RP7 - NIE Networks Price Control 2025-2031

Draft Determination Annex Q
Planned Network Investment
Volumes & Allowances
November 2023

About the Utility Regulator

The Utility Regulator is the economic regulator for electricity, gas and water in Northern Ireland. We are the only multi-sectoral economic regulator in the UK covering both energy and water.

We are an independent non-ministerial government department and our main duty is to promote and protect the short- and long-term interests of consumers.

Our role is to make sure that the energy and water utility industries in Northern Ireland are regulated, and developed within ministerial policy, as set out in our statutory duties.

We are governed by a Board of Directors and are accountable to the Northern Ireland Assembly.

We are based at Queens House in Belfast. The Chief Executive and two Executive Directors lead teams in each of the main functional areas in the organisation: CEO Office; Price Controls, Networks and Energy Futures; and Markets and Consumer Protection.

Our mission

To protect the short- and long-term interests of consumers of electricity, gas and water.

Our vision

To ensure value and sustainability in energy and water.

Our values

- Be a best practice regulator: transparent, consistent, proportionate, accountable and targeted.
- Be professional – listening, explaining and acting with integrity.
- Be a collaborative, co-operative and learning team.
- Be motivated and empowered to make a difference.

Abstract

The purpose of this annex is to provide a high-level summary of the total cost requests of the company and the subsequent UR allowances. These costs are split between the distribution and transmission businesses respectively.

This annex is only for summary purposes. Further detail on our cost proposals is set out in the main document and relevant supporting annexes.

Audience

This document is likely to be of interest to the licence holder affected, consumers and consumer groups, other regulated companies in the energy industry, government and other statutory bodies.

Consumer impact

NIE Networks has a pivotal role in terms of 'keeping the lights on'. Both the effectiveness and efficiency of NIE Networks are key to industry and domestic consumers. The RP7 price control aims to set an efficient revenue cap to enable NIE Networks to deliver quality outputs that customers need.

NIE Networks' costs are a material and controllable element of electricity tariffs and RP7 investment decisions are expected to underpin improvements in service delivery for consumers

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Unit of Measure	Description
Each	Reportable output is per unit
Kilometre (Km)	Reportable output is per kilometre (1000m)
Lump Sum	An allowance with no pre-defined outputs. This is the only unit of measure not subject to the D3 mechanism
Metre (M)	Reportable output is per metre
MVA	Mega Volt Amp: A measure of transformer capacity
Pole Set	An overhead line support constructed of two wood poles in a 'H' configuration. Only applies to 110kV overhead lines.
Programme	Delivery of all outputs of a defined task over a defined time period (for the purposes of this annex the RP7 time duration). E.g. Address all very high risk sites.
Project	Delivery of a defined scope of work over a defined time period (for the purposes of this annex the RP7 time duration)
Property	A domestic dwelling or commercial building
Site	An area defined by a boundary wall or fence (e.g. substation)
Span	The conductor erected between two overhead line supports
Tower	An overhead line support constructed of a steel lattice in double circuit or single circuit configuration
Tower Side	The longitudinal face of a double circuit steel lattice tower

