

**Balancing and Settlement Code**

**Service Description for Teleswitch Monitoring**

**Version 2.0**

**Date: 5 November 2009**

**AMENDMENT RECORD**

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**RELATED DOCUMENTS**

<b>Reference</b>	<b>Document</b>
Reference 1	BSCP508 'Supplier Volume Allocation Agent'
Reference 2	SVA Data Catalogue Volume 1: Data Interfaces

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## **1. Introduction**

### **1.1 Purpose**

- 1.1.1 This document is the BSC Service Description for the Teleswitch Agent. The Teleswitch Agent is appointed by the Balancing and Settlement Code Company (BSCCo) for the purpose of providing Teleswitch Monitoring in connection with the Balancing and Settlement Code ('the Code').
- 1.1.2 The purpose of this BSC Service Description is to describe the responsibilities and obligations of the Teleswitch Agent. The responsibilities and obligations of the Teleswitch Agent under this BSC Service Description are collectively referred to as 'Teleswitch Monitoring'.
- 1.1.3 This BSC Service Description also describes the key interfaces between the Teleswitch Agent, the BSCCo and other BSC Agents such as the Supplier Volume Allocation Agent (SVAA).

### **1.2 Structure of this Document**

- 1.2.1 This document is structured as follows:
- Section 2 gives an overview of Teleswitch Monitoring;
  - Section 3 provides a background to Teleswitch Monitoring;
  - Section 4 describes the detailed requirements of Teleswitch Monitoring;
  - Section 5 specifies non-functional requirements; and
  - Section 6 specifies the Service Levels required for the Teleswitch Agent.

### **1.3 The Balancing and Settlement Code Company**

- 1.3.1 The BSC Panel is supported in the discharge of its duties and obligations under the Code by the BSCCo. The BSCCo is created by the Code and procures, manages and operates services and systems that enable the Balancing Mechanism and Imbalance Settlement process to operate.
- 1.3.2 In accordance with Section E of the Code, the BSCCo shall enter into a contract with a person appointed as the Teleswitch Agent for the provision of Teleswitch Monitoring as specified in this BSC Service Description.

## **2 Overview**

### **2.1 BSC Requirement for Teleswitch Monitoring**

- 2.1.1 Section S4.3 of the Code provides that the primary functions of the Teleswitch Agent shall be:
- (a) To monitor the messages concerning contact switching times sent pursuant to the Radio Teleswitch Agreement to groups of SVA Metering Systems for which the related Metering Equipment is equipped with a teleswitch;

- (b) To provide details of those messages to the SVAA (by such means and in accordance with such BSC Procedures as may from time to time be approved by the Panel);
  - (c) To maintain a log recording the provision of details of teleswitch messages and to provide performance monitoring reports;
  - (d) To report to the SVAA any known or suspected failures in the monitoring and provision of messages; and
  - (e) To provide a consultancy and support service and a disaster recovery service.
- 2.1.2 This BSC Service Description is established under Section E of the Code 'BSC Agents' and may be amended as necessary in accordance with the Code and the provisions of BSC Procedure (BSCP), BSCP40 'Change Management'.
- 2.1.3 It shall be a term of the Teleswitch Agent Contract that the Teleswitch Agent shall perform its functions and duties in accordance with this Service Description.

## **2.2 Period of Responsibility**

- 2.2.1 The Teleswitch Agent shall perform the responsibilities and obligations set out in this BSC Service Description for the period defined in the Contract.
- 2.2.2 The Teleswitch Agent shall comply with the service levels required in relation to the delivery of Teleswitch Monitoring.

## **3 Background**

This section 3 provides a background to Teleswitch Monitoring in order to assist the understanding of requirements contained in the other sections of this BSC Service Description. It does not form part of the Service to be provided by the Teleswitch Agent.

### **3.1 Background to Teleswitching**

- 3.1.1 A significant proportion of Non-Half Hourly (NHH) Metering Systems contain teleswitches. These are used to switch between one Meter register and another or switch on and off heating systems by a message received via radio waves.
- 3.1.2 The radio teleswitching system became operational in the early 1980s (i.e. prior to the introduction of supply competition), and was designed to allow Regional Electricity Companies (REC) to control customers' heating loads and tariff registers.
- 3.1.3 A computer system known as the Central Teleswitch Control Unit (CTCU) is used to specify switching patterns, and sends the switching times to the British Broadcasting Corporation (BBC), where they are converted into messages to be transmitted on BBC radio four Long-wave via three broadcast transmitters in the 198kHz network.
- 3.1.4 With the introduction of supply competition for non-Half Hourly Meters in 1998, and the subsequent separation of supply and distribution businesses, a new commercial framework was required to allow Suppliers access to the teleswitching infrastructure

(“the Radio Teleswitch Agreement”). This is an agreement between the former REC distribution companies (acting as ‘Radio Teleswitch (RTS) Access Providers’) and Suppliers who wish to use the teleswitching infrastructure to control their customers’ teleswitched Metering Systems.

- 3.1.5 There is no requirement for the Teleswitch Agent to be the organisation that administers the operation of the teleswitch infrastructure. However there is a requirement for the Teleswitch Agent to be able to obtain or procure details of the instructions transmitted to the teleswitches.

## **3.2 Teleswitch Functionality**

- 3.2.1 A standard for the design of individual teleswitches that are intended to receive radio teleswitch signals is specified in British Standard (BS) 7647 ‘Specification for Radio Teleswitched for Tariff and load control’.
- 3.2.2 Teleswitches can receive two types of switching instruction: programmed messages (which are transmitted in advance of the required switching time, and update the matrix of switching times held in the teleswitch’s memory); and immediate command messages (which turn contacts on or off with immediate effect).
- 3.2.3 BSC 7647 specifies that teleswitches should interpret the times transmitted in the message as Co-ordinated Universal Time (UTC). In practice, not all teleswitch manufacturers comply with this and some teleswitches interpret the times transmitted in the messages as local time i.e. some teleswitches interpret the times as British Summer Time (BST) in summer. However, the Teleswitch Agent does not have the information on which Teleswitch Groups interpret times as UTC and which as local time and is therefore not required to take this into account. (Note, the SVAA does take it into account, as briefly described in section 3.4)
- 3.2.4 Teleswitches contain four contacts and the internal memory of a teleswitch can save four sets of switching times (referred to as blocks) for each contact, although these may not all be used, as illustrated in Table 3.2.5.

