August 2002

Requirements Specification for Modification P91 - `Extension to Data Provided to the Transmission Company in the TUoS Report'

Document Reference	P091RS
Version no.	1.0
Issue	FINAL
Date of Issue	5/8/2002
Reason for Issue	**Detailed Level Impact Assessment**
Author	ELEXON

I DOCUMENT CONTROL

a Authorities

Version	Date	Author	Signature	Change Reference
0.1	29/07/02	Change Delivery		Issued for Review
1.0	05/08/02	Change Delivery		Impact Assessment

b Distribution

Name	Organisation

c Related Documents

Reference 1	Modification Proposal P91 'Extension to Data Provided to the Transmission Company in the TUoS Report' (8 July 2002)
Reference 2	Initial Written Assessment for Modification Proposal P91 'Extension to Data Provided to the Transmission Company in the TUoS Report' (18 July 2002)
Reference 3	ISRA Technical Specification (4 August 2000)
Reference 4	SVA Data Catalogue version 4.0 (20 March 2002)
Reference 5	BSC Procedure 40 `Change Management' version 2.0 (27 March 2001)

d Intellectual Property Rights and Copyright

II CONTENTS TABLE

I Document Control 2
a Authorities 2
b Distribution 2
c Related Documents 2
d Intellectual Property Rights and Copyright 2

II Contents Table 3

1 Introduction 4
1.1 Background and Scope 4
1.2 Interaction with Modification Proposal P62 4
1.3 Purpose and Structure of Document 4
1.4 Glossary 5

2 Requirements Specification for Modification Proposal P91 'Extension to Data Provided to the Transmission Company in the TUoS Report' 6
2.1 Requirements Specification Overview 6
2.2 Implementation Option 1 -- Enhancement to the D83 File 7
2.3 Implementation Option 2 – New Data File 8
2.4 Testing Requirements 9

3 Other Changes Required 9
3.1 Potential Changes to External Systems 9
3.2 Potential Changes to Industry Documentation 9

4 Development Process 11
4.1 Design 11
4.2 Testing 11
4.3 Implementation 11

1 INTRODUCTION

1.1 Background and Scope

The Requirements Specification for Modification P91 - 'Extension to Data Provided to the Transmission Company in the TUoS Report' (Reference 1) forms the basis for an impact assessment of the implementation and associated issues, should this Modification be adopted. This Requirements Specification defines the requirements for implementation of the Modification without any evaluation or assessment of the Modification itself in accordance with F 2.6.6 of the Code.

Modification Proposal P91 (P91) was raised by National Grid on 8 July 2002, and the Initial Written Assessment (Reference 2) was considered by the BSC Panel at their meeting on 18 July 2002. The Panel agreed to submit P91 to the Assessment Procedure at that meeting.

P91 seeks to amend Annex V-1 of the Code in order to enable the Transmission Use of System (TUoS) Report to include the split between half-hourly and non-half-hourly metering data at the Balancing Mechanism Unit (BMU) level in addition to being aggregated to Supplier level.

The Volume Allocation Modification Group (VAMG) met on 22 July 2002, during which time the requirements of the Modification were determined and agreed. This Requirements Specification represents the outcome of the VAMG meeting.

1.2 Interaction with Modification Proposal P62

It was recognised at the VAMG meeting that the implementation of P91 could potentially overlap with the implementation of Modification Proposal P62 - 'Changes to Facilitate Competitive Supply On the Networks of New Licensed Distributors'. If approved by the Authority, P62 would make significant changes to Supplier Volume Allocation (SVA) Systems and processes. The implementation process and timescale for P91 will need to take such interactions into account in order to achieve savings in cost and time.

1.3 Purpose and Structure of Document

The primary purpose of this document is to specify the requirements for the requisite changes to Central Services, BSC Parties and Party Agents and to the Code, Subsidiary and Industry documentation, in sufficient detail to enable all impacted BSC Agents (Cap Gemini Ernst & Young and Logica), Parties, Party Agents and documentation owners to provide an impact assessment of the changes required to support this Modification Proposal.

In particular the main purpose of this document is to specify ELEXON's (representing the Modification Group) requirements for the requisite change to SVAA functionality in sufficient detail to allow the SVAA and the developer of the SVA Systems to provide an initial detailed assessment of the following:

- An assessment of the cost of any changes to the contractual baseline.
- An assessment of the elapsed time required to implement the changes.
- A proposed testing strategy for the changes.
- A proposed release and acceptance strategy (e.g. whether to phase the implementation to provide a quick solution to urgent operational issues).

For the purposes of this assessment, it should be assumed that that the changes will be implemented as a standalone development project managed by ELEXON.

The document is structured as follows:

– Section 2 specifies the required functionality for the changes defined within the Modification Proposal.