Table 1.1: Definitions of Units of Measure

2. Planned Network Investment Volumes & Allowances

					UR Draft Determination Pre-RPE			Post-RPE	
ID	Programme Name	Sub-programme	Asset name / further information	Unit of Measure	Volume	Unit Cost (£k)	Direct Allowance (£k)	Unit Cost (£k)	Direct Allowance (£k)
D06	Distribution Tower Lines	D06d	Remedial Works	Lump Sum			100.000		104.423
		D06e	Tower Replace Suspension Insulator Set	Tower Side	12	1.811	21.734	1.891	22.696
		D06f	Tower Replace Tension Insulator Set	Tower Side	18	8.340	150.122	8.709	156.763
		D06g	Tower Painting	Tower	143	2.663	380.876	2.781	397.722
		D06h	Tower Replace colour and number plates	Tower	72	0.490	35.269	0.512	36.829
		D06i	Tower Foundation Assessment	Tower	72	2.555	183.982	2.668	192.120
		D06j	Tower Foundation Repair	Tower	4	115.840	463.360	120.964	483.855
		D06k	Tower Condition Assessment	Tower	90	0.549	49.392	0.573	51.577
		D06l	Tower Muff Repair	Each	72	0.320	23.052	0.334	24.072
		D06m	Tower Muff Painting	Tower	143	0.787	112.522	0.822	117.499
		D06q	Tower Re-conductoring	Span	30	16.419	492.578	17.146	514.365
		D06r	Earth Conductor Replacement	Span	20	5.143	102.860	5.370	107.409
		D06t	Conductor Sampling	Each	27	1.463	39.491	1.527	41.237
		D06u	Replace Fittings	Tower	24	0.441	10.590	0.461	11.058
							2,165.828		**2,261.625**
D07	33kV Overhead Lines	D07a	Re-engineer	km	420	30.866	12,963.877	32.232	13,537.285
		D07b	Refurbish	km	840	2.509	2,107.841	2.620	2,201.073
		D07e	Undergrounding	Lump Sum	0		3,701.513		3,865.235
		D07l	Switches	Each	60	3.243	194.580	3.386	203.187
		D07m	Replace Automated Switches	Each	8	10.563	84.507	11.031	88.245
							19,052.318		**19,895.024**
D08	11kV Overhead Lines	D08d	Undergrounding	Lump Sum			763.648		797.425
		D08e	Remedial Works	Lump Sum			2,780.819		2,903.818
		D08f	Rebuild (11kV)	km	8,731	21.981	191,914.443	22.953	200,403.047
		D08g	Low Capacity Tx Replacement	Each	4,330	2.031	8,793.741	2.121	9,182.699
		D08i	Birdfouling	Property	10,300	0.548	5,648.324	0.573	5,898.156
		D08k	Switches	Each	240	2.283	547.920	2.384	572.155
		D08l	Replace Automated Switches	Each	20	10.563	211.267	11.031	220.612
							210,660.162		**219,977.912**
D09	LV OHL	D09e	Remedial Works	Lump Sum			1,343.263		1,402.677
		D09g	LV Undergrounding	Lump Sum			4,102.119		4,283.561
							5,445.382		**5,686.238**
D10	Undereaves	D10a	Replace 0.4kV mains and services (Volume Driven)	Property	25,000	0.579	14,486.347	0.605	15,127.095
							14,486.347		**15,127.095**

