80223345,03.06.2024,BSUoS Charges,MSM\_BSUoS\_123456789012

The details section contains the invoice lines and charges excluding VAT. The charge description is followed by the charge excluding VAT, the VAT amount and the Settlement Date. For BSUoS there are five available charge lines. The sample below contains all available invoice lines for BSUoS but the number of lines on each invoice will be determined by the applicable charges for that invoice. The BSUoS Interest Receivable charge is a sum of all the RF interest charges, it does not incur VAT and does not require a settlement date.

SCDET,Description,ValueExclVAT,VATAmount,SettlementDate

DINV1,SF - BSUoS Initial Settlement,2063.57,412.71,11.02.2024

DINV1,RF - BSUoS Final Reconciliation,130354.33,26070.87,18.02.2024

DINV1,SF - BSUoS Interim Settlement,10000.00,2000.00,17.03.2024

DINV1,SF - BSUoS Final Settlement,100.00,20.00,06.05.2024

DINV1,BSUoS Interest Receivable,2339.68,0.00

The section totals contain the invoice total excluding VAT, the VAT total and the invoice total including VAT, see sample below.

SCTOT,TotalExclVAT,TotalVATAmount,TotalIncVAT

INTOT,144857.60,28503.58,173361.20

The payment section displays the payment due date format DD.MM.YYYY, see sample below.

SCFTR,PaymentDueDate

INFTR,06.06.2024

The source data table below displays the source information in a logical format with record type, attribute, attribute description and format, excel column reference, data type and length (maximum), a sample value and whether mandatory or optional.

