

Annex Explanation of Authority's reasons for the directions and determination under Special Licence Condition G – London Power Networks plc

1. Introduction

- 1.1 This document sets out the reasons for the directions under Special Licence condition G ("the Condition") of a licence ("the Licence") treated as granted to London Power Networks plc ("LPN") under section 6(1)(c) of the Electricity Act 1989. The directions adjust LPN's 2001/2 performance for the number and duration of interruptions, its 2004/5 targets, associated incentive rates and its interim targets.
- 1.2 LPN has contracted with 24seven to carry out management services including the operation and maintenance of LPN's distribution networks. 24seven is therefore responsible for providing the information to LPN that is then reported to Ofgem under the IIP. The main IIP duties fall under 24seven's Commercial Division, Electricity Division and Customer Connections Business who are responsible for gathering, processing and making available the required information.
- 1.3 The structure of the rest of this document is as follows:
- Section 2 sets out the reasons for the direction under paragraph 8 of the Condition to adjust LPN's 2001/2 reported performance for inaccuracy;
 - Section 3 sets out an explanation of the determination under paragraph 7 of the Condition to define LPN's interim targets;
 - Section 4 sets out the reasons for the direction under paragraph 7C of the Condition to adjust LPN's 2004/5 targets in the light of further information on the impact of definitions and measurement systems on its reported performance. It also explains the consequential adjustments to LPN's incentive rates;
 - Section 5 sets out an explanation of the direction under paragraph 7D of the Condition to adjust LPN's interim targets for 2002/3 and 2003/4 in line with the changes under paragraph 7C of the Condition; and
 - The Appendix includes further detailed tables used in calculating some of the adjustments and the revised version of Annex A of the Condition incorporating all of the adjustments.

2. Reasons for direction under paragraph 8 of the Condition – Adjusting 2001/2 performance data for inaccuracy

Examiner’s report

- 2.1 The Authority appointed Mott MacDonald and British Power International (together known as “the Examiner”) to provide an audit opinion on the rebasing of IIP targets for certain electricity distribution companies. The audit report of the examiner¹ shows that LPN’s data for number of interruptions and duration of interruptions are below the minimum overall and LV levels of accuracy specified in the Regulatory Instructions and Guidance (“the RIGS”) due to under-reporting at LV and higher voltages. Under paragraph 8 of the Condition the Authority may therefore, in accordance with the provisions of that paragraph, make adjustments to these data at all voltages to mitigate against the effects of these inaccuracies.

Additional information submitted by LPN

- 2.2 LPN submitted further information regarding the accuracy of its 2001/2 performance data on 5 July 2002 and 17 January 2003.
- 2.3 LPN ran both its old reporting system and its new Fault Reporting System (FRS) in parallel, which provided robust evidence on levels of inaccuracy related to the old measurement systems. A summary of LPN’s case is set out in section 4 of this document. The suggested accuracy adjustments are set out in Table 2.1 below.

Table 2.1: Adjustments to 2001/2 performance data for inaccuracy

	Disaggregated reported performance figures for 2001/02		Estimated % change due to inaccuracy		Adjusted disaggregated performance figures for 2001/02	
	CI	CML	CI	CML	CI	CML
HV	22.07	13.73	-6.95%	-24.57%	20.54	10.36
EHV	2.46	0.45	8.81%	5.39%	2.68	0.47
132kV	3.55	1.87	8.81%	5.39%	3.86	1.97
LV	4.65	12.82	66.79%	58.19%	7.76	20.28
LV services	1.65	4.19	52.25%	47.03%	2.51	6.16
Planned	1.31	3.10	-2.57%	-1.85%	1.28	3.04
NGC or other transmission co	0.00	0.00			0.00	0.00
Embedded generators	0.00	0.00			0.00	0.00
Other connected systems	0.00	0.00			0.00	0.00
Total unweighted CI/CML	35.69	36.16	8.21%	16.94%	38.62	42.29
Total weighted CIIS/CMLIS	35.68	36.16	8.23%	16.95%	38.62	42.28