– Section 3 specifies the associated industry changes to support the functionality defined in Section 2.

– Section 4 specifies ELEXON's requirements for involvement in the design and testing process.

1.4 Glossary

The following acronyms have been used throughout this document (excluding acronyms used in the Technical Glossary):

BM	Balancing Mechanism
BMU	Balancing Mechanism Unit
BSC	Balancing and Settlement Code
DTC	Data Transfer Catalogue
DTN	Data Transfer Network
FAT	Factory Acceptance Testing
GSP	Grid Supply Point
HH	Half-hourly
ISDN	Integrated Service Digital Network
ISRA	Initial Settlement and Reconciliation Agent
NHH	Non-half-hourly
SAT	Software Acceptance Testing
SVA	Supplier Volume Allocation
SVAA	Supplier Volume Allocation Agent
TNUoS	Transmission Network Use of System
TUoS Report	Transmission Use of System Report
URS	User Requirements Specification
VAMG	Volume Allocation Modification Group

2 REQUIREMENTS SPECIFICATION FOR MODIFICATION PROPOSAL P91 'EXTENSION TO DATA PROVIDED TO THE TRANSMISSION COMPANY IN THE TUOS REPORT'

2.1 Requirements Specification Overview

P91 seeks to amend Annex V-1 of the BSC in order to enable the Transmission Use of System (TUoS) Report to include the split between half-hourly and non-half-hourly metering data at the Balancing Mechanism Unit (BMU) level in addition to being aggregated to Supplier level.

The Transmission Company applies different charging methods for half-hourly (HH) and non-half-hourly (NHH) metered demand of Supplier BMUs, as set out in the Statement of the Use of System Charging Methodology. Hence it is important that the Transmission Company is able to accurately determine the HH and NHH split of energy for each Supplier BMU.

Currently the Transmission Company receives a data flow (the D83 file) from the SVAA which reports the HH and NHH metering split at the granularity of Market Participant ID, GSP Group ID and Settlement Period. If a Supplier has Base Supplier BMUs only, then the D83 file contains all the necessary data for calculating the Transmission Network Use of System (TNUoS) Charge for each Supplier. However, if Suppliers register additional Supplier BMUs, all the data necessary for charging is not contained in the D83 file, and further data is required when any of the Supplier BMUs are involved in Triad trading within a Class 4 Trading Unit. If a Supplier BMU is involved in Triad trading, the Transmission Company needs to know the HH and NHH metering split at the BMU level. This is required to implement the TNUoS charging rules covering Triad trading as a Trading Unit according to paragraph 4.11 of the Statement of the Use of System Charging Methodology.

To date, the lack of HH and NHH metering data at the BMU level has not prevented the implementation of the TNUoS charging rules, given the limited number of Suppliers with additional BMUs and the current composition of Trading Units. However, this situation is likely to change as a result of the implementation of Modification Proposal P7 - `Allocation of Supplier Demand to the Same BM Unit in a GSP Group for all Suppliers in the Same Company Group'. The expected increase in additional Supplier BMUs and the formation of new Trading Units would give rise to a significant number of cases where the data required for accurate charging is not contained in the current D83 file. As a result the Transmission Company is seeking to receive a data file that will represent the HH and NHH metering data at a BMU level in addition to being aggregated to Market Participant level. For the avoidance of doubt, it should be noted that the requirement is for this file to be provided to the Transmission Company only.

During their meeting on 22 July 2002, the Volume Allocation Modification Group (VAMG) identified two implementation options that could provide the relevant data to the Transmission Company. It is required that these options should be assessed by the SVAA and by the developer of the SVA Systems. These assessments should include development costs and the operational costs, separately for the SVAA and for the developer of the SVA Systems. For the avoidance of doubt:

1. The developer of the SVA Systems should quote for the software and testing costs of both implementation options identified in this report.

2. The SVAA should quote for the testing and operational costs of both implementation options. In addition, the SVAA should also quote for the possibility of creating a reporting process which

would remain outside the SVA System and would only interrogate the existing database to output the relevant report.[1]

2.2 Implementation Option 1 -- Enhancement to the D83 File

2.2.1 Contents of file

The structure of the TUoS Report is described in Section 3.1.21 of the ISRA Technical Specification (Reference 3) and in the SVA Data Catalogue Volume 1 Appendix F (Reference 4).