D11	LV Cutouts	D11a	Replace house service cut-outs	Each	15,000	0.288	4,326.315	0.301	4,517.673
		D11b	Replace House service Cut-outs – Complex / Three-phase	Each	0		0.000	0.000	0.000
		D11c	Replace House service cut-outs LCT Driven	Each	1,456	0.288	419.941	0.301	438.515
							4,746.256		**4,956.189**
D13	Primary Plant	D13a	Replace indoor switchgear (33kV)	Each	24	146.173	3,508.160	152.639	3,663.331
		D13b	Replace outdoor switchgear - circuit breaker (33Kv)	Each	67	67.628	4,531.068	70.619	4,731.483
		D13c	Replace outdoor switchgear - complete mesh (with indoor switchboard)	Each	11	162.119	1,783.313	169.290	1,862.191
		D13d	Replace outdoor switchgear - mesh equipment (33kV)	Site	6	129.988	714.936	135.738	746.559
		D13e	Replace primary switchgear (33kV, 11kV & 6.6kV)	Each	55	61.939	3,406.656	64.679	3,557.336
		D13i	Civil works to primary substations	Lump Sum			3,322.701		3,469.668
		D13j	Primary substation lease renewal	Site	22	126.494	2,782.871	132.089	2,905.960
		D13k	Replace primary switchgear (11kV & 6.6kV) retro-fit	Each	93	23.220	2,159.439	24.247	2,254.953
		D13l	Refurbish primary S/S DC system	Site	44	13.567	596.966	14.168	623.371
		D13m	Rewire primary S/S (inc. AC services panel)	Site	27	18.257	492.946	19.065	514.750
		D13n	Plant painting (primary)	Site	75	3.317	248.742	3.463	259.744
		D13o	Replace earth fault indicator	Each	380	1.010	383.891	1.055	400.871
		D13r	11kV Reyrolle Hardrian SMW Refurbishment	Each	22	19.569	430.518	20.435	449.560
		D13s	YMV2 Reyrolle Refurbishment	Each	120	19.569	2,348.280	20.435	2,452.147
		D13u	Asbestos Management	Lump Sum			250.000		261.058
		D13v	Primary physical security	Lump Sum			250.376		261.450
							27,210.863		**28,414.432**
D14	Primary Transformers	D14b	Replace 33/11kV Transformer (upto 12.5MVA)	Each	2	364.264	728.528	380.376	760.752
		D14c	Replace 33/11kV or 33/6.6kV Transformer (upto 18.75MVA)	Each	30	366.302	10,989.047	382.504	11,475.106
		D14g	Transformer refurbishment	Each	0	0.000	0.000	0.000	0.000
		D14h	Cooler controls replacement	Each	0	0.000	0.000	0.000	0.000
		D14i	Sump Pumps	Each	92	6.239	573.988	6.515	599.376
		D14j	Transformer Noise Enclosures	Each	8	184.940	1,479.516	193.120	1,544.957
		D14k	Noise Surveys	Each	170	2.146	364.818	2.241	380.954
		D14l	33/11kV Tx Oil Regeneration	Each	0	0.000	0.000	0.000	0.000
							14,135.897		**14,761.144**
D15	Secondary Substations	D15a	Replace RMU	Each	200	8.149	1,629.846	8.510	1,701.936
		D15b	Replace complete S/S	Each	275	55.742	15,329.170	58.208	16,007.197
		D15c	Replace complete S/S and temporary S/S works	Each	37	64.112	2,372.145	66.948	2,477.068
		D15d	Secondary Switchboard Replacement	Each	50	22.389	1,119.449	23.379	1,168.964
		D15e	Replace OH fed GMT	Site	50	59.411	2,970.536	62.039	3,101.926
		D15f	Replace H pole S/S	Site	49	19.604	960.586	20.471	1,003.073
		D15g	H pole: TX change only	Site	45	8.611	387.487	8.992	404.626
		D15h	H pole: replace LV cabinet	Each	44	5.231	230.164	5.462	240.345
		D15k	Replace sectionalisers	Each	139	10.563	1,468.307	11.031	1,533.252
		D15l	Replace mini pillars	Each	1,545	3.865	5,971.425	4.036	6,235.548
		D15m	Refurbish LV plant	Site	21,323	0.074	1,579.938	0.077	1,649.820
		D15n	Replace LV wall mounted fuse board	Each	21	21.466	450.777	22.415	470.716
		D15o	Secondary substation ancillary works	Lump Sum			1,361.059		1,421.260
		D15q	Replace UDB	Each	114	7.260	827.640	7.581	864.248

