

TOTAL EXPENDITURE MODELLING

PRACTICAL ISSUES IDENTIFIED DURING MODEL DEVELOPMENT THAT AFFECT ALL FORMS OF BENCHMARKING

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PRACTICAL ISSUES IDENTIFIED DURING MODEL DEVELOPMENT THAT AFFECT ALL FORMS OF BENCHMARKING

Year on year variations in level of expenditure

- At an aggregate level
- At a disaggregated level

Data quality

Structure of RRP

Expenditure as a driver

YEAR ON YEAR VARIATIONS IN LEVEL OF EXPENDITURE AT AN AGGREGATE LEVEL

ASSET REPLACEMENT, CIVIL & REFURBISHMENT EXPENDITURE £m			
	2009/10	2010/11	Percentage Change
WPD West Midlands	65.4	45.9	-30%
WPD East Midlands	42.2	37.0	-12%
ENW	48.5	49.8	3%
NPG Northern	29.6	35.2	19%
NPG Yorkshire	56.5	41.1	-27%
WPD South Wales	19.1	27.8	45%
WPD South West	39.2	46.5	19%
UKPN London	43.9	47.3	8%
UKPN South East	59.3	50.3	-15%
UKPN Eastern	78.5	69.0	-12%
SP Distribution	41.1	40.3	-2%
SP MANWEB	38.4	31.7	-17%
SSE Hydro	32.3	24.1	-25%
SSE Southern	94.0	58.8	-37%
All DNO Total	687.9	604.8	-12%

YEAR ON YEAR VARIATIONS IN LEVEL OF EXPENDITURE AT A DISAGGREGATE LEVEL

132kV CB (Gas Insulated Busbars)(ID) (GM) Asset Replacement				
	Volumes		Total Direct Costs	
	2009/10	2010/11	2009/10	2010/11
	Units	Units	£m	£m
WPD West Midlands	-	-	3.42	4.45
WPD East Midlands	-	-	3.93	0.09
ENW	9	-	2.12	0.50
NPG Northern	-	-	0.57	7.02
NPG Yorkshire	-	14	9.71	4.17
WPD South Wales	-	-	-	-
WPD South West	-	-	-	-
UKPN London	26	-	-	5.80
UKPN South East	-	-	-	1.82
UKPN Eastern	-	-	1.01	1.23
SP Distribution	N/A	N/A	N/A	N/A
SPN MANWEB	-	-	-	-
SSE Hydro	N/A	N/A	N/A	N/A
SSE Southern	-	4	-	0.94

DATA QUALITY

Asset	Name	Voltage	Units	Volumes		Total Direct Costs		Annual Unit Costs	
				2009/10	2010/11	2009/10 £m	2010/11 £m	2009/10 £k/unit	2010/11 £k/unit
WPD East Midlands									
Cable	6.6/11kV UG Cable	HV	km	44	16	1.95	2.02	44.3	130.1
Switchgear	6.6/11kV Switch (PM)	HV	Each	17	6	0.11	0.30	6.3	50.6
ENWL									
Overhead Pole Line	20kV OHL (BLX or similar Conductor)	HV	km	-	-	-0.09	-		-
Cable	6.6/11kV UG Cable	HV	km	9	13	2.42	2.12	259.2	161.9
NPG Yorkshire									
Cable	LV Main (UG Plastic)	LV	km	33	25	5.31	5.13	162.9	203.4
Cable	6.6/11kV UG Cable	HV	km	32	24	2.66	2.45	82.4	102.0
WPD South Wales									
Switchgear	LV Pillar (OD at Substation)	LV	Each	8	27	0.05	0.49	6.8	18.2
Transformer	6.6/11kV Transformer (GM)	HV	Each	57	146	0.48	2.11	8.3	14.4

