Separation of Transco's distribution price control

Draft Proposals, Annex 3: Replacement Expenditure

February 2003

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1. Separation of Transco's distribution price control: replacement expenditure

Introduction

1.1. This annex explains how replacement expenditure could be allocated between Transco's eight regional networks and how the supplementary incentive mechanism might be modified to work with separate price controls.

Mains and services replacement expenditure

September 2001 price control proposals

1.2. The September 2001 price control proposals[1] included projections of efficient replacement expenditure based on estimates of mains and services replacement workload and the associated unit costs. The September 2001 proposals for mains and services replacement are shown in table 1.1 below.

Table 1.1 September 2001 mains and service replacement expenditure (2000 prices)

£m	02/03	03/04	04/05	05/06	06/07	Total
Mains	342	263	288	304	314	1,509
Services	73	84	87	91	92	427
Total (£m)	415	347	375	395	405	1,936

1.3. The proposals above were derived from data provided by Transco during the price control review, this included information on mains and service replacement volumes and unit costs for each LDZ.

1.4. During the price control review the HSE completed a review of the safety of Transco's distribution system. The HSE concluded that Transco should implement a national programme such that all iron mains within 30 meters of premises should be replaced within 30 years. Transco scaled up its original projections of mains and service replacement volumes to reflect the requirements of the 30 year programme. The September 2001 proposals were based on Ofgem's assessment of efficient unit costs and national projections of mains length and diameter mix in the 30 year programme.

[1] September 2001 Review of Transco's Price Control from 2002, Final Proposals

December 2002, Separation of Transco's distribution price control: draft proposals

1.5. In December 2002 Ofgem published, draft proposals for the separation of Transco's distribution price control[2]. The draft proposals included a possible allocation of replacement expenditure between the eight regional networks, this is reproduced in table 1.2 below.

Table 1.2 Regional network net replacement expenditure (£millions, 2000 prices)*

	Scotland	North England	North West	East England	West Midlands	Wales & West	London	South England	LDZ total
2002/03	27	53	54	65	51	37	54	77	418
2003/04	24	39	58	52	34	31	48	71	359
2004/05	27	43	59	56	37	31	54	77	384
2005/06	27	45	61	60	39	32	57	85	407
2006/07	29	47	53	63	40	33	57	88	410

*The figures in table 1.2 also include minor cost items e.g. LTS pipeline replacement, rechargeable and non rechargeable mains diversions and capitalisation items, this is the reason for the slight difference with the figures in table 1.1 which only include the costs of mains and service replacement.

Table 1.3 below shows allocated costs for mains and service replacement only.

Table 1.3 Allocated mains and service replacement expenditure (£millions, 2000 prices)

Regional Network	2004/05		2005/06		2006/07	
	Mains	Services	Mains	Services	Mains	Services
Scotland	21	5	22	5	22	6
North England	34	8	36	8	38	8
North West	45	11	43	11	42	11
East England	41	13	46	13	49	13
West Midlands	28	8	30	8	32	8
Wales & West	23	6	24	7	25	7
London	42	12	45	12	45	12
South England	53	25	58	27	60	27
Total	**288**	**87**	**304**	**91**	**314**	**92**

1.6. The September 2001 price control proposals were set on a national basis i.e. for all the 12 LDZs. Transco has subsequently divided the aggregate figures for mains and service replacement volumes in proportion to its individual LDZ totals submitted earlier in the price control review Transco has also scaled its LDZ replacement unit costs match the assumptions underlying the price control

[2] Separation of Transco's distribution price control: Draft Proposals, December 2002

proposals. These assumptions on unit costs and volumes were then combined to produce the individual regional network totals shown in tables 1.2 and 1.3.

Adjustment of boundary between London and East England

1.7. The geographic boundaries of the East England and London networks overlap over a particular area. In the past revenue from gas distribution charges within this overlap had been attributed to East England while the costs and asset value were assigned to London. Reallocating the appropriate level of costs from London to East England will ensure that that costs and revenue are aligned and reinforce the robustness of the revised price controls. The regional data presented in table 1.2 and elsewhere in this annex takes into account this proposed boundary change.