**BSUoS Invoice CSV data format table**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Record Type** | **Attribute Group** | **Attribute** | **Attribute description and format** | **Excel Column Reference** | **Data Type** | **Sample Value** | **Mandatory/Optional** |
| Header | AAA | Record Type | Section File Header Record Type - constant 'AAA' | A | text (5) | AAA | Mandatory |
| Header |  | File Type | File type and version of Interface. The first four characters are for the billing stream reference (BSUS), the fifth and sixth characters the document type identifier (IN - Invoice) and the final two characters the CSV layout version defined in this document | B | text (8) | BSUSIN01 | Mandatory |
| Header |  | Message Role | Message Role, 'D' for Data or 'R' for Response - constant 'D' | C | text (1) | D | Mandatory |
| Header |  | Creation Time | System datetime in GMT - date format 'YYYYMMDDHH24MISS' | D | datetime | 20240603062240 | Mandatory |
| Header |  | From Role Code | Role Code for NETSO - constant 'SO' | E | text (2) | SO | Mandatory |
| Header |  | From Participant | Participant code for ESO - constant 'NG' | F | text(4) | NG | Mandatory |
| Header |  | To Role Code | To Role code for BSC Party - constant 'BP' | G | text (2) | BP | Mandatory |
| Header |  | To Participant ID | BSC Party Market Participant ID or blank if no BSC Party ID available | H | text (8) | ABCE | Optional |
| Header |  | Sequence Number | Data version control for the CSV file with 1 being the first version of that invoice CSV file | I | num (9) | 1 | Mandatory |
| Header |  | Test Data Flag | If the field contains 'OPER' or blank this is operational data, else consider TEST data | J | text (4) | OPER | Mandatory |
| Data | SCHDR | Record Type | Section Invoice Header Record type - constant 'SCHDR' | A | text (5) | SCHDR | Mandatory |
| Data |  | Invoice Details Title | Invoice Header Section Title - constant 'InvoiceDetails' | B | text (64) | InvoiceDetails | Mandatory |
| Data | INHD1 | Record Type | Invoice Header 1 Record Type - constant 'INHD1' | A | text (5) | INHD1 | Mandatory |
| Data |  | Invoice Disclaimer | Invoice Header 1 - constant 'THIS IS NOT A VAT INVOICE' | B | text (64) | THIS IS NOT A VAT INVOICE | Mandatory |
| Data | INHD2 | Record Type | Invoice Header 2 Record Type - constant 'INHD2' | A | text (5) | INHD2 | Mandatory |
| Data |  | BSUoS Charges | Invoice Header 2 Invoice Description | B | text (64) | BSUoS Charges | Mandatory |
| Data | BLANK | Record Type | Blank Line Record Type - constant 'BLANK' | A | text (5) | BLANK | Mandatory |
| Data | SCTTL | Record Type | Section Invoice Details (Header) Record Type - constant 'SCTTL' | A | text (5) | SCTTL | Mandatory |
| Data |  | Type Title | Column Section Title - Type of Document - constant 'Type' | B | text (64) | Type | Mandatory |
| Data |  | Company Title | Column Section Title - Company Invoiced - constant 'Company' | C | text (64) | Company | Mandatory |
| Data |  | Account Title | Column Section Title - Account ID Invoiced - constant 'Account' | D | text (64) | Account | Mandatory |
| Data |  | Invoice Number Title | Column Section Title - Document ID - constant 'InvoiceNumber' | E | text (64) | InvoiceNumber | Mandatory |
| Data |  | Invoice Date Title | Column Section Title - Invoice Date - constant 'InvoiceDate' | F | text (64) | InvoiceDate | Mandatory |
| Data |  | Your Order Reference Title | Column Section Title - Your Order Reference - constant 'YourOrderReference' | G | text (64) | YourOrderReference | Mandatory |
| Data |  | Our Billing Reference Title | Column Section Title - Our Billing Reference - constant 'OurBillingReference' | H | text (64) | OurBillingReference | Mandatory |
| Data | INTTL | Record Type | Section Invoice Details (Data) Record Type - constant 'INTTL' | A | text (5) | INTTL | Mandatory |
| Data |  | Type | Type of Document e.g. for invoice CSV - constant 'SALESINVOICE' | B | text (64) | SALESINVOICE | Mandatory |
| Data |  | Company | Name of Company Invoiced | C | text(64) | ABC Energy | Mandatory |
| Data |  | Account | Account ID of Company Invoiced - up to 10 digits | D | num (10) | 9113761008 | Mandatory |
| Data |  | Invoice Number | Invoice Number - up to 10 digits | E | num (10) | 7527786193 | Mandatory |
| Data |  | Invoice Date | Invoice Generation Date - date format DD.MM.YYYY | F | date | 03.06.2024 | Mandatory |
| Data |  | Your Order Reference | PO Number if supplied, else standard text | G | text (64) | BSUoS Charges | Mandatory |
| Data |  | Our Billing Reference | ESO Billing Reference - MSM\_<Division Reference>\_<Internal Bill Reference (12 digits)> | H | text (30) | MSM\_BSUoS\_123456789012 | Mandatory |
| Data | BLANK | Record Type | Blank Line Record Type - constant 'BLANK' | A | text (5) | BLANK | Mandatory |
| Data | SCDET | Record Type | Section Detail (Header) Record Type - constant 'SCDET' | A | text (5) | SCDET | Mandatory |
| Data |  | Description Title | Column Section Title - Description - constant 'Description' | B | text (64) | Description | Mandatory |
| Data |  | Value Excluding VAT Title | Column Section Title - Invoice Value Excluding VAT - constant 'ValueExclVAT' | C | text (64) | ValueExclVAT | Mandatory |
| Data |  | VAT Amount Title | Column Section Title - Invoice VAT Amount - constant 'VATAmount' | D | text (64) | VATAmount | Mandatory |
| Data |  | Settlement Date Title | Column Section Title - Settlement Date - constant 'SettlementDate' | E | text (64) | SettlementDate | Mandatory |