### 3.2.5 Table 3.2.5 Example of contacts and blocks

		Contact			
		A	B	C	D
Block	0	00:30 – 07:30	01:00 – 08:00	00:30 – 07:30	00:30 – 07:30
	1	12:00 – 13:00	13:00 – 15:00	...	...
	2	16:00 – 17:00	...	...	...
	3	19:00 – 21:00	...	...	...

3.2.6 Table 3.2.5 shows that contact A was switched on at 00:30 and off at 07:30, then on at 12:00 and off at 13:00, on at 16:00 and off at 17:00 and on at 19:00, off at 21:00. Contact B was switched on at 01:00 and off at 08:00 etc. (Note that this assumes that no immediate command messages have been received).

3.2.7 In most cases, contacts A and B relate to the switching of registers on the Meter and contacts C and D relate to the switching on or off of heating systems.

3.2.8 The last message received by a teleswitch supersedes any previous message. Therefore, for example if the teleswitch's programmed operating pattern is that described in Table 3.2.5, but an immediate command message to switch off contact A is sent at 04:00 then contact A will switch off at 04:00 and not switch back on until 12:00.

### 3.3 Teleswitch Users and the Central Teleswitch Control Unit

3.3.1 The Radio Teleswitch Agreement refers to 'RTS Access Providers'. These are Licensed Distribution System Operators (LDSOs) who provide Suppliers with access to the teleswitch infrastructure. In the Code and therefore this BSC Service Description RTS Access Providers are referred to as Teleswitch Users.

3.3.2 The blocks for each contact are defined by Teleswitch Users. Each Teleswitch User in England, Wales and Scotland has been allocated a unique Teleswitch User number between 1 and 14.

3.3.3 Each Teleswitch User has available to it 128 Teleswitch Groups under their user number which are used to define the blocks for sets of teleswitches. Note that Teleswitch Groups belonging to different Teleswitch Users may share the same Teleswitch Group Id, but have different switching times (i.e. a Teleswitch Group Id without the associated Teleswitch User Id is not sufficient to identify a unique Teleswitch Group). The Teleswitch User is not required to use all Teleswitch Groups.

3.3.4 Each combination of Teleswitch User and Teleswitch Group forms the unique address for a particular set of teleswitches.

3.3.5 The Teleswitch User shall define for the Teleswitch Groups that it uses, the blocks for each contact as required. Some Teleswitch Groups have fairly 'static' switching times

(i.e. the switching times are set on a long term basis), while for others the switching times are dynamic (e.g. varying each day). Switching times can be set or previous messages superseded by new programmed messages or immediate command messages on an ad hoc basis. Teleswitch Users provide this teleswitch programming data to the CTCU.

- 3.3.6 This information is continually sent to the BBC and transmitted throughout the day. Sixteen messages, representing the switching information for all sixteen combinations of switches and blocks are transmitted. Where a combination of switch and block is not required to have a switching time, a 'block delete' message or 'Blockoff' message is transmitted. Although some teleswitches operate on the same pattern daily, and so do not need the continuous repeat of the information, they may lose the stored information and revert to pre-programmed blocks for each contact if the electrical supply is interrupted. The broadcast messages are used to reset the internal memory of the teleswitch or program any newly installed teleswitches. The messages transmitted by each of the three broadcast transmitters are monitored by individual local broadcast receivers remote to the CTCU and used to confirm that the switching information was transmitted correctly. This information is logged on the CTCU. At the end of the UTC day (24:00 UTC) the Log file is closed and a new one opened.

### **3.4 Interface to the Supplier Volume Allocation Agent**

- 3.4.1 The on or off position of each of the contacts relate to the Time Pattern Regime (TPR) to which energy is allocated. For example, TPR 1 could relate to contact A being off and TPR 2 could relate to contact A being on (i.e. when contact A is off, energy is accounted to TPR (or for example register) 1). Since teleswitches have four contacts, the TPR can be more complex than the example provided and contain scenarios when more than one contact is on or off.
- 3.4.2 NHH Metering Systems are allocated a Standard Settlement Configuration (SSC) which defines how the Meter is configured for Settlement by specifying the TPR(s) that relate to that Metering System. For example, SSC 10 could relate to a Meter comprised of two TPRs, TPR 1 and TPR 2 and as described in 3.4.1, energy is accounted to the TPR, depending on the blocks of the contacts.
- 3.4.3 Teleswitch Users, Teleswitch Groups, TPRs and SSCs are recorded in Market Domain Data.
- 3.4.4 The Teleswitch Agent shall provide to the SVAA details of the switching times for each contact for all Teleswitch Users and Teleswitch Groups. The SVAA will use this information to calculate the amount of energy that will contribute to each TPR.

## **4 Teleswitch Monitoring Requirements**

### **4.1 Obtaining Switching Times**

- 4.1.1 The Teleswitch Agent shall obtain or procure a record from the CTCU containing all the teleswitch messages broadcast for each day in accordance with the service levels set out in section 6.3 of this BSC Service Description.