		D15t	RMU substation - mini kiosk	Each	56	54.540	3,054.261	56.953	3,189.354
		D15x	Secondary substation legalities	Lump Sum			1,076.814		1,124.443
		D15y	Replace LV Cabinet (GM Substation)	Each	40	16.265	650.600	16.984	679.377
		D15z	RMU substation - mini kiosk and temp	Each	17	62.910	1,069.469	65.693	1,116.773
		D15aa	Fit UDB Blanket	Each	200	0.215	43.000	0.225	44.902
		D15ac	Secondary substations physical	Lump Sum			3,445.000		3,597.376
							45,997.672		**48,032.204**
		D16h	Part replacement of 33kV FFC Cable	Metre	3,114	0.303	944.502	0.317	986.278
		D16i	Replace HV cable	Metre	18,000	0.087	1,573.406	0.091	1,643.000
		D16j	Replace LV cable	Metre	78,000	0.139	10,880.173	0.146	11,361.416
D16	Distribution Cables	D16l	Refurbish 33kV FFC	Site	9	37.559	338.028	39.220	352.980
		D16m	Part replacement of 33kV PILC cable	Metre	15,533	0.303	4,711.287	0.317	4,919.673
		D16n	Procure leak management technologies	Lump Sum	0		776.194		810.526
		D16o	Procure distribution cable accessories and ancillaries	Lump Sum	0		346.168		361.479
		D16s	Decommission FFC	Lump Sum	0	50.000	50.000		52.212
							19,619.759		**20,487.564**
		D39b	Replace RTU	Each	127	17.494	2,221.738	18.268	2,320.008
		D39c	Control centre hardware & software	Lump Sum	0	0.000	1,650.000		1,722.981
D39	SCADA	D39f	SCADA Battery Replacement	Lump Sum	0	0.000	136.118		142.139
		D39g	Retrofit Radios	Lump Sum	0	0.000	369.062		385.386
							4,376.918		**4,570.514**
		D41c	PSTN Replacement	Lump Sum			201.380		210.287
		D41d	10.5g Radio Creation	Lump Sum			466.154		486.773
		D41e	DC Asset Replacement	Lump Sum			357.648		373.467
		D41f	OIP Replacement	Lump Sum			553.790		578.285
		D41g	Comms Generators	Lump Sum			61.000		63.698
		D41h	Comms AC Services	Lump Sum			72.000		75.185
		D41j	Mast Replacements	Lump Sum			469.000		489.744
		D41k	Microwave Asset Replacement	Lump Sum			423.759		442.502
		D41l	Optical Distribution Frame Replacement	Lump Sum			47.512		49.614
		D41m	Optical Fibre Replacement	Lump Sum			701.231		732.247
D41	Operational Telecoms network	D41n	Optical Fibre New	Lump Sum			3,619.000		3,779.073
		D41o	Substation Comms Equipment Replacements	Lump Sum			83.538		87.233
		D41p	RAD Assets Replacements	Lump Sum			4,097.500		4,278.737
		D41r	Server Asset Replacements	Lump Sum			124.600		130.111
		D41s	Sync Assets Replacement	Lump Sum			68.800		71.843
		D41u	Comms Physical Security	Lump Sum			78.500		81.972
		D41x	Comms Cyber Security	Lump Sum			391.518		408.835
		D41y	Belfast Multi-Core Network	Lump Sum			252.430		263.595
		D41z	SCADA IP Transition	Lump Sum			801.592		837.047
		D41ab	Capacity Growth	Lump Sum			0.000		0.000
		D41ac	Comms Resilience	Lump Sum			617.024		644.316
		D41ae	Exchange Closure - Pilot	Lump Sum			16.800		17.543
							13,504.776		**14,102.108**