| Data Level 1 | DINV1 | Record Type | Section Detail (Data) Invoice Line 1 Record Type - constant 'DINV1'. | A | text (5) | DINV1 | Optional |
| Data Level 1 |  | Description | Invoice Line Description for the SF Run Type - constant 'SF - BSUoS Initial Settlement' | B | text (64) | SF - BSUoS Initial Settlement | Optional |
| Data Level 1 |  | Value Excluding VAT | Invoice Line Value Excluding VAT in GBP for the SF Run Type charge | C | decimal (15,2) | 2063.57 | Optional |
| Data Level 1 |  | VAT Amount | Invoice Line VAT Amount in GBP | D | decimal (15,2) | 412.71 | Optional |
| Data Level 1 |  | Settlement Date | Settlement Date - date format 'DD.MM.YYYY' | E | date | 11.02.2024 | Optional |
| Data Level 1 | DINV1 | Record Type | Section Detail (Data) Invoice Line 2 Record Type - constant 'DINV1'. | A | text (5) | DINV1 | Optional |
| Data Level 1 |  | Description | Invoice Line Description for the RF Run Type - constant 'RF - BSUoS Final Reconciliation' | B | text (64) | RF - BSUoS Final Reconciliation | Optional |
| Data Level 1 |  | Value Excluding VAT | Invoice Line Value Excluding VAT in GBP for the RF Run Type charge | C | decimal (15,2) | 130354.33 | Optional |
| Data Level 1 |  | VAT Amount | Invoice Line VAT Amount in GBP | D | decimal (15,2) | 26070.87 | Optional |
| Data Level 1 |  | Settlement Date | Settlement Date - date format 'DD.MM.YYYY' | E | date | 18.02.2024 | Optional |
| Data Level 1 | DINV1 | Record Type | Section Detail (Data) Invoice Line 3 Record Type - constant 'DINV1'. | A | text (5) | DINV1 | Optional |
| Data Level 1 |  | Description | Invoice Line Description for the Interim SF Run Type - constant 'SF - BSUoS Interim Settlement' | B | text (64) | SF - BSUoS Interim Settlement | Optional |
| Data Level 1 |  | Value Excluding VAT | Invoice Line Value Excluding VAT in GBP for the Interim SF Run Type charge | C | decimal (15,2) | 10000.00 | Optional |
| Data Level 1 |  | VAT Amount | Invoice Line VAT Amount in GBP | D | decimal (15,2) | 2000.00 | Optional |
| Data Level 1 |  | Settlement Date | Settlement Date - date format 'DD.MM.YYYY' | E | date | 17.03.2024 | Optional |
| Data Level 1 | DINV1 | Record Type | Section Detail (Data) Invoice Line 4 Record Type - constant 'DINV1'. | A | text (5) | DINV1 | Optional |
| Data Level 1 |  | Description | Invoice Line Description for the Final SF Run Type - constant 'SF - BSUoS Final Settlement' | B | text (64) | SF - BSUoS Final Settlement | Optional |
| Data Level 1 |  | Value Excluding VAT | Invoice Line Value Excluding VAT in GBP for the Final SF Run Type charge | C | decimal (15,2) | 10000.00 | Optional |
| Data Level 1 |  | VAT Amount | Invoice Line VAT Amount in GBP | D | decimal (15,2) | 2000.00 | Optional |
| Data Level 1 |  | Settlement Date | Settlement Date - date format 'DD.MM.YYYY' | E | date | 06.05.2024 | Optional |
| Data Level 1 | DINV1 | Record Type | Section Detail (Data) Invoice Line 4 Record Type - constant 'DINV1'. | A | text (5) | DINV1 | Optional |
| Data Level 1 |  | Description | Invoice Line Description for Interest Receivable - constant 'BSUoS Interest Receivable' | B | text (64) | BSUoS Interest Receivable | Optional |
| Data Level 1 |  | Value Excluding VAT | Invoice Line Value Excluding VAT in GBP for BSUoS Interest Receivable | C | decimal (15,2) | 2339.68 | Optional |
| Data Level 1 |  | VAT Amount | Invoice Line VAT Amount in GBP | D | decimal (15,2) | 0.00 | Optional |
| Data | BLANK | Record Type | Blank Line Record Type - constant 'BLANK' | A | text (5) | BLANK | Mandatory |
| Data | SCTOT | Record Type | Section Invoice Total (Header) Record Type - constant 'SCTOT' | A | text (5) | SCTOT | Mandatory |
| Data |  | Total Excluding VAT Title | Column Section Title - Invoice Total Excluding VAT - constant 'TotalExclVAT' | B | text (64) | TotalExclVAT | Mandatory |
| Data |  | Total VAT Amount Title | Column Section Title - Invoice Total VAT - constant TotalVATAmount' | C | text (64) | TotalVATAmount | Mandatory |
| Data |  | Total Including VAT Title | Column Section Title - Invoice Total Including VAT - constant 'TotalIncVAT' | D | text (64) | TotalIncVAT | Mandatory |
| Data | INTOT | Record Type | Section Invoice Total (Data) Record Type - constant 'INTOT' | A | text (5) | INTOT | Mandatory |
| Data |  | Total Excluding VAT | Invoice Total Excluding VAT in GBP | B | decimal (15,2) | 144857.6 | Mandatory |
| Data |  | Total VAT Amount | Invoice Total VAT in GBP | C | decimal (15,2) | 28503.58 | Mandatory |
| Data |  | Total Including VAT | Invoice Total Including VAT in GBP | D | decimal (15,2) | 173361.2 | Mandatory |
| Data | BLANK | Record Type | Blank Line Record Type - constant 'BLANK' | A | text (5) | BLANK | Mandatory |
| Data | SCFTR | Record Type | Payment Section (Header) Record Type - constant 'SCFTR' | A | text (5) | SCFTR | Mandatory |
| Data |  | Payment Due Date Title | Column Section Title - Payment Due Date - constant 'PaymentDueDate' | B | text (64) | PaymentDueDate | Mandatory |
| Data | INFTR | Record Type | Payment Section (Data) Record Type - constant 'INFTR' | A | text (5) | INFTR | Mandatory |
| Data |  | Payment Due Date | Payment Due Date - date format DD.MM.YYYY | B | date | 06.06.2024 | Mandatory |
| Footer | ZZZ | Record Type | Section File Footer Record Type - constant 'ZZZ' | A | text (5) | ZZZ | Mandatory |
| Footer |  | Record Count | Count of records including header and footer | B | num (10) | 21 | Mandatory |