- 4.1.2 The record received from the CTCU shall include the following information for each message:
- (a) The time at which the message was transmitted;
  - (b) The Teleswitch User and Teleswitch Group to which it relates;
  - (c) For a programmed message, the contact, the block number, the start time and duration; and
  - (d) For an immediate command message, the contact(s) and the status (i.e. on or off) required for each one.
- 4.1.3 For the purposes of Teleswitch Monitoring, only the switching instructions (i.e. programmed and immediate command messages) are required. Other types of message that may have been transmitted and provided to the Teleswitch Agent by the CTCU are irrelevant and should be ignored.
- 4.1.4 The Teleswitch Agent shall extract from the Log file all data relating to the switching times of teleswitches in England, Wales and Scotland.

## **4.2 Determination of Switching Times**

- 4.2.1 The Teleswitch Agent shall familiarise itself with the functionality of teleswitches as set out in section 3.2, and shall use its best endeavours to ensure that the switching times for each teleswitch are correctly calculated.
- 4.2.2 The Teleswitch Agent shall calculate the times that each contact was switched on and off for all teleswitches by Teleswitch Group and Teleswitch User. The Teleswitch Agent shall without limitation consider the following when calculating the switching times for each contact:
- (a) The programmed messages that are transmitted apply from that point forward and supersede any previous messages because the new programmed messages will overwrite the stored information in the teleswitch for the appropriate contact and block. E.g. if block 1 for contact A is 02:00 – 08:00 and at 05:00 it is overwritten by 03:00 – 09:00 then contact A will not switch off until 09:00. Therefore the actual switching times for the teleswitch for contact A (described by block 1) that day, are ‘on’ at 02:00 and ‘off’ at 09:00 and this is what should be recorded by the Teleswitch Agent. However, the following day (assuming no new programmed messages or immediate command messages are received), the contact will not switch on until 03:00;
  - (b) Immediate command messages can be sent that immediately turn on or off a contact in a teleswitch. For immediate command messages, the timestamp is the effective time of the change to the contact state. This means that the contact is turned on or off prior to the time that was originally set by a programmed message or preceding immediate command message. However this type of instruction does not prevent the contact being turned on or off later in the day in accordance with the blocks stored in the teleswitch;

- (c) Programmed messages can be transmitted during one day to take effect starting on the following day, provided that they are sent less than 24 hours before the time that the instruction is due to take place. For example, a programmed message to switch contact A on at 09:00 could be transmitted from 17:00 the day before it is due to take effect. The Teleswitch Agent should ensure that this message is not applied to times prior to which it was sent and so it is important to consider the timestamp of the programmed message;
  - (d) The Teleswitch Agent should treat all the times transmitted in programmed messages as UTC times (even though some teleswitches treat the times as local times, note point 3.2.3); and
  - (e) 'Block Delete' or 'blockoff' messages mean that from the time the message is broadcast, no switching times are defined for the associated combination of block and contact.
- 4.2.3 Without prejudice to the generality of the foregoing it shall be the Teleswitch Agent's responsibility to ensure that the correct contact switching times are calculated for each Teleswitch Group and Teleswitch User.

### **4.3 Interface to the Supplier Volume Allocation Agent**

- 4.3.1 The Teleswitch Agent shall prepare for each UTC day a Teleswitch Data Interface File of teleswitch contact switching times reflecting the actual switching times of each contact calculated from the actual teleswitch messages broadcast for that day. The Teleswitch Agent shall provide this teleswitch data to the SVAA in order that the SVAA may process the teleswitch data in accordance with BSCP508 (Reference 1). The format of the Teleswitch Data Interface File shall conform to the specification of the D0277 'Teleswitch Contact Interval Data Files' in the SVA Data Catalogue (Reference 2) which is also set out in Appendix B.
- 4.3.2 For the avoidance of doubt the Teleswitch Data Interface File relates to a single UTC day. However, Settlement Runs will be run for each Settlement Day (i.e. the period from 00:00 to 24:00 hours in local time in each day). The contact switching times contained in the Teleswitch Data Interface File can therefore cross a Settlement Day boundary due to the difference between a UTC day and a Settlement Day.
- 4.3.3 The Teleswitch Agent shall ensure that one Teleswitch Data Interface file is produced for each UTC day.
- 4.3.4 The Teleswitch Agent shall ensure that the Teleswitch Data Interface File relates to a full UTC day, covering midnight to midnight.
- 4.3.5 The Teleswitch Agent shall ensure that the Teleswitch Data Interface File contains teleswitch contact switching times reflecting the actual teleswitch messages broadcast for that day.
- 4.3.6 The Teleswitch Agent shall ensure that the Teleswitch Data Interface File contains teleswitch data for all Teleswitch Groups and Teleswitch Users in England, Wales and Scotland.

- 4.3.7 The Teleswitch Agent shall ensure that the Teleswitch Data Interface File contains all the required teleswitch data for the UTC day, i.e. it must include the status for all combinations of Teleswitch User, Teleswitch Group and teleswitch contact valid on that day.
- 4.3.8 The Teleswitch Agent shall ensure that the Teleswitch Data Interface File completely supersedes any earlier file for the same UTC day.
- 4.3.9 The Teleswitch Agent shall ensure that the teleswitch contact record of the Teleswitch Data Interface File shows the state of the teleswitch contact at the start of the UTC day.
- 4.3.10 The Teleswitch Agent shall ensure that each teleswitch contact interval record of the Teleswitch Data Interface File relates to a change of state of a teleswitch contact within the UTC day, in ascending time order.
- 4.3.11 The Teleswitch Agent shall complete successful despatch of the daily Teleswitch Data Interface File to the SVAA by the required timescales on the first Business Day following the UTC day using the agreed data transmission mechanism.
- 4.3.12 The Teleswitch Agent shall re-send a Teleswitch Data Interface File on request from the SVAA.
- 4.3.13 In the event of failure of the agreed data transmission mechanism, the Teleswitch Agent shall complete successful despatch of the Teleswitch Data Interface File by any agreed method between the SVAA and Teleswitch Agent.
- 4.3.14 The Teleswitch Agent shall maintain a Teleswitch Data Production Log containing the information specified in Appendix C concerning details of processing, production and despatch of the Teleswitch Data Interface File to the SVAA.
- 4.3.15 The Teleswitch Agent shall attach and store file creation timestamps to the Teleswitch Data Interface Files to ensure that the files can be loaded in the correct order.