Issues arising from the disaggregation of replacement expenditure

1.8. There may need to be further changes to the allocation of replacement expenditure between the regional networks. These changes are described below and any further amendments will be published in the final proposals for the separation of Transco's distribution price control, in May 2003. Nevertheless, the totals for mains replacement expenditure should remain consistent with those in the September 2001 price control proposals.

Revised version of the risk model

1.9. Transco uses a risk model, the Mains Replacement Prioritisation System (MRPS) to prioritise mains for replacement. The model is regularly updated and Transco has recently introduced a revised version which, in conjunction with a revised mains replacement policy, has re-distributed replacement workload among the regional networks.

Revised mains replacement policy

1.10. Transco follows a replacement policy agreed with the HSE. The policy, which is applied in all regions, describes how mains will be identified for replacement using data from the risk model. Transco has implemented a revised policy and

its application will cause further changes to the distribution of replacement expenditure.

Re-negotiated contract rates

1.11. Transco has negotiated changes to its mains and services replacement contracts. Application of the new rates will change the appropriate allocation of costs to each network.

Supplementary Incentive Mechanism for mains replacement

September 2001 price control proposals

1.12. The September 2001 price control proposals recognised that accurate forecasting of replacement volumes over a five year period is difficult In particular there is uncertainty over the mix of mains diameters to be replaced each year and this is a significant driver of replacement expenditure. To accommodate deviations from the baseline projection of mains replacement the September 2001 proposals included a supplementary incentive mechanism applicable to mains replacement.

1.13. Under the incentive arrangements Transco will report the length of mains abandoned by diameter band every year. These will be multiplied by the unit costs in the diameter matrix (shown in appendix 1 to this annex) to give a matrix cost total for the year. This matrix cost total will then be compared to the price control projection and the total outturn costs for mains replacement. An outturn price control allowance will then be determined according to the following rules:

- if the outturn total is equal or less than the matrix total then the price control allowance will be the outturn total + 0.33 * (matrix total – outturn total); and
- if the outturn total is greater than the matrix total then the price control allowance will be the matrix total + 0.5 * (outturn total – matrix total).

1.14. Under the incentive scheme replacement expenditure may vary from year to year but total outturn price control allowance in respect of mains for the five year price control (2002/03 to 2006/07) is capped to the five year total of projected replacement expenditure as set out in the September 2001 price control proposals.

Disaggregation of the supplementary incentive mechanism

1.15. It will be necessary to separate the supplementary incentive mechanism from 2004/5 so that it can be applied to each network price control. Transco has developed a set of eight regional network cost matrices and these are at appendix 2 of this annex. These eight matrices sum (for each year and diameter band) to the matrix length and total allowed cost published by Ofgem in the September 2001 final proposals (see appendix 1) i.e. total allowed costs remain the same.

Issues arising from the disaggregation of the supplementary incentive mechanism

1.16. There a number of issues which may require further amendments to the regional network matrices set out in appendix 2 or the operation of the supplementary incentive mechanism for separate regional network price controls. These issues are discussed below.

Network unit costs

1.17. For some networks the matrices in appendix 2 show the unit cost of 2-3" abandonment in the matrix are more than the unit cost of 4-5" abandonment. These anomalies and any other difficulties created by the allocation of costs to individual regional networks will be considered in formulating final proposals.

Effect of the five year cap

1.18. Alongside the incentive mechanism is a requirement to cap the outturn price control allowance over the five-year period to the total of the price control projection. With a single price control individual network allowances would be aggregated before the cap is applied at the end of the price control period. The

introduction of separate network controls may impose an additional constraint if a cap is separately applied to each of the eight networks.

1.19. Removing the cap would not be appropriate, as this would remove an important protection for consumers. Setting individual caps, but with an aggregate total in excess of the existing 5 year total may be a possible way forward.

