Appendices

Appendix A – Compendium

Forecast of connection point maximum demands

Customer forecasts of connection point peaks

Tables A.1 to A.18 show 10-year forecasts of native summer and winter demand at connection point peak, for high, medium and low growth scenarios (refer to Appendix A.2). These forecasts have been supplied by Powerlink customers.

The connection point reactive power (MVAr) forecast includes the customer's downstream capacitive compensation.

Groupings of some connection points are used to protect the confidentiality of specific customer loads.

In tables A.1 to A.18 the zones in which connection points are located are abbreviated as follows:

FN Far North zone

R Ross zone

N North zone

CW Central West zone

G Gladstone zone

WB Wide Bay zone

S Surat zone

B Bulli zone

SW South West zone

M Moreton zone

GC Gold Coast zone

Table A.1 Ergon connection point forecast of summer high growth native maximum demand

Connection point	Voltage (kV)	Zone	2019/20		2020/21		2021/22		2022/23		2023/24		2024/25		2025/26		2026/27		2027/28		2028/29	
			MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr
Alan Sherriff	132	R	26	12	28	13	28	13	29	13	29	14	30	14	31	14	31	14	31	15	31	15
Alligator Creek (Louisa Creek)	132	N	43	12	44	13	45	13	46	13	46	14	47	14	47	14	47	14	47	14	47	14
Alligator Creek	33	N	31	11	33	12	33	12	34	12	34	12	35	13	35	13	35	13	35	13	36	13
Biloela	66	CW	36	6	37	7	38	7	38	7	39	7	39	7	40	7	40	7	40	7	40	7
Blackwater	132	CW	27	15	28	16	29	16	29	16	30	17	30	17	30	17	30	17	30	17	30	17
Blackwater	66	CW	102	12	106	13	118	14	118	14	120	14	121	15	123	15	123	15	124	15	125	15
Bowen North	66	R	28	10	29	10	30	11	30	11	31	11	31	11	31	11	31	11	31	11	31	11
Bulli Creek (Waggamba)	132	B	23	4	24	4	24	4	25	4	25	4	26	4	26	5	26	5	27	5	27	5
Cairns	22	FN	63	31	65	33	67	33	67	33	68	34	69	34	70	35	69	34	70	35	70	35
Cairns City	132	FN	50	0	52	0	53	0	53	0	54	0	54	0	55	0	55	0	55	0	55	0
Calliope River	132	G	60	29	62	30	64	31	64	31	65	32	65	32	66	32	66	32	66	32	67	32
Cardwell	22	R	6	4	6	4	6	4	6	4	6	4	6	4	6	4	6	4	6	4	6	4
Chinchilla	132	S	23	11	24	12	25	12	25	12	25	12	26	12	26	12	26	12	26	12	26	12
Clare South	66	R	96	31	100	32	105	34	107	34	109	35	110	35	113	36	112	36	113	36	114	36
Collinsville	33	N	17	9	17	9	18	9	18	9	18	9	18	9	18	9	18	9	18	9	18	9
Columboola	132	S	80	12	83	12	85	13	86	13	87	13	88	13	90	13	89	13	90	13	90	13
Dan Gleeson	66	R	128	26	133	27	136	28	131	25	133	24	134	24	137	25	136	25	137	25	138	25
Dysart	66	CW	48	8	50	9	51	9	51	9	52	9	52	9	53	9	53	9	53	9	53	9
Edmonton	22	FN	45	9	47	9	48	9	49	9	50	10	50	10	52	10	52	10	52	10	52	10
Egans Hill	66	CW	68	11	70	12	72	11	72	11	74	12	74	12	76	12	76	12	76	13	77	13
El Arish	22	FN	6	1	6	1	6	1	7	1	7	1	7	1	7	1	7	1	7	1	7	1
Garbutt	66	R	115	23	120	24	123	25	118	22	120	22	121	22	123	22	123	22	124	22	124	23
Gin Gin	132	WB	180	20	188	21	193	22	195	22	199	22	201	23	205	23	205	23	206	23	208	23

Table A.1 Ergon connection point forecast of summer high growth native maximum demand *(continued)*