#### **4.4 Defect Resolution Procedure**

- 4.4.1 The Teleswitch Agent shall provide support services for advice and resolution of defects as requested by the BSCCo or the SVAA.
- 4.4.2 The Teleswitch Agent shall provide support services which shall include inter alia:
- (a) Advice and resolution of defects;
  - (b) Specified procedures by which the BSCCo or the SVAA can report and progress defects;
  - (c) Internal procedures for accepting, progressing, clearing, and reporting on defects and for carrying out liaison with the BSCCo and the SVAA on all such matters; and
  - (d) All necessary forms and other documentation to support the above.

- 4.4.3 If the BSCCo or the SVAA discovers a defect it shall report the defect to the Teleswitch Agent Contact Point and provide the Teleswitch Agent with the available diagnostics. On receipt of the reported defect and the available diagnostics the Teleswitch Agent shall use best endeavours to provide a solution for the defect within the following time periods:
- (a) Within 1 Business Day of notification for defects or errors whose presence prevents completion of processing within the timescale required by the BSCCo; and
  - (b) Within 5 Business Days of notification for all other defects or errors.

## **4.5 Miscellaneous Service Requirements**

- 4.5.1 The Teleswitch Agent shall send the Teleswitch Data Interface File to the BSCCo as requested by the BSCCo.
- 4.5.2 Where the Teleswitch Agent knows or has grounds to suspect that an error has occurred in Teleswitch Monitoring and/or the Teleswitch Data Interface File, it shall inform BSCCo and SVAA of its view as soon as reasonably practicable thereafter.
- 4.5.3 The Teleswitch Agent shall prepare test plans and submit these for the approval of BSCCo or SVAA as may be required by the BSCCo from time to time. The Teleswitch Agent shall revise and execute such test plans in accordance with any reasonable instructions from BSCCo.
- 4.5.4 The Teleswitch Agent shall comply with reasonable requests to provide information as requested by the BSCCo or its nominated agent, the SVAA, or Trading Disputes Committee (TDC) for resolution of disputes.

## **5 Non-Functional Requirements**

### **5.1 Data Retention and Transfer**

- 5.1.1 The Teleswitch Agent shall comply with the provisions contained in BSC Section U with regard to data retention.
- 5.1.2 Without prejudice to paragraph 5.1.1, in respect of Audit requirements and disputes, the Teleswitch Agent is required to retain data for at least 40 months from the last Settlement Day the data was used in the Settlement calculations. The data shall be kept for 28 months in a format that may be rapidly retrieved; thereafter it shall be kept in a format from which the data can be retrieved if requested within 10 Business Days.
- 5.1.3 The Teleswitch Agent shall retain the source data (i.e. the actual broadcast teleswitch messages) for a UTC day used for the purpose of preparing the Teleswitch Data Interface File and the Teleswitch Data Interface File.
- 5.1.4 The Teleswitch Agent shall be required to transfer the source data and the Teleswitch Data Interface Files on the appointment of a new Teleswitch Agent, and this obligation endures the termination of the Teleswitch Agent BSC Contract.

## 5.2 Contact Point

- 5.2.1 The Teleswitch Agent shall appoint a single point of contact (“Teleswitch Agent Contact”), which shall be available between the hours of 9:00 to 13:00 on Business Days to receive and respond to queries and problem reports about the Teleswitch Data Interface File or any aspect of Teleswitch Monitoring. In the event that the Teleswitch Agent Contact is not available the Teleswitch Agent shall nominate a replacement in writing to BSCCo.
- 5.2.2 The Teleswitch Agent shall maintain a Problem Log containing the information specified in Appendix D concerning details of all queries and problem reports received by the Teleswitch Agent Contact and all actions taken to address the query or problem through to its resolution.
- 5.2.3 The Teleswitch Agent shall contact the BSCCo via the Teleswitch Agent Contact for the purposes of the services set out in this BSC Service Description and the table above. The Teleswitch Agent shall inform the BSCCo promptly of any issue they believe may impact on the delivery of the Teleswitch Monitoring Service.

## 5.3 Audit Requirements

- 5.3.1 The determinations made by the Teleswitch Agent in connection with Teleswitch Monitoring, and the extent to which such determinations comply with the BSC and Code Subsidiary Documents, shall be subject to regular audit by the BSC Auditor, in accordance with the BSC Audit.
- 5.3.2 The Teleswitch Agent shall co-operate with any reasonable requests from the BSC Auditor for documents, information (including without limitation input data and related procedures and evidence of controls) and/or a request for access to premises.
- 5.3.3 The Teleswitch Agent agrees and acknowledges that BSCCo may conduct a Compliance Audit as frequently as they may require, subject to a maximum of one Compliance Audit in any period of three calendar months ending on 31 March, 30 June, 30 September and 31 December.
- 5.3.4 BSCCo shall provide reasonable notice of any Compliance Audit to the Teleswitch Agent and it shall be conducted during the Teleswitch Agent’s normal business hours.
- 5.3.5 The Teleswitch Agent shall provide the BSCCo and their advisers all facilities and access to premises, documents, information and systems as the BSCCo shall reasonably require for the purposes of the Compliance Audit and the Teleswitch Agent shall co-operate fully with the BSCCo in relation to the Compliance Audit. The Teleswitch Agent shall provide the BSCCo with copies of documents and information in such a form as the BSCCo or their advisers shall reasonably require.
- 5.3.6 The Teleswitch Agent shall maintain an audit trail between the daily Teleswitch Data Interface File and the actual teleswitch messages broadcast for that day used to define it, and make this available on reasonable request to the BSC Auditor.
- 5.3.7 The Teleswitch Agent shall be able to make the same determinations in accordance with the data retention requirements in 5.1.1, producing the same results from the same input data.