¹ “Information and Incentives Project – Audit of incident reporting for 2001/2 - Appendix E London Power Networks (LPN)”, Mott-MacDonald and British Power International, February 2003

Authority's draft direction

- 2.4 The Authority has considered the evidence contained in the examiner's report, the additional evidence presented by LPN and other relevant circumstances. In the light of these and of its principal objective and general duties the Authority considers that it is appropriate to exercise its powers under paragraph 8 of the Condition to adjust LPN's 2001/2 data for the number and duration of interruptions.
- 2.5 The Authority therefore proposes that adjustments to LPN's 2001/2 performance data should be based on the accuracy figures calculated in Table 2.1 above.
- CIIS for the year commencing 1 April 2001 shall be adjusted upwards by 8.23% from 35.68 to 38.62
 - CMLIS for the year commencing 1 April 2001 shall be adjusted upwards by 16.95% from 36.16 to 42.28
- 2.6 In reaching its decision the Authority took into account the fact that LPN's 2001/2 reporting was partially based on old measurement systems and therefore that special considerations applied. In future years with the new measurement systems in place, it may be appropriate to use an alternative approach to calculating adjustments for inaccuracy. The new measurement systems provide connectivity down to the LV feeder level and therefore provide much more robust information on the number of customers affected by faults at each voltage level.

DNO response to paragraph 10A consultation

- 2.7 LPN made a number of drafting comments. However, it did not make any substantive comments to the draft direction.

Authority's Final Direction

- 2.8 The Authority is therefore satisfied that the adjustments set out in the draft direction are appropriate.

3. Explanation of the determination under paragraph 7 of the Condition

- 3.1 Under the mechanism set out in paragraph 7 of the Condition the (interim) targets TA_t and TB_t for the years 2002/3 and 2003/4 will be the higher of:
- $CIIS_t$ and $CMLIS_t$ respectively for the year 2001/2 adjusted for inaccuracy; and
 - TA_t and TB_t respectively for 2004/5 set out in Annex A of the Condition.
- 3.2 Given the direction under paragraph 8 of the Condition takes effect:
- TA_t for 2002/3 and 2003/4 will be 38.62; and
 - TB_t for 2002/3 and 2003/4 will be 42.28.

4. Reasons for direction under paragraph 7C of the Condition – Rebasing 2004/5 targets

- 4.1 LPN gave notice to the Authority on 5 July 2002 under paragraph 7A of the Condition, that it considered its existing targets TA_t and TB_t (for the number and duration of interruptions to supply respectively) for the year 2004/05 to be inappropriate. The Authority therefore needs to direct the appropriate targets for that year prior to 1 April 2003 so as to ensure that such targets will have effect for the purposes of the Condition after that date.

Summary of LPN's case

- 4.2 LPN is requesting further changes to its 2004/5 targets to reflect additional evidence of the impact of measurement systems on its reported performance. In order for LPN to understand the effects of introducing LV connectivity it ran both its historic and new measurement systems in parallel from 1st April 2002 to the 12th January 2003 and directly compared the differences in measured performance.

- 4.3 Historically LPN determined the number of customers affected by incidents on its distribution system by the ratio of:

the total number of customers connected to the system
the number of Transformer Chambers on the system

This equated to 156 customers per Transformer Chamber.

- 4.4 LPN's new connectivity model, giving connectivity down to the LV feeder level, was introduced in March 2002. The introduction of the new connectivity model made it apparent that considerably more customers were connected to the non-interconnected areas of LPN's distribution system than was historically thought, with a consequential decrease in the numbers connected to the interconnected areas. Consequently LPN has experienced an increase in the reported number of customers affected by incidents on its non-interconnected areas of LV and HV networks, which is where most reportable incidents occur.

- 4.5 LPN calculated the impact of new measurement systems on reporting at 132 kV and EHV by recalculating the last 5 years fault data at these voltage levels. This was carried out by comparing customer numbers from the connectivity model to customer numbers using the old methodology.