DATA QUALITY

Asset	Name	Voltage	Units	Volumes		Total Direct Costs		Annual Unit Costs	
				2009/10	2010/11	2009/10	2010/11	2009/10	2010/11
						£m	£m	£k/unit	£k/unit
UKPN London									
Cable	33kV UG Cable (Oil)	EHV	km	-	-	-	-1.70	-	
UKPN South East									
Overhead Pole Line	6.6/11kV OHL (Conventional Conductor)	HV	km	2	1	-	-0.20		-195.1
Cable	33kV UG Cable (Oil)	EHV	km	-	-	-	-4.71	-	
UKPN Eastern									
Cable	LV Main (UG Plastic)	LV	km	2	7	1.09	1.53	546.3	218.3
Cable	6.6/11kV UG Cable	HV	km	8	6	2.99	0.53	374.3	89.0

DATA QUALITY

Asset	Name	Voltage	Units	Volumes		Total Direct Costs		Annual Unit Costs	
				2009/10	2010/11	2009/10	2010/11	2009/10	2010/11
						£m	£m	£k/unit	£k/unit
SP Distribution									
Cable	LV Main (UG Consac)	LV	km	-	-	11.57	-		-
Cable	LV Main (UG Plastic)	LV	km	101	3	-	0.31		99.1
Cable	LV Main (UG Paper)	LV	km	-	-	2.02	-		-
Switchgear	6.6/11kV RMU	HV	Each	53	257	-	3.79		14.7
SP MANWEB									
Overhead Pole Line	LV Main (OHL) Conductor	LV	km	36	93	-	2.51	-	27.0
Overhead Pole Line	LV Service (OHL)	LV	Each	-	-	0.49	0.10		
Overhead Pole Line	LV Poles	LV	Each	71	2,801	0.25	-	3.6	
Cable	LV Main (UG Consac)	LV	km	-	-	12.40	-		-
Cable	LV Main (UG Plastic)	LV	km	36	3	-	0.63		228.6
Switchgear	6.6/11kV RMU	HV	Each	139	191	-	2.63		13.7

DATA QUALITY

Asset	Name	Voltage	Units	Volumes		Total Direct Costs		Annual Unit Costs	
				2009/10	2010/11	2009/10	2010/11	2009/10	2010/11
						£m	£m	£k/unit	£k/unit
SSE Hydro									
Overhead Pole Line	6.6/11kV OHL (Conventional Conductor)	HV	km	122	27	10.80	0.66	88.5	24.8
Transformer	6.6/11kV Transformer (PM)	HV	Each	244	225	-	0.60		2.6
Transformer	33kV Transformer (PM)	EHV	Each	8	-	-	-		-
SSE Southern									
Cable	LV Main (UG Plastic)	LV	km	64	55	7.00	2.07	109.4	37.8
Cable	6.6/11kV UG Cable	HV	km	40	60	3.90	1.77	97.5	29.4
Transformer	33kV Transformer (PM)	EHV	Each	-	-	3.10	-		-

STRUCTURE OF RRP

Cost and volumes reporting for capital expenditure in the RRP use two approaches

- The vast majority of activities are reported on the basis of the problem that needs to be solved. For example:
 - Costs for general reinforcement activity are reported at the voltage level where the capacity deficiency exists, irrespective of the voltage level of the works undertaken to overcome capacity deficiency
 - Volumes for ESQCR are reported on the basis the number of risks resolved rather than the volume of work undertaken

STRUCTURE OF RRP

- Some activities are reported on the basis of the solution implemented to resolve the problem
 - Asset replacement is reported on the basis of the asset installed rather than the asset that is in poor condition and is being removed

The inconsistency can be overcome, but care is needed with all forms of benchmarking to consider the difference

USE OF EXPENDITURE AS AN ACTIVITY DRIVER

Ideally the use of expenditure as an activity driver should be avoided

However, there is likely to be instances where the use of expenditure as an activity driver cannot be avoided

- In such cases it is essential that the level of expenditure use is the efficient level of expenditure
- Acquisition of Central Networks by WPD has revealed that:
 - Unit costs associated with turn-key projects on 132 kV & EHV networks were significantly too high; and
 - Unit cost associated with alliance working relationships across all voltage were too high