D43	ESQCR - Distribution	D43c	Address very high/high risk sites	Programme			7,869.907		8,218.003
		D43d	Address LV clearances & OHL refurbishment	km	4,050	30.602	123,940.076	31.956	129,422.093
		D43g	Distribution transformers	Each	60	5.379	322.726	5.617	337.000
		D43h	Resolve looped services	Site	2,589	1.137	2,943.693	1.187	3,073.896
		D43i	11kV resilience cut	km	1,570	1.726	2,709.545	1.802	2,829.391
		D43s	Primary Transformers Retrofil	Each	8	31.572	252.576	32.968	263.748
							138,038.522		**144,144.131**
D50	Substation Flooding Enforcement (D)	D50a	Permanent protection of primary substations	Site	5	111	556.975	116.322	581.611
		D50b	RMU substations - provision of flood protection by raising kiosk	Site	40	10	416.200	10.865	434.609
		D50c	High Water Table Remediation	Site	11	37	406.945	38.631	424.945
							1,380.120		**1,441.164**
D57	Distribution Network Reinforcement	D57b	Primary network projects (33kV)	Lump Sum			26,980.219		28,173.586
		D57c	Secondary network load related (ex-ante)	Lump Sum			1.014		1.059
		D57l	Reverse Power	Lump Sum			17,962.564		18,757.070
		D57m	HILP	Lump Sum			2,783.323		2,906.433
		D57n	EHV & HV Monitoring	Lump Sum			1,260.984		1,316.759
		D57o	Secondary network load related PM TX	MVA	318	85.7	27,252.600	89.491	28,458.015
		D57p	Secondary network load related GM TX	MVA	179	80.2	14,355.800	83.747	14,990.774
		D57q	Secondary network load related HV UG	km	88	95.9	8,439.200	100.142	8,812.476
		D57r	Secondary network load related HV OH	km	437	57	24,909.000	59.521	26,010.755
		D57s	Secondary network load related LV UG	km	260	101.7	26,442.000	106.198	27,611.561
							150,386.704		**157,038.488**
D101	Network Alterations	D101a	Non-recoverable costs	Lump Sum			17,311.846		18,077.570
		D101b	NIRAUC schemes	Lump Sum			29.39724		30.698
							17,341.243		**18,108.267**
D603	Distribution Protection	D603a	33kV protection retrofit	Each	52	5.879	305.708	6.139	319.230
		D603b	11kV protection retrofit	Each	152	6.588	1,001.376	6.879	1,045.668
		D603e	Automatic Voltage Control replacements	Each	11	17.035	187.385	17.788	195.673
		D603g	33kV Buscoupler retrofit	Each	11	8.626	94.886	9.008	99.083
		D603i	33kV Transformer Protection retrofit	Each	24	8.310	199.440	8.678	208.261
		D603j	33kV Distance Protection retrofit	Each	2	14.351	28.702	14.986	29.972
		D603k	Unit Protection retrofit - Full Diff / Pilot Box	Each	8	16.172	129.376	16.887	135.098
		D603k2	Unit Protection retrofit - REF / NVD	Each	5	4.341	21.705	4.533	22.665
		D603l	33kV Auto Changeover retrofit	Each	5	20.537	102.685	21.445	107.227
		D603m	33kV SP Schemes	Each	1	16.265	16.265	16.984	16.984
		D603o	33kV Substation Monitors	Each	12	22.474	269.688	23.468	281.617
		D603p	33kV Substation Monitors retrofit	Each	22	5.002	110.044	5.223	114.911
		D603q	11kV Substation Monitors	Each	2	22.474	44.948	23.468	46.936
		D603s	11kV Unit Protection retrofit	Each	34	3.893	132.362	4.065	138.217
		D603u	Mesh VT Replacement	Each	19	15.750	299.250	16.447	312.486
		D603v	Switchboard VT Replacement	Each	20	19.429	388.580	20.288	405.767

		D603w	Protection Pilot	Lump Sum			10.000		10.442
							3,342.400		**3,490.238**
D604	Connection Driven System Work	D604a	Connection driven system work	Lump Sum			9,611.187		10,036.301
							9,611.187		**10,036.301**
D605	Network Access & Commissioning	D605a	Network access & commissioning	Lump Sum			9,514.002		9,934.818
							9,514.002		**9,934.818**
D606	Innovation	D606g	Real-Time Fault Level Monitoring (RTFLM)	project	1	980	980.000	1,023.347	1,023.347
		D606h	HV Active Network Management (HV ANM)	project	1	660	660.000	689.193	689.193
		D606i	DC Readiness	project	1	390	390.000	407.250	407.250
		D606j	Flexibility Market Development	project	1	820	820.000	856.270	856.270
		D606k	Virtual STATCOM	project	1	450	450.000	469.904	469.904
		D606l	Micro-Resilience	project	1	720	720.000	751.846	751.846
		D606m	Real-Time Thermal Rating at 110kV	project	1	690	690.000	720.520	720.520
							4,710.000		**4,918.329**
D701	Earthing	D701a	Earthing Surveys	Site	0	3.246	0.000	3.390	0.000
		D701b	Earthing Remediation	Site	280	6.952	1,946.560	7.259	2,032.659
							1,946.560		**2,032.659**
D702	Network Performance	D702a	Worst served customers	Lump Sum			0		0.000
		D702b	Active network management	Each	900	11.91	10,719.000	12.437	11,193.114
							10,719.000		**11,193.114**
T10	110kV Switchgear Replacement	T10c	Replace 110kV switchgear	Each	2	259.216	518.432	270.682	541.363
		T10d	Refurbish 110kV Switchgear	Each	15	18.665	279.975	19.491	292.359
		T10e	Replace 110kV Circuit Breaker	Each	0	0.000	0.000	0.000	0.000
							798.407		**833.722**
T11	275kV Plant Ancillaries	T11g	Security systems	Lump Sum			879.000		917.879
		T11j	DC standby systems	Lump Sum			7.319		7.643
		T11k	Ballylumford 275kV CVT Replacement	Each	24	22.983	551.582	23.999	575.979
		T11m	AC rewire	Site	2	45.144	90.289	47.141	94.282
		T11o	Drainage	Lump Sum			453.044		473.083
		T11p	Kilroot 275kV CT Replacement	Each	21	27.240	572.047	28.445	597.349
		T11r	22kV Capacitor Bank Refurbishment	Lump Sum			45.000		46.990
		T11s	Filter Bank Replacement	Lump Sum			22.500		23.495
		T11t	275kV Surge Arrestor Replacement	Each	4	29.055	116.220	30.340	121.361
		T11v	Substation legalities	Lump Sum			250.694		261.783
		T11w	Sump Pumps	Each	14	6.864	96.096	7.168	100.346