- 5.3.8 All processes operated by the Teleswitch Agent in respect of Teleswitch Monitoring must be verifiable. This means that:
- (a) Procedures and processes must be documented and recorded in such a form that they can be verified by the BSC Auditor; and
  - (b) All processing must be recorded and these records must contain such cross-references as are necessary to allow verification by tracing data through processing, both forwards and backwards.
- 5.3.9 The Teleswitch Agent must also make its staff available at all reasonable times to provide explanations and answer any questions arising from the audit that the BSC Auditor may require.
- 5.3.10 The BSCCo shall instruct the Teleswitch Agent to carry out such corrective action at its own cost as may be required by the BSCCo consequent on receipt of the BSC Auditor's Report. The Teleswitch Agent shall perform such corrective action as may be required.

#### **5.4 Disaster Recovery Service and Data Security Requirements**

- 5.4.1 The Teleswitch Agent shall provide a Disaster Recovery Service to be operated at a stand-by site. Following a Disaster, the Disaster Recovery Service shall be capable of providing the full normal service to the BSCCo or the SVAA in accordance with the Disaster Recovery Plan until the full, primary operational environment can be restored and the transfer of all services to that environment can be planned and executed within timescales as set out below.
- 5.4.2 Without prejudice to paragraph 5.4.1, the Teleswitch Agent shall develop and maintain a Disaster Recovery Plan which is agreed with the BSCCo. The plan shall include:
- (a) The criteria and procedure for declaration of a Disaster;
  - (b) Responsibilities and authorities to be in operation during a Disaster;
  - (c) A schedule to return to primary Teleswitch Monitoring including the Disaster Recovery Service within 28 days from the disruption of a Disaster;
  - (d) Descriptions of manual procedures and processes as well as other automated IT systems and procedures;
  - (e) Provision of a stand-by environment such that following a Disaster Teleswitch Monitoring and Service Levels set out in this BSC Service Description are maintained subject to a delay of up to 24 hours for output scheduled for the Business Day on which the Disaster was declared;
  - (f) Transfer of all other services to the stand-by site within 72 hours of the declaration of a Disaster; and
  - (g) How restoration of production at the primary site will be managed in order to ensure business continuity.

- 5.4.3 The Teleswitch Agent shall test the Disaster Recovery Plan at least once every year and shall comply with any reasonable instructions from BSCCo to re-perform such test as soon as practicable where BSCCo believes it to be necessary. The test will be performed against scenarios agreed with the BSCCo.
- 5.4.4 The Teleswitch Agent shall provide such facilities as are reasonably necessary to allow the BSCCo to monitor the Disaster Recovery Service to ensure it is carried out in accordance with the Disaster Recovery Plan. The Teleswitch Agent shall report as soon as reasonably practical to the BSCCo any deviation from the criteria set out in the Disaster Recovery Plan.

## **5.5 Change Management**

- 5.5.1 The Teleswitch Monitoring BSC Service Description is a Code Subsidiary Document and therefore BSC Parties (and other industry participants) can raise Change Proposals in accordance with BSC Section F and BSCP40 'Change Management' and Modification Proposals in accordance with the BSC Section F and BSCP76 'Submission of, and Communications relating to, Modification Proposals' that may have an impact on this document.
- 5.5.2 The Teleswitch Agent shall provide a Change Management service in accordance with BSCP40 as amended from time to time.
- 5.5.3 The Teleswitch Agent shall conduct impact assessments of the costs, timescales and other relevant considerations on any proposed changes to the service as notified by the BSCCo. The Teleswitch Agent shall respond with their impact assessment within 5 Business Days of receiving the request from the BSCCo or a longer period by prior agreement with the BSCCo.

## **5.6 Consultancy and Support Service**

- 5.6.1 The Teleswitch Agent shall, if so requested by the BSCCo, provide consultancy, support services and advice as may be reasonably required by the BSCCo in relation to Teleswitch Monitoring. The support provided may include:
- (a) If requested by the BSCCo attendance at meetings, reasonable notice of such meetings having been given, to provide advice on matters relating to Teleswitch Monitoring;
  - (b) Advising on the implications of changes to any aspect of Teleswitch Monitoring; and
  - (c) Analysis of existing business needs and business processes relating to Teleswitch Monitoring, or other subject matter as directed by the BSCCo. The consultancy service shall produce proposals, specify requirements, produce business case justifications and deliver additional, new or changed business processes as may be required.

## **6 Service Levels**

### **6.1 Performance Monitoring Requirements**

- 6.1.1 The Teleswitch Agent shall in accordance with Appendix E, provide monthly Routine Performance Monitoring Reports to the BSCCo;
- 6.1.2 The Teleswitch Agent shall provide ad-hoc Performance Monitoring Reports to the BSCCo within five Business Days of receipt of a request from the BSCCo;
- 6.1.3 The Teleswitch Agent shall provide monthly in accordance with Appendix E, copies of updates to the Teleswitch Data Production Log specified in Appendix C to the BSCCo.

### **6.2 Service Availability**

- 6.2.1 Teleswitch Monitoring as described in this BSC Service Description shall be carried out for each UTC day, and shall be provided to the SVAA to the timescales specified in Table 6.3.1.
- 6.2.2 The Teleswitch Agent shall:
  - (a) As required by the BSCCo, provide the Teleswitch Monitoring Service additionally at other times, on a timescale to be agreed with the BSCCo; and
  - (b) Provide the Contact Point from 09:00 to 13:00 each Business Day.

