P229 Load Flow Modelling Results

This note summarises the contents of the accompanying files which contain Transmission Loss Factors (TLFs) and Transmission Loss Multipliers (TLMs) produced by the Load Flow Modelling carried out to support the Assessment of Modification P229 or calculated using output data from that modelling.

Further information on TLFs, TLMs and the P229 Load Flow Modelling can be found in the P229 documentation on the P229 ELEXON webpage, particularly the P229 consultation documentation.

Transmission Loss Factors (TLFs)

The requirement definitions in the appendix to this note are extracts from the draft TLFA User Requirements Specification produced as part of the partial implementation of Modification P82. They are presented here to explain the defined content and structure of the accompanying files (see attachments, below) which contain the results from the P229 Load Flow Modelling exercise.

For each BSC Season, for each relevant modelling task[1], there are two files:

1. TLFA-I006 Adjusted Seasonal Zonal Transmission Loss Factors

   The Adjusted Seasonal Zonal TLFs are the primary output of the Load Flow Modelling. These TLFs are the final factors for application to a given zone in a given BSC Season.

   Note that the file structure defined for P82 was used to ensure consistency, but the requirement definition below has been amended to reflect that P229 produces ***Seasonal*** Zonal TLFs, whereas P82 concerned Annual Zonal TLFs[2].

2. TLFA-I007 BM Unit Specific Transmission Loss Factors

   These are the particular Seasonal Zonal TLFs that apply to each BM Unit included in the modelling. This file is produced to help Parties to directly identify or confirm the TLF applicable to any BM Unit (i.e. the TLF applicable to the zone in which that BM Unit is located).

   No amendment has been made to the TLFA-I007 requirement definition, but note that under P229 there would be a BM Unit Specific Transmission Loss Factor for each BSC Season.

Note that the TLFA-I006 and TLFA-I007 files produced for Task 2 differ from those produced for the other modelling because they relate to annual and monthly TLFs, not Seasonal TLFs. This is because Task 2 investigated the impact on TLFs of the period of time they are calculated for.

Further details of the Load Flow Modelling methodology, the P229 modelling tasks and the discussion of the results of the P229 modelling exercise can all be found in the P229 Load Flow Modelling Report. The TLF files are contained in attachment A.

[1] No TLFA-I006/I007 data available for tasks 4 and 5 (because these tasks concern Seasonal Average TLFs), task 6 (which concerns heating losses) and task 7 (uses zonal TLFs for particular SSPs only).
[2] The number of Adjusted Seasonal Zonal TLFs (i.e. equal to the number of TLF zone/GP Groups) has been updated to 14, to reflect the increase in the number of GSP Groups since P82 was proposed.

Transmission Loss Multipliers (TLMs)

ELEXON calculated for selected modelling tasks using the load flow modelling results exercise. The TLMs are discussed in the P229 Load Flow Modelling Report. TLMs were produced for the following tasks:

- Task 1 Baseline TLFs: TLFs calculated by applying the P229 solution to actual Metered Volumes;
- Task 2 Temporal variability of TLFs: impact of calculating TLFs using a different time basis, i.e. monthly or annually instead of Seasonally (TLMs provided for annual TLFs only);
- Task 5 Sensitivity of TLFs to response by participants: two sets of TLMs are included reflecting the two different locations for which a response to TLF signals was modelled;
- Task 8 Impact of modelling intermittent generation: two sets of TLMs are included reflecting the two different regions in which intermittent generation was modelled; and
- Task 10 Impact of potential large scale offshore developments on TLFs.

Actual TLMs for the modelled period of December 2007 to November 2008 are also included for comparison. The TLMs are contained in attachments B – B5 (see below).

Further information

Please let us know if you have any questions on the Load Flow Modelling results or need further information. You can contact either Dean Riddell (020 7380 4366, dean.riddell@elexon.co.uk) or Adam Lattimore (020 7380 4363, adam.lattimore@elexon.co.uk) with any questions. If there is anything significant we'll consider updating this note to provide Parties with further clarification and information.

Attachments:

Attachment A: TLFs (Adjusted Seasonal Zonal (TLFA-I006) and BM Unit Specific (TLFA-I007))

Attachment B: TLMs (Actual TLMs)

Attachment B1: TLMs (Task 1)

Attachment B2: TLMs (Task 2 - annual only)

Attachment B3: TLMs (Task 5 - Drax)

Attachment B4: TLMs (Task 5 - Killingholme)

Attachment B5: TLMs (Tasks 8 and 10)

Appendix: Definitions of Requirements

1. Deliver Adjusted Seasonal Zonal Transmission Loss Factors

Requirement ID:	**Status:**	**Title:**
TLFA-I006	Mandatory	Deliver Adjusted Seasonal Zonal Transmission Loss Factors
Manual/Automatic:	**Frequency:**	Volumes:
Manual	**Once a year plus ad hoc (if required)**	There are 14 Adjusted Seasonal Zonal Transmission Loss Factors

Requirement Description:

TLFA shall send to BSCCo the Adjusted Seasonal Zonal Transmission Loss Factors no later than 01st December (for Annual Calculation of TLFs), or for the Recalculation of TLFs, within 15 Business Days from receiving the notification and the necessary input data from BSCCo.

The following information shall be included in the interface:

Header
Reference Year
Zonal Transmission Loss Factors
TLF Zone ID
Adjusted Seasonal Zonal TLF ($ATLF_{Zy}$)
Effective From Settlement Date
Effective To Settlement Date

Physical Interface Details:

A physical structure is defined for this manual interface because it will be processed automatically.

The field delimiter will be a single comma (i.e CSV format) with no comma at the end of a line. A header and footer record will be included in the file, as follows:

Header Information:

Record Type	Fixed String "HDR"
File ID	"TLFA-I006"
Creation Datetime	String YYYYMMDDHHMMSS

Footer Information:

Record Type	Fixed String "FTR"
Body Record Count	Count of body records

2. Deliver BM Unit Specific Transmission Loss Factors

Requirement ID:	**Status:**	**Title:**
TLFA-I007	Mandatory	Deliver BM Unit Specific Transmission Loss Factors
Manual/Automatic:	**Frequency:**	Volumes:
Manual	**Once a year plus ad hoc (if required)**	Equal to number of BM Units

Requirement Description:

TLFA shall send to BSCCo the BM Unit Specific Transmission Loss Factors no later than 01st December (for Annual Calculation of TLFs), or for the Recalculation of TLFs, within 15 Business Days from receiving the notification and the necessary input data from BSCCo.

The following information shall be included in the interface:

Header
Reference Year
BM Unit Specific TLFs
BM Unit Identifier
BM Unit Specific TLF
Effective From Settlement Date
Effective To Settlement Date

Physical Interface Details:

A physical structure is defined for this manual interface because it will be processed automatically.

The field delimiter will be a single comma (i.e CSV format) with no comma at the end of a line. A header and footer record will be included in the file, as follows:

Header Information:

Record Type	Fixed String "HDR"
File ID	"TLFA-I007"
Creation Datetime	String YYYYMMDDHHMMSS

Footer Information:

Record Type	Fixed String "FTR"
Body Record Count	Count of body records