Asymmetry within the incentive mechanism

1.20. Due to the asymmetry of the mechanism (Transco retains 33% of savings against the matrix index totals but it incurs 50% of expenditure above the matrix index total) the introduction of separate price controls may reduce Transco's level of expected revenue because any overspending in an individual network can no longer be offset against savings in other networks.

1.21. If further analysis suggests that this is a material issue then it would be appropriate to adjust the sharing factors so that when taken together the changes associated with separation of the price control have a neutral effect.

Appendix 1 Supplementary incentive mechanism replacement cost matrix

2004/05

Diameter of mains Abandoned	Length of mains actually abandoned	Unit cost of abandonment (£/m)	Matrix costs (£/m)
2-3"	287.3	45.2	13
4-5"	2,002.2	45.4	91
6-7"	336.2	113.4	38
8-9"	218.7	184.3	40
10-12"	353.8	217.0	77
> 12"	92.4	307.0	28
Total	3,290.5		288

2005/06

Diameter of mains Abandoned	Length of mains actually abandoned	Unit cost of abandonment (£/m)	Matrix costs (£/m)
2-3"	292.4	44.1	13
4-5"	2,265.1	44.3	100
6-7"	366.3	110.9	41
8-9"	237.2	180.1	43
10-12"	374.4	212.0	79
> 12"	92.6	298.2	28
Total	3,628.0		304

2006/07

Diameter of mains Abandoned	Length of mains actually abandoned	Unit cost of abandonment (£/m)	Matrix costs (£/m)
2-3"	299.9	42.3	13
4-5"	2,407.5	43.3	104
6-7"	406.8	106.9	43
8-9"	262.0	174.3	46
10-12"	393.6	204.9	81
> 12"	93.3	288.0	27
Total	3,863.0		314

Appendix 2 Supplementary Incentive mechanism replacement cost matrices for the eight regional networks

Scotland

2004/05

Diameter of mains Abandoned	Length of mains actually abandoned	Unit cost of abandonment (£/m)	Matrix costs (£/m)
2-3"	62.8	39.3	2.5
4-5"	118.7	37.8	4.5
6-7"	40.5	93.8	3.8
8-9"	14.0	153.0	2.1
10-12"	40.3	182.9	7.4
> 12"	3.6	232.3	0.8
Total	279.9		21.1

2005/06

Diameter of mains Abandoned	Length of mains actually abandoned	Unit cost of abandonment (£/m)	Matrix costs (£/m)
2-3"	70.9	38.6	2.7
4-5"	144.9	36.5	5.3
6-7"	41.4	91.9	3.8
8-9"	15.4	150.1	2.3
10-12"	36.9	178.2	6.6
> 12"	3.6	225.3	0.8
Total	313.1		21.5

2006/07

Diameter of mains Abandoned	Length of mains actually abandoned	Unit cost of abandonment (£/m)	Matrix costs (£/m)
2-3"	61.8	37.0	2.3
4-5"	173.6	35.6	6.2
6-7"	46.4	88.8	4.1
8-9"	17.0	145.8	2.5
10-12"	37.9	173.5	6.6
> 12"	3.6	217.6	0.8
Total	340.3		22.4

North England

2004/05

Diameter of mains Abandoned	Length of mains actually abandoned	Unit cost of abandonment (£/m)	Matrix costs (£/m)
2-3"	52.6	37.7	2.0
4-5"	308.1	38.3	11.8
6-7"	41.6	96.4	4.0
8-9"	33.9	154.3	5.2
10-12"	49.6	185.1	9.2
> 12"	8.0	227.6	1.8
Total	493.7		34.0

2005/06

Diameter of mains Abandoned	Length of mains actually abandoned	Unit cost of abandonment (£/m)	Matrix costs (£/m)
2-3"	56.0	37.1	2.1
4-5"	340.3	37.1	12.6
6-7"	43.2	93.9	4.1
8-9"	35.2	150.5	5.3
10-12"	56.5	181.4	10.2
> 12"	8.0	221.0	1.8
Total	539.3		36.1