**BSUoS Backing Sheet CSV description – layout version 01**

The header record with record type ‘AAA’ consists of the file type and version, the message role, the creation time, the ‘from role’ and ‘from participant’, the ‘to role’ code and ‘to participant’ ID, the sequence number and the test data flag.

The file type for the backing sheet CSV file consists of eight characters, the first four characters a reference for the billing stream e.g. BSUS, the fifth and sixth characters a document type reference e.g. BS for backing sheet and the final two characters the document layout version e.g. 01.

The message role containing either ‘D’ for data or ‘R’ for response will always be ‘D’ for data.

The creation time is the system date and time in GMT and in the format YYYYMMDDHH24MISS e.g. 20240603102738.

The ‘From Role’ is ‘SO’ for National Electricity Transmission System Operator (NETSO) and ‘NG’ the participant code for ESO. The ‘To Role’ is ‘BP’ for BSC Party and the Participant ID relevant to the recipient customer, if available in MSM.

The sequence number contains the version of that backing sheet CSV file starting at 1.

The final header record field, test data flag, contains ‘OPER’ or blank for operational data and any other value is considered test data, please see a sample header record below.

AAA,BSUSBS01,D,20240603062240,SO,NG,BP,ABCE,1,OPER

The footer record consists of the record type ‘ZZZ’ and a field containing the number of records in the file, including the header and footer records, see sample below.

ZZZ,122

The data records consist of four sections; the backing sheet header, the breakdown of BSUoS charge by BMU, the breakdown of BSUoS charge by BMU and settlement period and the queries section. Each section is separated by a section separator line, see sample below.

BLANK

The backing sheet header section contains twelve records starting with a document description. The subsequent records display the billed Settlement Date and Settlement Date of Metering data used. The two dates are the same for II, RF, Normal SF and Final SF Run Types. For an Interim SF Run Type, the metering data values of an earlier settlement date would be used. A Final SF Run Type would display a reconciliation for the Interim SF settlement date used. The SF Run Type only is displayed on the Backing Sheet but the filename would depict if Interim or Final. The next two dates are Notification Date and Payment Due Date, followed by an internal reference for the document comprising MSM\_BSUoS\_<MSM Bill Reference> where MSM Bill Reference is a twelve digit field. This is followed by the Run Type (RF, SF or II), the BSC Party ID, BSC Party Name and BSC Party charge, the BSUoS Tariff applied and the invoice number, see sample below.

SCHDR,BackingDetails

SETDT,18.02.2024

STDTU,18.02.2024

NOTDT,03.06.2024

DUEDT,06.06.2024

BLREF,MSM\_BSUoS\_123456789012

RUNTP,RF

BSCH1,ABCE

BSCH2,ABC Energy Ltd

BSCH3,130354.33

DUEFT,14.03

INVNO,7527786321

The breakdown of BSUoS charge by BMU section displays one record for each BMU and comprises the chargeable volume in MWh, the BSUoS charge for that BMU, whether the charge is final or non-final demand, the previously billed volume (MWh), the billable charge and the interest payable (RF run type only), see sample below.

BMUD1,BMUnitID,BSUoSChargeableVolume(MWh),BSUoSCharge(£),Demand,PreviouslyBilledCharge(£),BilledCharge(£),PayableInterestRFOnly(£)

BMUTD,2\_\_AAA000,3268.534787,46312.56,FD,2001.12,44311.44,2334.68

The breakdown of BSUoS charge by BMU and settlement period section comprises a line for each BMU and settlement period. Normal settlement days comprise 48 periods but for clock change days this would change to 46 or 50. For each BMU and settlement period, the BSUoS volume, transmission loss multiplier value and BSUoS charge are displayed, see sample below.