The TUoS Report currently comprises a data file of type D0083001, also known as the D83 file. In order to implement P91, the D83 file could be enhanced to contain the following data items in addition to its current contents:

For each Supplier BM Unit within the GSP Group:
BM Unit ID (not available in the current feed)

For each Settlement Period:
Settlement Period (current SPX record)
BM Unit Half-hourly Demand (not available in current feed)
BM Unit Non-half-hourly Demand (not available in current feed)

It should be noted that enhancements to the existing D83 file will impact SVA software. In addition, the D83 data file will need to be renamed if Option 1 is chosen to implement P91. This is because even though the D83 flow from the SVAA to the Transmission Company does not use the Data Transfer Network (DTN), a version of the D83 flow relating to Scotland is still defined in the Data Transfer Catalogue (DTC). It has been suggested that the enhanced file should be denoted as a 'P' flow in order to avoid impacting the DTC. The impact assessment should also address this issue.

2.2.2 Data Submission Details

Currently a D83 file is created corresponding to each Settlement Run type for each Settlement Date with the exception of the Interim Information Settlement Run (the II Run). It is expected that the new information would be created and sent to the Transmission Company following the same timetable as used for the current D83 file.

Currently, the TUoS Report (i.e., the D83 file) is being sent on an ISDN link between the SVAA and the Transmission Company. It is expected that the enhanced file would use the same link and that the impact assessment would highlight any issues involved.

When the current D83 file is created, all data is reported for all GSP Groups with the exception of Dispute runs when only the GSP Groups affected are reported upon. The Transmission Company suggests that it would be preferable (but not necessary) that "all data is sent for all run types in the future". ELEXON has determined that it might not be possible to achieve the Transmission Company's preference without incurring significant additional costs[2]. It is required that the impact assessment should address the cost of sending all data for Dispute Runs as a separate (optional) item within Implementation Option 1.

[1] As discussed in Section 2.3.1 of this report.
[2] This is because dispute runs are performed only for those GSP Groups which are in the disputes process for the relevant Settlement Day. As a result, the Transmission Company's preference cannot be satisfied as stated. However, it might be possible to substitute values for the latest available settlement run for those GSP Groups which are not in the disputes process. As this is not a requirement for P91, the VAMG will need to consider the cost of the Transmission Company's preference separately.

2.3 Implementation Option 2 – New Data File

2.3.1 Contents of file

P91 could be implemented by creating a new data file within the TUoS Report. Implementation Option 2 was identified because the VAMG felt that it might be possible to implement P91 without requiring significant changes to SVA Systems. Since SVA Systems already store the data items required, it might be possible to collect this information into a new file and send it to the Transmission Company without significant impact on SVA Systems or processes. It was felt that if this option could be adopted, then development costs would be low.

The data required to implement P91 by a new file includes:

For each file created:

An indicator of the file identity (within the current D83 file this is 'D0083001' and comes as part of the ZHD record. The new file would have a new unique identifier. This unique identifier should not begin with the character `D' as this file is not intended to utilise the Data Transfer Network. It is suggested that the new file should be denoted as a `P' flow.)

Creation date/time of the file (currently in the D83 ZHD record)
Settlement Date (within the current D83 HDR record)
Run Type (current D83 HDR record)
SVAA Run Number (current D83 HDR record)

For each GSP Group:

GSP Group Id (current D83 GSP record)

For each Supplier BM Unit within the GSP Group:

BM Unit Id (not available in the current feed)

For each Settlement Period:

Settlement Period (current D83 SPX record)
BM Unit Half-hourly Demand (not available in current feed)
BM Unit Non-half-hourly Demand (not available in current feed)

For each file created:

Record Count (current D83 ZPT record)

Furthermore, the VAMG also considered the possibility that the SVAA might be able to implement P91 without *any* software changes to the SVA Systems at all. For example, this could be achieved by creating a reporting process which would remain outside the SVA System and would only interrogate the existing database to output the relevant report. The VAMG felt that significant savings could perhaps be achieved in terms of cost and time as a result.

However, it should be noted that the SVA Systems are relatively complex. Maintainability, software design, implementation consistency and performance issues will also need to be considered before deciding on an appropriate solution to implement P91. The impact assessment from the SVAA is expected to clarify the issues, costs and risks that are involved in all the implementation approaches identified, including the one suggested in the previous paragraph.

2.3.2 Data Submission Details

Currently the D83 file is created corresponding to each Settlement Run type for each Settlement Date with the exception of the II Run. It is expected that the new file would be created and sent to the Transmission Company following the same timetable as used for the current D83 file.

Currently, the TUoS Report (i.e., the D83 file) is being sent on an ISDN link between the SVAA and the Transmission Company. It is expected that the new file would use the same link and that the DLIA would highlight any issues involved.

When the current D83 file is created, all data is reported for all GSP Groups with the exception of Dispute runs when only the GSP Groups affected are reported upon. The Transmission Company suggests that it would be preferable (but not necessary) that "all data is sent for all run types in the future". ELEXON has determined that it might not be possible to achieve the Transmission Company's preference without incurring significant additional costs[3]. It is required that the impact assessment should address the cost of sending all data for Dispute Runs as a separate (optional) item within Implementation Option 2.