### **6.3 Service Levels**

- 6.3.1 The success of the Teleswitch Monitoring shall be evaluated utilising the Performance Monitoring Reports (Appendix E) and shall relate, inter alia, to the performance of the Teleswitch Agent in the transfer of the Teleswitch Data Interface File from the Teleswitch Agent to the SVAA, as specified in Table 6.3.2.

**6.3.2 Table 6.3.2 - Teleswitch monitoring Timescales**

Ref	When	Action	Information Required	Method
1	By 10:00am on the first Business Day after UTC day	Receipt of Teleswitch Data Interface File by the SVAA via agreed data transmission mechanism.	Refer to Appendix B for data content of Teleswitch Data Interface File	Electronic
2	From 10:00am on the first Business Day after UTC day	Notify the SVAA if Ref 1 above fails or respond to the SVAA's notification of missing or invalid data.  Use reasonable endeavours to resolve problems with the SVAA.	Date, Sender Id, Recipient Id, Nature of failure, Expected time Teleswitch Data Interface File will be available	Any method agreed between the SVAA and the Teleswitch Agent
3	By 12:00 noon on the first Business Day after UTC day	Receipt of corrected Teleswitch Data Interface File by the SVAA by agreed data transmission mechanism.	Refer to Appendix B for data content of Teleswitch Data Interface File	Electronic
4	By 12:00 noon on the first Business Day after UTC day, in the event of failure of the agreed data transmission mechanism	Receipt of Teleswitch Data Interface File by the SVAA.	Refer to Appendix B for data content of Teleswitch Data Interface File	Any method agreed between the SVAA and Teleswitch Agent
5	Between 10:00 on the first Business Day+3 to 15:00 on Business Day+4 after UTC day	Use reasonable endeavours to resolve problems notified by the BSCCo or its nominated agent, the SVAA, or TDC concerning Disputes. If necessary, re-send the Teleswitch Data Interface File via the agreed data transmission mechanism as requested by the SVAA.	Refer to Appendix B for data content of Teleswitch Data Interface File	Electronic or other method as agreed

6.3.3 The Teleswitch Agent shall record the number of successful and unsuccessful deliveries of Teleswitch Data Interface Files against each measure described in Appendix E of this BSC Service Description. These Routine Performance Monitoring Reports shall be delivered to the BSCCo, within five Business Days of the end of each month.

## Appendix A – Terms, Acronyms and Definitions

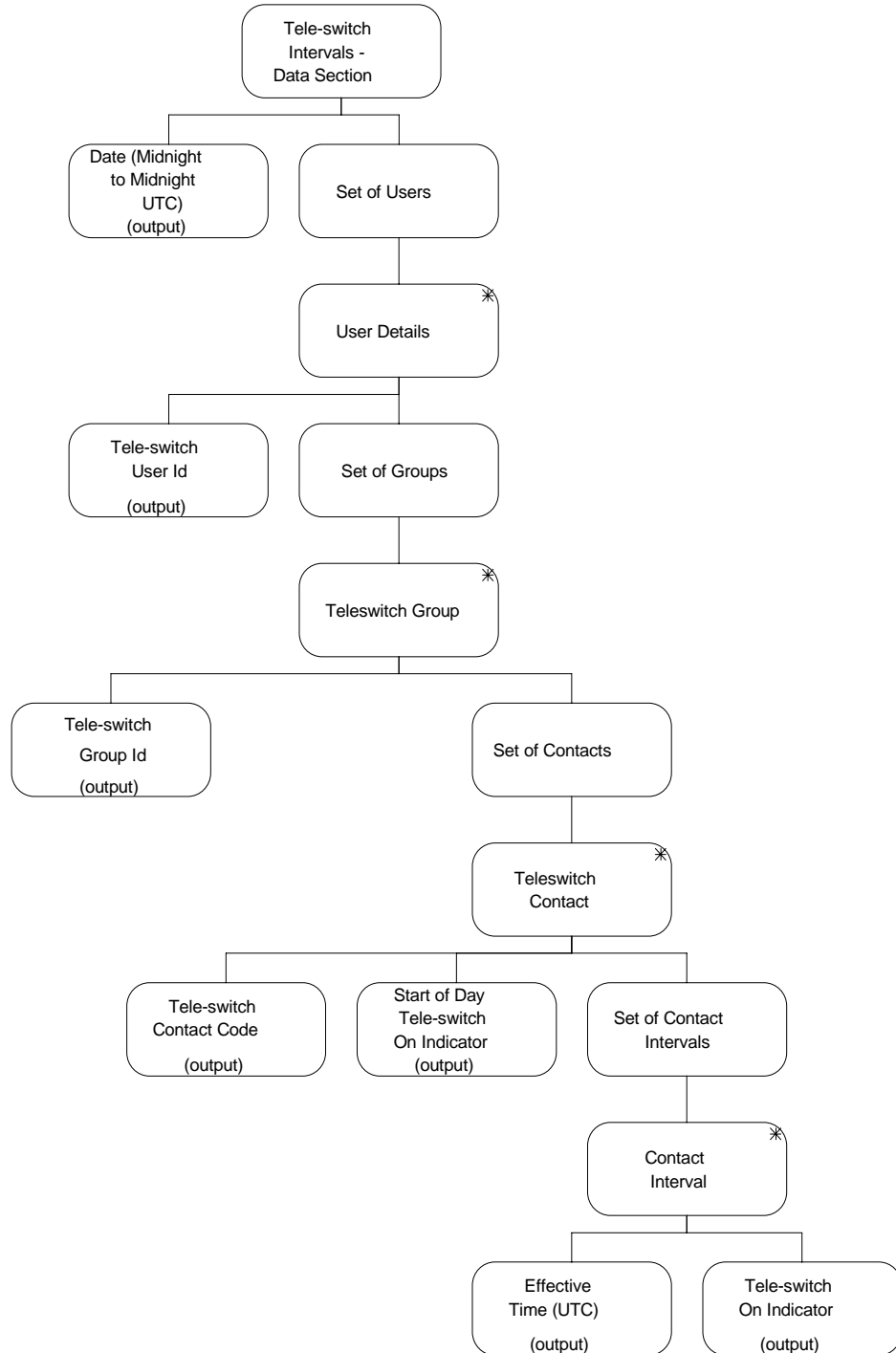
The following table defines acronyms and terms used in this document. Full definitions of the acronyms are, where appropriate, included in the Code.