BMUD2,BMUnitID,SettlementPeriod,BSUoSVolume(MWh),TLM,BSUoSCharge(£)

BSUSV,2\_\_AAA000,45,56.879854,1.0223450,803.128453

The section for queries contains the queries title record and the ESO email address for BSUoS charge queries, see sample below.

SCFTR,ForQueriesPleaseContact

BSFTR,BSUoS.queries@nationalgrideso.com

The source data table below displays the source information in a logical format with record type, attribute, attribute description and format, excel column reference, data type and length (maximum), a sample value and whether mandatory or optional.

**BSUoS Backing Sheet CSV data format table**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Record Type** | **Attribute Group** | **Attribute** | **Attribute Description and format** | **Excel Column Reference** | **Data Type** | **Sample Value** | **Mandatory/Optional** |
| Header | AAA | Record Type | Section File Header Record Type - constant 'AAA' | A | text (5) | AAA | Mandatory |
| Header |  | File Type | File type and version of Interface. The first four characters are for the billing stream reference (BSUS), the fifth and sixth characters the document type identifier (BS - Backing Sheet) and the final two characters the CSV layout version defined in this document | B | text (8) | BSUSBS01 | Mandatory |
| Header |  | Message Role | Whether the file contains data or a response - 'D' for Data or 'R' for Response - constant 'D' | C | text (1) | D | Mandatory |
| Header |  | Creation Time | System datetime in GMT - date format 'YYYYMMDDHH24MISS' | D | datetime | 20240603062240 | Mandatory |
| Header |  | From Role Code | SO' is the Role Code for NETSO - constant 'SO' | E | text (2) | SO | Mandatory |
| Header |  | From Participant | NG' is the code for ESO - constant 'NG' | F | text (4) | NG | Mandatory |
| Header |  | To Role Code | For BSC Party this is 'BP' - constant 'BP' | G | text (2) | BP | Mandatory |
| Header |  | To Participant ID | BSC Party Market Participant ID or blank if no BSC Party ID available | H | text (8) | ABCE | Optional |
| Header |  | Sequence Number | Data version control for the backing sheet with 1 being the first version of that backing sheet | I | num (9) | 1 | Mandatory |
| Header |  | Test Data Flag | If the field contains 'OPER' or blank this is operational data, else consider this TEST data | J | text (4) | OPER | Mandatory |
| Data | SCHDR | Record Type | Section Header Record Type - constant 'SCHDR' | A | text (5) | SCHDR | Mandatory |
| Data |  | Header Reference | Column Section Title - Details - constant 'BackingDetails' | B | text (64) | BackingDetails | Mandatory |
| Data | SETDT | Record Type | Column Section Title - Settlement Date - constant 'SETDT' | A | text (5) | SETDT | Mandatory |
| Data |  | Settlement Date | Settlement Date format DD.MM.YYYY | B | date | 18.02.2024 | Mandatory |
| Data | STDTU | Record Type | Column Section Title - Settlement Date of metering data - constant 'STDTU' | A | text (5) | STDTU | Mandatory |
| Data |  | Settlement Date | Settlement Date format DD.MM.YYYY | B | date | 18.02.2024 | Mandatory |
| Data | NOTDT | Record Type | Column Section Title - Notification Date - constant 'NOTDT' | A | text (5) | NOTDT | Mandatory |
| Data |  | Notification Date | Notification Date format DD.MM.YYYY | B | date | 03.06.2024 | Mandatory |
| Data | DUEDT | Record Type | Column Section Title - Payment Due Date - constant 'DUEDT' | A | text (5) | DUEDT | Mandatory |
| Data |  | Payment Due Date | Payment Due Date format DD.MM.YYYY | B | date | 06.06.2024 | Mandatory |
| Data | BLREF | Record Type | Section Bill Reference Record Type - constant 'BLREF' | A | text (5) | BLREF | Mandatory |