- 4.6 In light of this, LPN proposes the following adjustments to its 2004/5 targets:

- TA_t for the year commencing 1 April 2004 shall be increased by 3.69% from 30.69 to 31.82.

- TB_t for the year commencing 1 April 2004 shall be increased by 8.24% from 41.61 to 45.03

The detailed calculations to derive these adjustments are set out in Table 1 in the Appendix of this document.

Examiner's report

- 4.7 In section 4.4 of its report, the examiner indicates that LPN has adopted a sound approach to the comparison of incidents between its old and new measurement systems for both CI and CML.²
- 4.8 The examiner is of the opinion that LPN/24seven have properly identified the causes of inaccuracy in the historically reported CI and CML figures and that this gives further confidence that the tabulation contained within LPN's submission represents a reasonable analysis of the variation between incidents reported on the company's pre- and post- IIP-compliant measurement systems.
- 4.9 The examiner concludes that the Authority can have confidence in using the submitted figures for calculating the rebasing of LPN's 2004/5 targets.

Authority's draft direction

- 4.10 The Authority has considered LPN's submission, the examiner's report and other relevant circumstances. In the light of these, and of its principal objective and general duties, the Authority is satisfied that it is appropriate to adjust LPN's 2004/5 targets for the impact of new measurement systems using the figures submitted by LPN, as set out in Table 1 in the Appendix of this document.
- 4.11 On this basis the Authority proposes that;
- TA_t for the year commencing 1 April 2004 shall be increased by 3.69% from 30.69 to 31.82
 - TB_t for the year commencing 1 April 2004 shall be increased by 8.24% from 41.61 to 45.03
- 4.12 The associated changes to LPN's incentive rates under paragraph 7E of the Condition are set out below:
- IRA_t for the year commencing 1 April 2002 shall be reduced from 0.12 to 0.116;
 - IRA_t for the years commencing 1 April 2003 and 2004 shall be reduced from 0.24 to 0.231;
 - IRB_t for the year commencing 1 April 2002 shall be reduced from 0.10 to 0.092;
 - IRB_t for the years commencing 1 April 2003 and 2004 shall be reduced from 0.26 to 0.240.

² "Information and Incentives Project – Independent Review of Proposals for Rebasing of Targets – LPN", Mott-McDonald and British Power International, February 2003.

DNO response to paragraph 10A consultation

- 4.13 LPN made a number of drafting comments. However, it did not make any substantive comments to the draft direction.

Authority's Final Direction

- 4.14 The Authority is therefore satisfied that the adjustments set out in the draft direction are appropriate.

5. Reasons for direction under paragraph 7D of the Condition – Adjustment to interim targets.

Authority's draft direction

- 5.1 The Authority is making a modification under paragraph 7C of the Condition to modify LPN's targets TA_t and TB_t for 2004/5. LPN has also requested that the provisions under paragraph 7D of the Condition be applied. The Authority is therefore satisfied that it is appropriate to make adjustments to the targets TA_t and TB_t for the years 2002/3 and 2003/4 to ensure that they are consistent with LPN's adjusted 2001/2 performance and modified 2004/5 targets.
- 5.2 This is best achieved by repeating the mechanism used to set the interim targets in the draft determination under paragraph 7 of the Condition, but substituting the adjusted 2004/5 targets. The Authority therefore proposes the following adjustments to TA_t and TB_t for 2002/3 and 2003/4 set out in Table 5.1 below.

Table 5.1 Revision to interim targets

	Original interim target	Percentage increase in interim target	Revised interim target
TA_t (years commencing 1 April 2002 & 2003)	38.62	0.00%	38.62
TB_t (years commencing 1 April 2002 & 2003)	42.28	6.50%	45.03

DNO response to paragraph 10A consultation

- 5.3 LPN made a number of drafting comments. However, it did not make any substantive comments to the draft direction.