2.4 Testing Requirements

Further details about the development process can be found in Section 4 of this document. It is intended that the Transmission Company should also carry out tests in order to verify the correctness of the new data to be included in the TUoS Report. The Transmission Company should undertake sufficient validation testing at their end for this purpose.

3 OTHER CHANGES REQUIRED

This section defines amendments to industry systems, processes and documentation not already identified in the previous sections.

3.1 Potential Changes to External Systems

The TUoS Report is sent from the SVAA to the Transmission Company only. No other systems or processes are expected to be impacted.

3.2 Potential Changes to Industry Documentation

The following lists the documentation that requires amendment as a result of the implementation of the Modification with a brief summary of the potential change. The documentation listed is believed to represent the full set of impacted documents at this time.

3.2.1 The Code

The only amendment identified is to Table 7 in Annex V-1. No further amendments to the Code are identified at this time.

3.2.2 Core Industry Documents – Grid Code

During the meeting of the VAMG on 22 July 2002, the Transmission Company confirmed that P91 does not impact the Grid Code.

3.2.3 Core Industry Documents – Data Transfer Catalogue (DTC)

The DTC is not impacted as the D83 flow from the SVAA to the Transmission Company does not use the DTN[4].

[3] See Section 2.2.2 of this document for further commentary, especially in the footnote.
[4] As noted in Section 2 of this document, the D83 file uses an ISDN link. The flow occurrence from the SVAA to Grid Control was removed from version 4.1, and the flow occurrence to Grid Operator was removed from version 5.1 of the DTC. Version 5.1 of

3.2.4 Code Subsidiary Documents – BSC SVA Data Catalogue

Either implementation option will impact the SVA Data Catalogue.

3.2.5 Code Subsidiary Documents – BSCP508 ' BSC Procedure - Supplier Volume Allocation Agent'

If Implementation Option 2 is adopted and a new file is created within the TUoS Report, then BSCP 508 will be impacted.

3.2.6 SVAA URS

Sections 6.2.8.4 and 6.5.148 of the SVAA URS are impacted by P91.

3.2.7 `ISRA' Documentation

It has been determined that P91 impacts the ISRA Function Definition & User Catalogue (Section 3.44.13) and the Physical Design ISRA technical Specification (Section 3.1.21). The ISRA Management Guide may also be impacted (in particular, Section 6.3 which mentions file D0083001 `TUoS Report' by name.)

No other amendments, other than those defined above, are identified at this time.

---

the DTC was also amended to show that only the D83 flow in Scotland is included.The requirement on the SVAA to send the TUoS Report (i.e., the D83 file) to the Transmission Company is currently documented in BSCP 508.

4 DEVELOPMENT PROCESS

For the purposes of this assessment, it should assumed that the changes would be implemented as a standalone development project managed by ELEXON.

The following sections give an indication of the control points required during design, testing and implementation and are supplied to provide a basis on which the SVAA and the developer of the SVA Systems (Logica) can estimate.

4.1 Design

It is intended that responsibility for the correctness of the design should remain with ELEXON. System and documentation changes such as functional specifications will be undertaken by Logica with ELEXON reviewing and approving such changes.

This Requirements Specification describes the changes necessary to implement P91, should the modification be approved by the Authority. ELEXON requests Logica and the SVAA to quote for the delivery of the change and to specify technical solutions where appropriate. Any proposed solution would need to be approved by ELEXON before the change is undertaken.

For the avoidance of doubt, it should be noted that:

1. Logica should quote for the software and testing costs of both implementation options identified in this report.
2. The SVAA should quote for the testing and operational costs of both implementation options. In addition, the SVAA should also quote for the possibility of creating (and testing) a reporting process which would remain outside the SVA System and would only interrogate the existing database to output the relevant report.

4.2 Testing

A testing strategy would be produced as part of the ELEXON project. This would define the scope of testing and the responsibilities of the relevant parties. Testing would normally consist of three phases:

- Module and Factory Acceptance Testing (FAT) undertaken by Logica. The FAT would be witnessed by ELEXON and subject to acceptance.
- Further testing undertaken by ELEXON (dependent on the scope of the change.)
- Software Acceptance Testing (SAT) undertaken by the SVAA.

At each stage, defects would be assessed by ELEXON and corrected by Logica.

4.3 Implementation

An implementation plan would be produced as part of the ELEXON project. On completion of SAT and following the correction of any defects identified, ELEXON would assess the Go-Live criteria before the live implementation by the SVAA.

It is also intended that the Transmission Company should undertake sufficient validation testing at their end. These tests could also be witnessed by ELEXON if necessary.