		T11x	Earthing Spigots/Parking bars	Lump Sum			56.000		58.477
		T11y	Replacement of Signage	Lump Sum			23.370		24.404
		T11aa	275/110kV Tx Oil Regeneration	Each	6	56.018	336.108	58.496	350.974
							3,499.268		**3,654.045**
		T12d	Transformer bunding	Lump Sum			100.000		104.423
		T12f	Generator	Each	19	49.318	937.046	51.500	978.492
		T12h	DC standby systems	Lump Sum			317.744		331.798
		T12i	AC system rewire	Site	8	41.122	328.976	42.941	343.527
		T12o	Civil works to primary substations	Lump Sum			3,510.338		3,665.604
		T12r	110kV Disconnector replacement	Each	17	45.238	769.043	47.239	803.058
		T12s	Drainage Upgrade	Lump Sum			283.150		295.674
		T12t	110kV CT Replacement	Each	27	16.756	452.417	17.497	472.428
T12	110kV Plant Ancillaries	T12v	110kV Surge Arrestor Replacement	Each	4	22.077	88.308	23.053	92.214
		T12w	110kV Capacitor Bank Replacement	Lump Sum			45.000		46.990
		T12x	Transformer Noise Enclosures	Each	4	191.454	765.816	199.922	799.689
		T12y	Sump Pumps	Each	35	6.864	240.240	7.168	250.866
		T12z	Earthing Spigots/Parking bars	Lump Sum			154.000		160.812
		T12aa	Replacement of Signage	Lump Sum			76.658		80.049
		T12ab	110kV Earth Switch Replacement	Each	52	30.092	1,564.784	31.423	1,633.996
		T12ac	110/33kV Tx Oil Regeneration	Each	15	37.512	562.680	39.171	587.568
		T12ad	110kV Coffin CTs	Each	6	18.618	111.708	19.441	116.649
							10,307.908		**10,763.839**
		T13a	Transformers (275/110kV) Procure only	Each	3	2,208.761	6,626.283	2,306.457	6,919.371
T13	275kV/110kV Transformer Replacement	T13c	Transformers (275/110 kV) Install only	Each	3	692.372	2,077.116	722.996	2,168.989
		T13f	Replace associated cable	Lump Sum			1,250.000		1,305.289
							9,953.399		**10,393.650**
		T14a	Transformers (110/33 kV)Procure only	Each	6	791.286	4,747.716	826.286	4,957.713
		T14b	Transformers (110/33 kV) Install only	Each	6	363.480	2,180.880	379.557	2,277.343
T14	110/33kV Transformers Replacement	T14c	Replace associated cable	Lump Sum	0	0.000	1,100.000		1,148.654
		T14d	Replace Earthing Transformer	Each	4	66.258	265.032	69.189	276.755
		T14e	Replace Transformer Cooler	Each	4	86.677	346.708	90.511	362.043
							8,640.336		**9,022.508**
T15	22kV Reactor Replacement	T15a	22kV Reactors Procure only	Each	2	553.924	1,107.849	578.425	1,156.850
		T15e	22kV Reactors Install only	Each	2	231.000	462.000	241.217	482.435
							1,569.849		**1,639.285**
		T16a	Refurbish/Replace 275kV Bushing	Each	6	35.562	213.372	37.135	222.810
		T16b	275kV Plant Painting	Site	4	19.658	78.632	20.527	82.110
T16	Transmission Transformer Refurbishment	T16d	Refurbish 275kV TX tap changer	Each	4	19.947	79.787	20.829	83.316
		T16f	Replace 110kV Bushing	Each	6	12.438	74.631	12.989	77.932
		T16g	110kV Plant Painting	Site	15	8.600	129.000	8.980	134.706
		T16i	Refurbish 110kV TX tap changer	Each	22	22.156	487.432	23.136	508.992
		T16k	Replace 110kV Cooler Controls	Each	7	2.671	18.697	2.789	19.524