Authority's Final Direction

- 5.4 The Authority is therefore satisfied that the adjustments set out in the draft direction are appropriate.

Appendix – Further Information

APPENDIX TABLE 1 – LPN SUBMISSION and AUTHORITY PROPOSAL

Revised 2004/5 targets	A		B		C		D		E		F		G		H		I		J		K		
	Disaggregated forecast performance figures for 1999/00		Estimated % change for historic changes to measurement systems		Estimated performance for 1999/00		Estimated % change from definitions		Estimated % change from measurement systems this price control period		Estimated total % change		Estimated performance for 1999/00		DPCR target		April 2002 licence condition target		Final licence condition target		Incentive rates		
	CIIS	CMLIS	CIIS	CMLIS	CIIS	CMLIS	CIIS	CMLIS	CIIS	CMLIS	CIIS	CMLIS	CIIS	CMLIS	CIIS	CMLIS	CIIS	CMLIS	CIIS	CMLIS	CIIS	CMLIS	
LV UG Networks	6.3	21.2			6.3	21.2			62.72	55.40	62.72	55.40	10.27	32.96									Old 02/03
LV OH Networks	0.0	0.0			0.0	0.0					0.00	0.00	0.00	0.00									0.120 0.100
HV UG Networks	26.8	22.4			26.8	22.4			-6.95	-24.57	-6.95	-24.57	24.93	16.89									New 02/03
HV OH Networks	0.0	0.0			0.0	0.0					0.00	0.00	0.00	0.00									0.116 0.092
EHV UG Networks	0.3	0.6			0.3	0.6			8.81	5.39	8.81	5.39	0.34	0.61									
EHV OH Networks	0.0	0.0			0.0	0.0					0.00	0.00	0.00	0.00									Old 03/04 & 04/05
Subtransmission UG Nets	1.9	1.7			1.9	1.7			8.81	5.39	8.81	5.39	2.08	1.74									0.240 0.260
Subtransmission OH Nets	0.0	0.0			0.0	0.0			8.81	5.39	8.81	5.39	0.00	0.00									New 03/04 & 04/05
Unallocated	1.7	4.2			1.7	4.2			-2.57	-1.85	-2.57	-1.85	1.64	4.09									0.231 0.240
TOTAL	37.0	50.0	0.0	0.0	37.0	50.0	0.0	0.0	6.07	12.58	6.1	12.6	39.25	56.29	30.00	40.00	30.69	41.61	31.82	45.03			
	Validated TOTAL % change:												6.07%	12.58%									3.69% 8.24%

Footnote:

- Any adjustments to measurement systems for historic changes were finalised in April 2002, so columns A, B and C are fixed.
- The updated percentage changes for definitions and measurement systems in columns D and E are added together to give the total percentage change in column F.
- The total percentage changes in column F are applied to the estimated performance figures for 1999/2000 in column C to derive the revised estimated performance figures for 1999/2000 in column G.
- The revised total performance figures for CIIS and CMLIS in column G are compared with those in column A to derive the percentage changes which should be applied to the DPCR targets in column H.
- The percentage changes in column G are applied to the DPCR targets to give the final proposed licence condition targets in column J.
- The final licence condition targets in column J are compared with the licence condition targets set out in April 2002 in column I to derive the percentage changes as a result of the rebasing.
- The new incentive rates in column K are derived by dividing the old incentive rate by 1 + the percentage change in column J for CIIS and CMLIS respectively.

Revised Annex A

Relevant year Commencing:	1 April 2002	1 April 2003	1 April 2004
TA_t	38.62	38.62	31.82
IRA_t (£ million 2000/01 prices)	0.116	0.231	0.231
RLA_t	0.25	0.5	0.5
RLOPA			0.6
TB_t	45.03	45.03	45.03
IRB_t (£ million 2000/01 prices)	0.092	0.240	0.240
RLB_t	0.5	1.25	1.25
RLOPB			1.4
RLD_t	0.1	0.125	0.125