2006/07

Diameter of mains Abandoned	Length of mains actually abandoned	Unit cost of abandonment (£/m)	Matrix costs (£/m)
2-3"	64.8	35.5	2.3
4-5"	357.3	36.2	12.9
6-7"	47.6	90.7	4.3
8-9"	38.9	146.2	5.7
10-12"	64.4	177.0	11.4
> 12"	8.1	213.8	1.7
Total	581.1		38.4

North West

2004/05

Diameter of mains Abandoned	Length of mains actually abandoned	Unit cost of abandonment (£/m)	Matrix costs (£/m)
2-3"	84.1	50.8	4.3
4-5"	234.2	48.8	11.4
6-7"	40.3	121.3	4.9
8-9"	32.8	188.2	6.2
10-12"	48.2	226.3	10.9
> 12"	25.9	285.0	7.4
Total	465.4		45.0

2005/06

Diameter of mains Abandoned	Length of mains actually abandoned	Unit cost of abandonment (£/m)	Matrix costs (£/m)
2-3"	78.7	50.0	3.9
4-5"	258.8	47.2	12.2
6-7"	39.1	119.0	4.6
8-9"	31.8	184.1	5.9
10-12"	43.3	221.2	9.6
> 12"	26.1	277.3	7.2
Total	477.8		43.5

2006/07

Diameter of mains Abandoned	Length of mains actually abandoned	Unit cost of abandonment (£/m)	Matrix costs (£/m)
2-3"	85.7	47.9	4.1
4-5"	253.0	46.2	11.7
6-7"	41.6	115.0	4.8
8-9"	34.0	177.9	6.1
10-12"	39.2	214.3	8.4
> 12"	26.3	267.0	7.0
Total	479.8		42.1

West Midlands

2004/05

Diameter of mains Abandoned	Length of mains actually abandoned	Unit cost of abandonment (£/m)	Matrix costs (£/m)
2-3"	13.0	45.9	0.6
4-5"	206.2	44.1	9.1
6-7"	32.3	109.7	3.5
8-9"	26.3	174.3	4.6
10-12"	45.4	207.5	9.4
> 12"	3.3	264.6	0.9
Total	326.6		28.1

2005/06

Diameter of mains Abandoned	Length of mains actually abandoned	Unit cost of abandonment (£/m)	Matrix costs (£/m)
2-3"	15.3	45.2	0.7
4-5"	221.8	42.7	9.5
6-7"	37.5	107.5	4.0
8-9"	30.5	171.2	5.2
10-12"	48.1	203.0	9.8
> 12"	3.3	256.7	0.8
Total	356.3		30.0

2006/07

Diameter of mains Abandoned	Length of mains actually abandoned	Unit cost of abandonment (£/m)	Matrix costs (£/m)
2-3"	19.7	43.3	0.9
4-5"	229.1	41.7	9.6
6-7"	41.2	104.0	4.3
8-9"	33.6	165.9	5.6
10-12"	53.3	197.5	10.5
> 12"	3.3	248.7	0.8
Total	380.2		31.6

East of England

2004/05

Diameter of mains Abandoned	Length of mains actually abandoned	Unit cost of abandonment (£/m)	Matrix costs (£/m)
2-3"	25.2	45.5	1.1
4-5"	378.8	44.7	16.9
6-7"	54.4	111.9	6.1
8-9"	25.2	183.6	4.6
10-12"	45.0	218.4	9.8
> 12"	9.9	290.8	2.9
Total	538.4		41.5

2005/06

Diameter of mains Abandoned	Length of mains actually abandoned	Unit cost of abandonment (£/m)	Matrix costs (£/m)
2-3"	22.4	44.9	1.0
4-5"	424.4	43.3	18.4
6-7"	64.7	109.3	7.1
8-9"	28.5	179.6	5.1
10-12"	53.5	212.1	11.3
> 12"	9.8	282.5	2.8
Total	603.3		45.7

2006/07

Diameter of mains Abandoned	Length of mains actually abandoned	Unit cost of abandonment (£/m)	Matrix costs (£/m)
2-3"	21.2	43.0	0.9
4-5"	449.5	42.4	19.0
6-7"	76.6	105.3	8.1
8-9"	32.8	174.1	5.7
10-12"	60.6	206.1	12.5
> 12"	9.8	273.4	2.7
Total	650.6		49.9