		T16l	Replace PST Tap Changer Control Unit	Each	2	75.000	150.000	78.317	156.635
		T16m	Replace 275kV Cooler Controls	Each	4	3.637	14.548	3.798	15.191
							1,246.099		**1,301.215**
T17	275kV Overhead Line Asset Replacement	T17d	Tower Painting	Tower	360	6.751	2,430.396	7.050	2,537.895
		T17e	Replace Colour and Number Plates	Tower	239	0.532	127.176	0.556	132.801
		T17f	Foundation assessment	Tower	208	2.944	612.327	3.074	639.411
		T17g	Condition assessment	Tower	310	0.639	198.028	0.667	206.787
		T17j	Muff Repair	Tower	131	0.635	83.221	0.663	86.902
		T17k	Trolley Inspections	Span	495	0.437	216.302	0.456	225.869
		T17m	275kV Remedial	Lump Sum	0	0.000	358.200		374.044
		T17n	275kV Steel Work Replacement	Lump Sum	0	0.000	96.323		100.584
		T17q	275kV Damper Replacements	Each	122	0.303	36.926	0.316	38.559
		T17r	275kV Undercrossings	Each	33	12.000	396.000	12.531	413.516
		T17s	275kV Tower Replacement	Tower	8	800.000	6,400.000	835.385	6,683.080
		T17t	275kV Muff Painting	Each	272	0.787	214.029	0.822	223.495
		T17v	275kV Fittings	Tower	137	0.673	92.268	0.703	96.349
		T17x	275kV Foundation Repair	Tower	48	115.840	5,560.320	120.964	5,806.260
		T17y	275kV Tower Security	Lump Sum	0	0.000	492.671		514.462
		T17z	275kV Conductor Sampling	Each	25	1.463	36.565	1.527	38.183
		T17aa	275kV Stepbolt	Tower	239	2.754	658.237	2.876	687.352
							18,008.989		**18,805.548**
T19	110kV Overhead Line Asset Replacement	T19a	Replace conductor	Span	136	24.613	3,347.302	25.701	3,495.357
		T19b	110kV Replace Suspension Insulator	Tower Side	340	2.012	684.230	2.101	714.494
		T19c	110kV Replace Tension Insulator	Tower Side	83	9.267	769.146	9.677	803.166
		T19e	Tower Painting	Tower	525	2.663	1,398.320	2.781	1,460.170
		T19f	Replace wood poles	Pole set	320	3.781	1,209.972	3.948	1,263.491
		T19g	Replace colour and number plates	Tower	67	0.544	36.466	0.568	38.079
		T19g1	110kV Replace colour and number plates	Tower	77	0.272	20.954	0.284	21.881
		T19h	Foundation assessment	Tower	389	2.555	994.015	2.668	1,037.981
		T19i	Condition assessment	Tower	487	0.684	333.011	0.714	347.740
		T19n	Muff repairs	Each	183	0.320	58.590	0.334	61.182
		T19p	110kV Remedial	Lump Sum	0	0.000	315.000		328.933
		T19r	110kV Tower Replacement (Single)	Lump Sum	0	0.000	1,400.000		1,461.924
		T19t	110kV Muff Painting	Each	380	0.787	299.011	0.822	312.236
		T19v	110kV Tower Painting (single)	Tower	326	1.332	434.145	1.391	453.348
		T19y	110kV Damper Replacements	Each	180	0.303	54.481	0.316	56.890
		T19z	110kV Foundation Repair	Tower	19	115.840	2,200.960	120.964	2,298.311
		T19aa	110kV Steel Work Replacement	Lump Sum	0	0.000	100.000		104.423
		T19ab	110kV Tower Security	Each	414	2.092	866.088	2.185	904.396
		T19ac	110kV Conductor Sampling	Each	70	1.463	102.383	1.527	106.911
		T19ad	110kV Step bolts (Single)	Tower	108	0.881	95.183	0.920	99.393
		T19af	Castlereagh - Rathgael ADSS recovery	Each	67	1.615	108.174	1.686	112.959
		T19ag	110kV LV Undercrossings	Each	13	12.000	156.000	12.531	162.900
		T19ah	110kV Clearances	Lump Sum	0	0.000	433.718		452.902
		T19ai	110kV Step bolts (Double)	Tower	168	1.763	296.124	1.841	309.222

