SVG62/09

Meeting name	Supplier Volume Allocation Group(SVG)
Date of meeting	4 April 2006
Paper Title	INVESTIGATION OF SVA LINE LOSS FACTORS LESS THAN ONE
Purpose of Paper	For Information
Synopsis	This paper provides the SVG with details of the potential impact of allowing Line Loss Factors of less than one to be used in Supplier Volume Allocation.

1. INTRODUCTION

1.1 At the meeting of the SVG on 31 January 2006, ELEXON was asked to investigate the potential impact of allowing SVA Line Loss Factors (LLFs) of less than one to be used in Settlement. At present, BSCP528 'SVA Line Loss Factors for Half Hourly and Non-Half Hourly Metering Systems registered in SMRS' requires SVA LLFs to be submitted as positive scaling factors to three decimal places with a value of unity or greater (i.e. greater or equal to 1.000).

1.2 Following a verbal update to the SVG at its meeting on 28 February 2006, ELEXON was asked to provide a detailed explanation of the impacts associated with such a change, particularly on the central SVA systems.

2. BACKGROUND

2.1 SVA LLFs are intended to reflect the losses incurred in a Distribution System between a Grid Supply Point (GSP) and the Boundary Point at which demand is taken off the system by a Supplier. For embedded generation that is electrically close to demand, the losses incurred in distributing the electricity it generates may be less than those incurred in distributing electricity from a GSP, in which case it is appropriate for a Line Loss Factor greater than one to be applied. The effect of the LLF is to scale up the metered generation to an equivalent amount delivered at the GSP. However, for embedded generation that is electrically isolated from demand, the losses incurred in distributing the electricity it generates may be greater than those incurred in distributing electricity from a GSP, in which case it may be appropriate to apply SVA LLFs of less than one in order to scale down the metered generation and reflect fully the level of losses across the Distribution System.

2.2 LLFs of less than one are permitted in Central Volume Allocation but not in SVA. However, as the volume of SVA-registered embedded generation increases, the impact on losses may become more significant and so may require greater visibility in Settlement.

2.3 In the Half Hourly market, the SVA Agent (SVAA) does not receive individual LLF data but is instead provided with an Aggregated Supplier Line Loss value for each Supplier, which is derived by multiplying consumption by (LLF - 1) in accordance with the rules in Annex S-2 of the BSC. As a result, where LLFs have a value less than one, the Aggregated Supplier Line Loss may be negative.

2.4 ELEXON believes that the original decision not to allow values of LLF less than one was taken by the Electricity Pool. The issue arose at a late stage in the 1998 Programme, and the risk to the Programme of changing the industry baseline at that time (to allow negative values of Aggregated Supplier Line Loss) was perceived as outweighing any benefits, given the small volume of embedded generation affected.

3. IMPACT ON CENTRAL SYSTEMS

3.1 The impact of allowing LLF values less than one has now been assessed by both the developer and operator of the SVAA software. These impact assessments have confirmed that the standard regression tests carried out on the SVAA system already include scenarios where LLFs of less then one are involved, on the basis that such values are technically permissible according to the LLF definition in the SVA Data Catalogue. Furthermore, the tests also provide for the generation of reports containing negative values of Aggregated Supplier Line Loss. The successful completion of these tests as part of previous system developments indicates that the current system can readily support the use of LLFs with values less than one.

3.2 The SVA Agent has also investigated whether there is any potential impact on SVAA operational activity. Two relevant user-amendable Reference Values contained within the SVAA system have been identified: the 'LLFC' Reference Value specifies the permissible range of LLF values that may be processed by the system and is currently set at 0 to 99.999, so can already accommodate instances where LLFs are less than one. The 'AGSL' Reference Value specifies the permissible range of Aggregated Supplier Line Loss, and is currently set with minimum and maximum values of ± 9999999999.999. No operational changes are therefore required in order for the SVAA system to support the use of LLFs less than one.

4. IMPACT ON PARTICIPANT SYSTEMS

4.1 LLF values are processed by Suppliers, Half Hourly Data Aggregators and Distributors, and so the systems used by these participants may be impacted by the introduction of LLFs less than one. The detailed extent of these impacts is uncertain and would require a formal impact assessment to be carried out following the raising of a Change Proposal.

5. TESTING REQUIREMENTS

5.1 Depending on the outcome of any participant impact assessment, it may prove beneficial to carry out some form of end-to-end testing so as to ensure data is processed correctly by participants and successfully loaded into SVAA for volume allocation. This would incur some central system costs for the SVAA aspects of the testing; an estimate may be provided once the required scope has been defined.

6. IMPACT ON DOCUMENTATION

6.1 The current Settlement requirement for SVA LLFs to be greater or equal to one is established in BSCP528 and so a change would be required to explain those situations where LLFs of less than one may be appropriate. It is expected that all LLFs associated with demand should remain greater or equal to one, and this should continue to be clearly specified in the BSCP.

6.2 The SVA Data Catalogue specifies Aggregated Supplier Line Loss as having a value greater or equal to zero within the constraints of the format. This description must be amended to allow for negative values; an equivalent change would also be required to the MRA Data Transfer Catalogue.

6.3 The definition of Line Loss Factor in both the SVA Data Catalogue and the MRA Data Transfer Catalogue is as a zero or positive number within the constraints of the format, and so no changes are required to allow LLFs of less than one to be transmitted across the Data Transfer Network. It is not proposed that Line Loss Factors should ever take negative values.

7. CALCULATION OF LINE LOSSES

7.1 The calculation of LLFs values is the responsibility of each Distributor, and is carried out in accordance with the Standard Conditions of the Distribution Licence. The results are published as part of each Distributor's Statement of Use of System Charges, which are approved by the Authority.

7.2 While ELEXON recognises the theoretical possibility that LLF values less than one may be appropriate for some embedded generators, the fact that LLF values are calculated outside the governance of the BSC means that ELEXON is not in a position to assess whether the methodologies used by Distributors would in practice give rise to values less than one. There may also be wider issues (e.g. the impact on generation Distribution Use of System Charges) of which ELEXON is unaware. For this reason ELEXON does not intend to raise a Change Proposal to allow such values into Settlement. However, if any Distributor or other BSC Party believes that such a change would be appropriate, ELEXON will be happy to offer any advice that may be required on the process for raising a Change Proposal.

8. RECOMMENDATIONS

8.1 The SVG is invited to:

a) NOTE that no changes would be required to central systems to allow LLF values less than one to be used in SVA;

b) NOTE that the impact on Party and Supplier Agent systems is not yet known, but would be determined through the normal impact assessment process if a Change Proposal were raised; and

c) NOTE that ELEXON does not propose to raise such a Change Proposal, but will (if requested) assist any Party who wishes to do so.

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