| Data |  | Our Reference Number | ESO Billing Reference - MSM\_<Division Reference>\_<Internal Bill Reference (12 digits)> | B | text (30) | MSM\_BSUoS\_123456789012 | Mandatory |
| Data | RUNTP | Record Type | Column Section Title - Run Type - constant 'RUNTP' | A | text (5) | RUNTP | Mandatory |
| Data |  | Run Type | Settlement Run Type (II, SF, RF) | B | text (30) | RF | Mandatory |
| Data | BSCH1 | Record Type | Column Section Title - BSC Party ID - constant 'BSCH1' | A | text (5) | BSCH1 | Mandatory |
| Data |  | BSC Party ID | BSC Party ID | B | text (30) | ABCE | Mandatory |
| Data | BSCH2 | Record Type | Column Section Title - BSC Party Name - constant 'BSCH2' | A | text (5) | BSCH2 | Mandatory |
| Data |  | BSC Party ID | BSC Party Name | B | text (30) | ABC Energy Ltd | Mandatory |
| Data | BSCH3 | Record Type | Column Section Title - BSC Party Charge - constant 'BSCH3' | A | text (5) | BSCH3 | Mandatory |
| Data |  | BSC Party ID | BSC Party BSUoS Charge (£) | B | decimal (15,2) | 130354.33 | Mandatory |
| Data | DUEFT | Record Type | Column Section Title - BSUoS Fixed Tariff - constant 'DUEFT' | A | text (5) | DUEFT | Mandatory |
| Data |  | Fixed Tariff | BSC Party BSUoS Fixed Tariff | B | decimal (15,2) | 14.03 | Mandatory |
| Data | INVNO | Record Type | Section Invoice Number Record Type | A | text (5) | INVNO | Mandatory |
| Data |  | Invoice Number | Invoice Number - up to 10 digits | B | num (10) | 7527786195 | Mandatory |
| Data | BLANK | Record Type | Blank Line Record Type - constant 'BLANK' | A | text (5) | BLANK | Mandatory |
| Data | BMUD1 | Record Type | Section BSUoS Charge Breakdown by BMU - constant 'BMUD1' | A | text (5) | BMUD1 | Mandatory |
| Data |  | BM Unit ID Title | Column Section Title - BM Unit ID - constant 'BMUnitID' | B | text (64) | BMUnitID | Mandatory |
| Data |  | BSUoS Chargeable Volume Title | Column Section Title - BSUoS Chargeable Volume (MWh) - constant 'BSUoSChargeableVolume(MWh)' | C | text (64) | BSUoSChargeableVolume(MWh) | Mandatory |
| Data |  | BSUoS Charge Title | Column Section Title - BSUoS Charge (£) - constant 'BSUoSCharge(£)' | D | text (64) | BSUoSCharge(£) | Mandatory |
| Data |  | Final/ Non Final Demand Title | Column Section Title - Final or Non-final Demand - constant 'Demand' | E | text (64) | Demand | Mandatory |
| Data |  | Previously Billed Charge Title | Column Section Title - Previously Billed Charge (£) - constant 'PreviouslyBilledCharge(£)' | F | text (64) | PreviouslyBilledCharge(£) | Mandatory |
| Data |  | Billable Charge Title | Column Section Title - Billable Charge (£) - constant 'BillableCharge(£)' | G | text (64) | BillableCharge(£) | Mandatory |
| Data |  | Payable Interest RF Only Title | Column Section Title - Payable Interest RF Only (£) - constant 'PayableInterestRFOnly(£)' | H | text (64) | PayableInterestRFOnly(£) | Mandatory |
| Data Level 1 | BMUTD | Record Type | Section BSUoS Charge Breakdown by BMU Lines Record Type - constant 'BMUTD'. This section is repeated for each BMU | A | text (5) | BMUTD | Mandatory |
| Data Level 1 |  | BM Unit ID | BM Unit ID | B | text (64) | 2\_\_AAA000 | Mandatory |
| Data Level 1 |  | BSUoS Chargeable Volume | BSUoS Chargeable Volume (MWh) | C | decimal (15,6) | 3268.534787 | Mandatory |
| Data Level 1 |  | BSUoS Charge | BSUoS Charge (£) | D | decimal (15,2) | 46,312.56 | Mandatory |
| Data Level 1 |  | Final/ Non Final Demand | Final (FD) or Non-final Demand (NFD) | E | text (5) | FD | Mandatory |
| Data Level 1 |  | Previously Billed Charge | Previously Billed Charge (£) | F | decimal (15,2) | 2001.120000 | Mandatory |
| Data Level 1 |  | Billable Charge | Billable Charge (£) | G | decimal (15,2) | 44311.440000 | Mandatory |