		T19aj	110kv Replace Fittings	Tower	176	0.441	77.657	0.461	81.092
							15,790.930		**16,489.381**
T20	Transmission Cables	T20k	Refurbish 110kV Cable	Lump Sum			159.171		166.212
		T20m	Procurement of Transmission Cables Accessories and Ancillaries	Lump Sum			961.436		1,003.961
		T20n	Replacement 110kV FFC Cable	Lump Sum			2,266.232		2,366.470
		T20r	Decommission FFC	Lump Sum			193.606		202.169
		T20s	Leak Management Technologies	Lump Sum			133.229		139.122
							3,713.673		**3,877.933**
T602	Transmission Protection	T602e	Install 275kV Interbus Transformer Protection	Each	1	70.437	70.437	73.553	73.553
		T602h	Install 275kV Feeder Protection	Each	8	102.119	816.951	106.636	853.086
		T602j	Install 275kV Circuit Breaker Fail	Each	48	8.237	395.376	8.601	412.864
		T602k	Install 22kV Reactors	Each	4	27.600	110.400	28.821	115.283
		T602n	Install 110kV Transformer Protection	Each	17	68.250	1,160.250	71.269	1,211.569
		T602o	Install 110kV Distance Protection	Each	16	45.311	724.976	47.315	757.043
		T602p	Install 110kV Tap Change Control	Each	14	25.960	363.440	27.108	379.515
		T602r	Install 110kV Load Shedding (Relay Change Only and Minor Wiring)	Each	26	3.174	82.524	3.314	86.174
		T602t	Install 110kV Unit Protection	Each	10	42.325	423.250	44.197	441.971
		T602u	Install 110kV Intertripping	Each	2	10.787	21.574	11.264	22.528
		T602w	Load Shedding Panel	Each	4	10.480	41.920	10.944	43.774
		T602x	Install 275kV Grid Substation Monitors	Each	2	29.754	59.508	31.070	62.140
		T602y	Install 110kV Grid Substation Monitors	Each	7	37.270	260.890	38.918	272.429
		T602aa	Remove Protection	Lump Sum			21.980		22.952
		T602ad	Install 275kV Autoreclose	Each	10	49.361	493.610	51.544	515.443
		T602ae	Install 275kV Operational Intertripping	Lump Sum			140.380		146.589
		T602af	Install 110kV Buscoupler	Each	2	31.758	63.516	33.163	66.325
		T602ah	Install PST Protection	Each	2	91.067	182.134	95.095	190.190
		T602ai	61850 Hardware Replacement	Lump Sum			0.000		0.000
		T602aj	Protection Studies	Lump Sum			0.000		0.000
							5,433.116		**5,673.429**
T603	Network Access & Commissioning	T603a	Network Access & Commissioning	Lump Sum			2,274.471		2,375.074
							2,274.471		**2,375.074**
T701	Strategic Spares	T701a	Grid Transformer	Lump Sum			2,208.761		2,306.457
		T701b	Main Transformer	Lump Sum			1,582.572		1,652.571
		T701c	Grid Plant	Lump Sum			622.742		650.287
							4,414.075		**4,609.315**
T702	Transmission Earthing	T702a	Earthing Survey	Each			0	0.000	0.000
							0.000		**0.000**