Wales and West

2004/05

Diameter of mains Abandoned	Length of mains actually abandoned	Unit cost of abandonment (£/m)	Matrix costs (£/m)
2-3"	7.5	38.6	0.3
4-5"	224.1	36.8	8.2
6-7"	33.1	91.2	3.0
8-9"	27.1	150.9	4.1
10-12"	39.5	180.2	7.1
> 12"	2.4	213.5	0.5
Total	333.8		23.3

2005/06

Diameter of mains Abandoned	Length of mains actually abandoned	Unit cost of abandonment (£/m)	Matrix costs (£/m)
2-3"	6.8	38.0	0.3
4-5"	240.7	35.7	8.6
6-7"	36.1	88.9	3.2
8-9"	29.5	147.5	4.4
10-12"	42.4	175.8	7.5
> 12"	2.4	206.8	0.5
Total	357.9		24.4

2006/07

Diameter of mains Abandoned	Length of mains actually abandoned	Unit cost of abandonment (£/m)	Matrix costs (£/m)
2-3"	7.1	36.5	0.3
4-5"	251.4	34.9	8.8
6-7"	39.6	86.1	3.4
8-9"	32.5	143.4	4.7
10-12"	45.7	171.3	7.8
> 12"	2.4	200.0	0.5
Total	378.7		25.4

London

2004/05

Diameter of mains Abandoned	Length of mains actually abandoned	Unit cost of abandonment (£/m)	Matrix costs (£/m)
2-3"	1.2	70.9	0.1
4-5"	159.9	68.1	10.9
6-7"	30.3	169.3	5.1
8-9"	24.7	267.6	6.6
10-12"	35.5	318.4	11.3
> 12"	20.2	399.0	8.1
Total	271.7		42.0

2005/06

Diameter of mains Abandoned	Length of mains actually abandoned	Unit cost of abandonment (£/m)	Matrix costs (£/m)
2-3"	2.0	69.7	0.1
4-5"	197.6	65.9	13.0
6-7"	32.2	165.9	5.3
8-9"	26.2	262.8	6.9
10-12"	36.3	311.3	11.3
> 12"	20.2	387.6	7.8
Total	314.5		44.5

2006/07

Diameter of mains Abandoned	Length of mains actually abandoned	Unit cost of abandonment (£/m)	Matrix costs (£/m)
2-3"	2.0	66.8	0.1
4-5"	215.9	64.4	13.9
6-7"	33.1	160.4	5.3
8-9"	27.0	255.0	6.9
10-12"	35.3	303.3	10.7
> 12"	20.4	374.4	7.6
Total	333.8		44.6

South England

2004/05

Diameter of mains Abandoned	Length of mains actually abandoned	Unit cost of abandonment (£/m)	Matrix costs (£/m)
2-3"	41.0	52.5	2.2
4-5"	372.2	49.0	18.2
6-7"	63.7	120.6	7.7
8-9"	34.6	197.5	6.8
10-12"	50.3	231.5	11.6
> 12"	19.2	314.2	6.0
Total	581.0		52.8

2005/06

Diameter of mains Abandoned	Length of mains actually abandoned	Unit cost of abandonment (£/m)	Matrix costs (£/m)
2-3"	40.3	51.5	2.1
4-5"	436.7	47.5	20.7
6-7"	72.1	117.8	8.5
8-9"	40.0	192.1	7.7
10-12"	57.5	228.9	13.1
> 12"	19.2	304.9	5.9
Total	665.8		58.0

2006/07

Diameter of mains Abandoned	Length of mains actually abandoned	Unit cost of abandonment (£/m)	Matrix costs (£/m)
2-3"	37.5	48.7	1.8
4-5"	477.7	46.3	22.1
6-7"	80.7	114.0	9.2
8-9"	46.2	186.6	8.6
10-12"	57.2	222.4	12.7
> 12"	19.3	295.1	5.7
Total	718.6		60.2