<b>Term</b>	<b>Definition</b>
BSC	Balancing and Settlement Code
BST	British Summer Time
Code	Balancing and Settlement Code
Code Subsidiary Documents	Any document referred to in Section H1.2.4 of the Code as modified from time to time in accordance with Section F of the Code
Compliance Audit	Shall have the same meaning as given to it in the Teleswitch Agent Contract
CTCU	Central Teleswitch Control Unit
Disaster	Shall have the same meaning as given to it in the Teleswitch Agent Contract
Disaster Recovery Plan	Shall have the same meaning as given to it in the Teleswitch Agent Contract
immediate command message	Messages that are transmitted which turn contacts on or off with immediate effect
LDSO	Licensed Distribution System Operator
local time	Greenwich Mean Time or British Summer Time as appropriate
NHH	Non-Half Hourly
programmed messages	Messages that are transmitted in advance of the required switching time, which update the matrix of switching times held in the teleswitches memory
Radio Teleswitch Access Provider	An organisation that provides the RTS Access Service (as defined in the Radio Teleswitch Agreement) to Suppliers.
Radio Teleswitch Agreement	An agreement dated 28 September 1999 between the Teleswitch Agent, LDSOs and the Suppliers relating to the operation of the radio teleswitching system
RTSAP	Radio Teleswitch Access Provider
Settlement Day	The period from 00:00 to 24:00 hours in local time in each day
SSC	Standard Settlement Configuration
SVAA	Supplier Volume Allocation Agent
Supplier Volume Allocation Rules	The rules contained in Annex S-2 of the BSC (including any BSC Procedures and Party Service Lines referred to in that Annex)
Teleswitch User	An LDSO acting in its capacity as Radio Teleswitch Access Provider (RTSAP)
TPR	Time Pattern Regime
UTC	Co-ordinated Universal Time

## Appendix B - Teleswitch Data Interface File Specification

### Logical Specification

#### Jackson Structure Diagram



### Table of Teleswitch Data Interface File Data Items

Data Item	Description	Valid Values	Logical Length	Logical Format
Date (Midnight to Midnight UTC)	A calendar day, covering 24 hours from midnight to midnight in UTC.	Any valid date	8	DATE
Tele-switch User Id	A code representing the organisation (a user i.e. an LDSO) controlling a Teleswitch Group.	Any within the constraints of the format	2	INT(2)
Tele-switch Group Id	A code representing a group of teleswitch Metering Systems controlled by a Teleswitch User.	0-127	4	INT(4)
Tele-switch Contact Code	A code representing one of the logical contacts supported by teleswitch metering and telecommunications infrastructure.	A, B, C or D only	1	CHAR(1)
Start of Day Tele-switch On Indicator	Whether a contact is closed (on) or open (off) at the start of a day.	True=ON False=OFF	1	BOOLEAN
Effective Time (UTC)	The time within a calendar day at which a contact changes state.	Any valid time	6	TIME(6)
Tele-switch On Indicator	Whether a contact is closed (on) or open (off).	True=ON False=OFF	1	BOOLEAN

### Physical Specification

#### Record Layouts

Note:

- Each record in the file will consist of a number of fields, separated by a vertical bar character '|'. Note that there is not a vertical bar after the last field;
- The first field in each record is a three-character record-type Identifier; and
- The file should be ordered by Tele-switch User Id, Tele-switch Group Id, Tele-switch Contact Code and Effective Time (UTC).

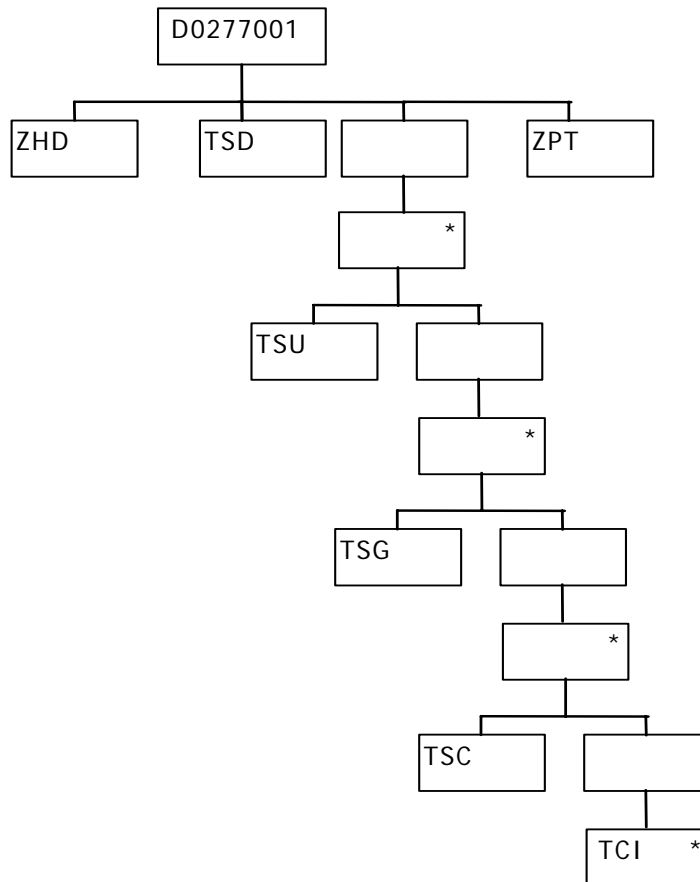
The following table shows the format of each of the different record types.