| Data Level 1 |  | Payable Interest RF Only | Payable Interest, RF Only (£) | H | decimal (15,2) | 2334.68 | Mandatory |
| Data | BLANK | Record Type | Blank Line Record Type - constant 'BLANK' | A | text (5) | BLANK | Mandatory |
| Data | BMUD2 | Record Type | Section Breakdown per Settlement Period per BMU - constant 'BMUD2'. | A | text (5) | BMUD2 | Mandatory |
| Data |  | BM Unit ID Title | Column Section Title - BM Unit ID - constant 'BMUnitID' | B | text (64) | BMUnitID | Mandatory |
| Data |  | Settlement Period Title | Column Section Title - Settlement Period - constant 'SettlementPeriod' | C | text (64) | SettlementPeriod | Mandatory |
| Data |  | BSUoS Volume Title | Column Section Title - BSUoS Volume - constant 'BSUoSVolume(MWh)' | D | text (64) | BSUoSVolume(MWh) | Mandatory |
| Data |  | TLM Title | Column Section Title - Transmission Loss Multiplier - constant 'TLM' | E | text (64) | TLM | Mandatory |
| Data |  | BSUoS Charge Title | Column Section Title - BSUoS Charge (£) - constant 'BSUoSCharge(£)' | F | text (64) | BSUoSCharge(£) | Mandatory |
| Data Level 1 | BSUSV | Record Type | Section BSUoS Charge Breakdown by Settlement Period by BMU Lines Record Type - constant 'BSUSV'. This section is repeated for each BMU and Settlement Period | A | text (5) | BSUSV | Mandatory |
| Data Level 1 |  | BM Unit ID | BM Unit ID | B | text (64) | 2\_\_AAA000 | Mandatory |
| Data Level 1 |  | Settlement Period | Settlement Period - for a normal day there are 48 periods but for clock change days 46 or 50 periods | C | text (10) | 45 | Mandatory |
| Data Level 1 |  | BSUoS Volume | BSUoS Volume (MWh) | D | decimal (15,6) | 56.879854 | Mandatory |
| Data Level 1 |  | TLM | Transmission Loss Multiplier | E | decimal (15,7) | 1.0223450 | Mandatory |
| Data Level 1 |  | BSUoS Charge | BSUoS Charge (£) | F | decimal (15,6) | 803.128453 | Mandatory |
| Data | BLANK | Record Type | Blank Line Record Type - constant 'BLANK' | A | text (5) | BLANK | Mandatory |
| Data | SCFTR | Record Type | Section Header for Queries Record Type - constant 'SCFTR' | A | text (5) | SCFTR | Mandatory |
| Data |  | Queries Contact Information | Queries Contact Text - constant 'ForQueriesPleaseContact' | B | text (64) | ForQueriesPleaseContact | Mandatory |
| Data | BSFTR | Record Type | Section Header for Queries Record Type - constant 'BSFTR' | A | text (5) | BSFTR | Mandatory |
| Data |  | Contact Email | Contact Email Address for Queries | B | text (255) | bsuos.queries@nationalgrideso.com | Mandatory |
| Footer | ZZZ | Record Type | Section File Footer Record Type - constant 'ZZZ' | A | text (5) | ZZZ | Mandatory |
| Footer |  | Record Count | Count of records including header and footer | B | num (10) | 122 | Mandatory |

# Appendix

## Sample Files

* BSUoS\_ABCEnergy\_ABCE\_7527786321.csv
* BSUoS\_ABCEnergy\_ABCE\_18022024\_RF.csv

The embedded zipped sample files have ANSI encoding & Windows-1252 character set.



Please utilise a native app to open and save (IE: notepad.exe) to ensure files are saved with the correct character set and as .CSV

The same sample files embedded below for opening in an Excel format together with an excel spreadsheet containing samples of II, SF and RF backing sheets.



## Glossary

|  |  |
| --- | --- |
| **Abbreviation** | **Description** |
| ANSI | American National Standards Institute |
| BMU | Balancing Mechanism Unit |
| BSC | Balancing and Settlement Code |
| BSUoS | Balancing Services Use of System |
| CSV | Comma Separated Value |
| DNO | Distribution Network Operator |
| LF | Line Feed |
| NETSO | National Electricity Transmission System Operator |
| NGESO | National Grid Electricity System Operator |
| PDF | Portable Document Format |
| STAR | Settlements and Revenue System |