ZHD – File Header			
Field	Field Name	Type	Comments
1	Record Type	text(3)	= ZHD
2	File Type	text(8)	= D0277001
3	From Role Code	text(1)	= I
4	From Participant Id	text(4)	Id of Teleswitch Agent originating file
5	To Role Code	text(1)	= G
6	To Participant Id	text(4)	Id of SVAA receiving file
7	Creation Time	date/time	Time of file generation, format YYYYMMDDHHMMSS
TSD - Teleswitch Date			
Field	Field Name	Type	Comments
1	Record Type	text(3)	= TSD
2	Date (Midnight to Midnight UTC)	date	Format YYYYMMDD
TSU - Teleswitch User			
Field	Field Name	Type	Comments
1	Record Type	text(3)	= TSU
2	Tele-switch User Id	integer(2)	No leading zeroes.
TSG - Teleswitch Group			

Field	Field Name	Type	Comments
1	Record Type	text(3)	= TSG
2	Tele-switch Group Id	integer(4)	No leading zeroes.
<b>TSC - Teleswitch Contact</b>			
Field	Field Name	Type	Comments
1	Record Type	text(3)	=TSC
2	Tele-switch Contact Code	text(1)	Valid values are A, B, C and D
3	Start of Day Tele-switch On Indicator	boolean	Values are: i) T, standing for True, meaning contact is ON ii) F, standing for False, meaning contact is OFF
<b>TCI - Teleswitch Contact Interval</b>			
Field	Field Name	Type	Comments
1	Record Type	text(3)	= TCI
2	Effective Time(UTC)	time	Format HHMMSS (24-hour)
3	Tele-switch On Indicator	boolean	Values are: i) T, standing for True, meaning contact is ON ii) F, standing for False, meaning contact is OFF
<b>ZPT - Footer</b>			
Field	Field Name	Type	Comments
1	Record Type	text(3)	=ZPT
2	Record Count	integer(10)	Count of records, including header and footer. No leading zeroes.
3	Checksum	integer(10)	No leading zeroes

## Structure Diagram

Note: An asterisk denotes zero, one or many occurrences.



## Example File

The following is an example file, showing data for a single Teleswitch Group, in which contacts A and C were ON from 01:00 - 07:00 UTC; contact B was ON from 00:00-01:00 and 07:00-00:00; and contact D was OFF all day.

```

ZHD|D0277001|I|EASL|G|CAPG|19980226|11300
TSD|19980225
TSU|2
TSG|21
TSC|A|F
TCI|010000|T
TCI|070000|F
TSC|B|T
TCI|010000|F
TCI|070000|T
TSC|C|F
TCI|010000|T
TCI|070000|F
TSC|D|F
ZPT|15|1144075881
  
```

---

## Appendix C - Teleswitch Data Production Log

The contents of the Teleswitch Data Production Log shall include, but not necessarily be limited to the following data. The Teleswitch Agent shall ensure that it also maintains records of any additional information required to fulfil its obligations under this BSC Service Description or any other contractual obligation.

### 1. Details for each Teleswitch Data Interface File

- (a) Unique File Identifier;
- (b) UTC day File relates to;
- (c) Date and time of processing of File;
- (d) Details of any significant known or suspected errors in the File;
  - Nature of error;
  - Date and time the SVAA informed;
  - SVAA informed within required timescale (Y/N); and
  - Details of action taken.
- (e) File creation timestamp;
- (f) Date and time File despatched;
- (g) Medium by which File despatched; and
- (h) File despatched within required timescale (Y/N).

### 2. Details of copy of Teleswitch Data Interface File requested

- (a) UTC day for which copy File requested;
- (b) Date and time copy File requested;
- (c) Details of originator of request;
- (d) Date and time copy File despatched; and
- (e) Medium by which copy File despatched.

### 3. Details of late despatch of Teleswitch Data Interface File

- (a) Date and time first realised deadline would not be met;
- (b) Date and time the SVAA informed;
- (c) The SVAA's contact name; and
- (d) Medium by which the SVAA contacted.

## Appendix D - Contact Point Problem Log

The contents of the Problem Log shall include, but not necessarily be limited to the following data. The Teleswitch Agent shall ensure that it also maintains records of any additional information required to fulfil its obligations under this BSC Service Description or any other contractual obligation.

### 1. Details of each query or problem reported to the Contact Point

- (a) Date and time query or problem reported;
- (b) Medium by which query reported;
- (c) Details of originator of query or problem;
- (d) Description of query or problem;
- (e) Details of action taken;
  - Date and time originator informed;
  - Originator informed within required timescale (Y/N); and
  - Medium by which originator informed.

## Appendix E - Performance Monitoring Reports

Measure	Process	Dataflow	Recipient	Performance standard	Performance Measure /Service Level
1	Daily Teleswitch Data Interface File Production / Despatch	Successful Receipt of daily Teleswitch Data Interface Files	BSCCo	Complete Accurate Within timescales	100% to Table 6.3.2
2	Daily Teleswitch Data Interface File Production / Despatch	Teleswitch Data Production Log	BSCCo	Complete Accurate Within timescales	100% of updates within 5 WD of end of month
3	Contact Point / Problem Resolution	Summary of Problem Log	BSCCo	Complete Accurate Within timescales	100% within 5 WD of end of month
4	Teleswitch Monitoring Management	Routine Performance Monitoring Reports	BSCCo	Complete Accurate Within timescales	100% within 5 WD of end of month

The Routine Performance Monitoring Reports shall measure the success rates of the delivery of the files/reports in Measures 1-3. The Teleswitch Agent shall agree with the BSCCo the format of the report which shall contain the occasions where complete and accurate reports were not provided by the deadlines set out in Table 6.3.2 and the medium of the report.