Connection point	Voltage (kV)	Zone	2019/20		2020/21		2021/22		2022/23		2023/24		2024/25		2025/26		2026/27		2027/28		2028/29	
			MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr
Gladstone South	66	G	46	17	48	17	49	18	49	18	50	18	51	18	51	19	51	18	51	19	51	19
Ingham	66	R	20	5	21	5	21	5	21	5	22	6	22	6	22	6	22	6	22	6	22	6
Innisfail	22	FN	29	15	30	15	31	16	31	16	31	16	32	16	32	16	32	16	32	16	32	17
Kamerunga	22	FN	65	24	68	25	70	26	71	26	73	27	75	27	76	28	77	28	78	28	79	29
Lilyvale (Barcaldine & Clermont)	132	CW	43	7	45	7	46	7	46	7	47	8	47	8	48	8	48	8	48	8	48	8
Lilyvale	66	CW	134	62	140	64	142	66	143	66	146	67	147	68	150	69	149	69	150	69	150	69
Mackay	33	N	90	36	94	38	96	39	96	39	98	40	99	40	100	40	100	40	100	40	101	41
Middle Ridge	110	SW	259	40	273	42	282	43	285	44	293	45	297	45	303	46	303	46	305	47	308	47
Middle Ridge (Postmans Ridge)	110	M	33	14	34	15	35	15	35	15	36	16	36	16	37	16	37	16	37	16	37	16
Moranbah (Broadlea)	132	N	46	13	48	14	49	14	49	14	50	14	50	14	51	15	51	15	53	15	56	16
Moranbah	66 and 11	N	128	44	133	46	136	46	139	47	144	49	145	49	147	50	146	50	147	50	147	50
Moura	66	CW	62	20	65	21	66	22	67	22	68	22	69	23	70	23	69	23	70	23	70	23
Nebo	11	N	3	1	3	1	3	1	3	1	3	1	3	1	3	1	3	1	3	1	3	1
Newlands	66	N	24	9	28	11	29	11	29	11	30	11	30	11	30	11	30	11	30	11	30	11
Oakey	110	SW	26	7	28	8	28	8	28	8	29	8	29	8	29	8	29	8	29	8	29	8
Pandoin	66	CW	44	7	47	8	48	8	50	8	52	8	53	9	54	9	54	9	54	9	54	9
Pioneer Valley	66	N	66	29	69	30	70	30	71	31	72	31	73	31	74	32	74	32	74	32	75	32
Proserpine	66	N	51	17	53	18	54	18	55	19	56	19	56	19	57	19	57	19	57	19	58	20
Rockhampton	66	CW	99	16	102	17	104	16	105	17	107	17	107	17	109	18	109	18	110	18	110	18

Table A.1 Ergon connection point forecast of summer high growth native maximum demand *(continued)*

Connection point	Voltage (kV)	Zone	2019/20		2020/21		2021/22		2022/23		2023/24		2024/25		2025/26		2026/27		2027/28		2028/29	
			MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr
Ross (Kidston, Milchester and Georgetown)	132	R	43	15	51	18	53	19	56	20	59	21	60	21	61	22	60	22	61	22	61	22
Stoney Creek	132	N	5	2	5	2	5	2	5	2	5	2	5	2	5	2	5	2	5	2	5	2
Tangkam	110	SW	35	11	42	13	43	13	44	13	45	14	45	14	46	14	46	14	46	14	47	14
Tarong	66	SW	47	19	49	19	50	20	51	20	52	20	52	21	53	21	53	21	53	21	54	21
Teebar Creek (Isis and Maryborough)	132	WB	126	42	132	44	135	45	136	46	139	47	141	47	144	49	144	49	146	49	147	49
Townsville East	66	R	52	10	54	11	55	11	53	10	54	10	54	10	55	10	55	10	55	10	56	10
Townsville South	66	R	114	23	118	24	121	25	116	22	118	21	119	22	122	22	121	22	122	22	123	22
Tully	22	R	16	7	16	8	17	8	17	8	17	8	17	8	17	8	17	8	17	8	17	8
Turkinje (Craiglie and Lakeland)	132	FN	24	10	25	11	25	11	26	11	26	11	26	11	27	11	27	11	27	12	27	12
Turkinje	66	FN	65	17	71	18	72	18	72	19	74	19	74	19	75	19	75	19	75	19	76	19
Woolooga (Kilkivan)	132	WB	22	3	23	3	23	3	23	3	24	3	24	3	25	3	25	3	25	3	25	3
Woree (Cairns North)	132	FN	46	3	48	3	49	3	50	3	51	3	52	3	53	3	53	3	54	3	55	3
Yarwun (Boat Creek)	132	G	44	25	46	26	47	26	47	26	48	27	48	27	49	27	49	27	49	27	49	27
Hail Creek and King Creek	Various	N	46	10	48	11	49	11	49	11	50	11	50	11	51	12	51	11	51	12	51	12

Table A.2 Ergon connection point forecast of summer medium growth native maximum demand

Connection point	Voltage (kV)	Zone	2019/20		2020/21		2021/22		2022/23		2023/24		2024/25		2025/26		2026/27		2027/28		2028/29	
			MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr
Alan Sherriff	132	R	24	11	25	12	25	12	25	12	25	12	25	12	26	12	26	12	26	12	26	12
Alligator Creek (Louisa Creek)	132	N	40	12	40	12	40	12	40	12	40	12	40	12	40	12	40	12	40	12	40	12
Alligator Creek	33	N	29	11	29	11	30	11	29	11	29	11	29	11	30	11	30	11	30	11	30	11
Biloela	66	CW	33	6	33	6	34	6	33	6	33	6	33	6	34	6	33	6	34	6	34	6
Blackwater	132	CW	25	14	25	14	26	14	25	14	25	14	25	14	26	14	25	14	25	14	26	14
Blackwater	66	CW	94	11	95	11	105	13	104	12	103	12	103	12	104	12	103	12	104	13	105	13
Bowen North	66	R	26	9	26	9	27	9	26	9	26	9	26	9	26	9	26	9	26	9	26	9
Bulli Creek (Waggamba)	132	B	21	4	21	4	22	4	22	4	22	4	22	4	22	4	22	4	22	4	23	4
Cairns	22	FN	58	29	59	29	59	30	59	29	58	29	58	29	59	29	58	29	58	29	59	29
Cairns City	132	FN	46	0	46	0	47	0	46	0	46	0	46	0	46	0	46	0	46	0	46	0
Calliope River	132	G	56	27	56	27	57	28	56	27	56	27	55	27	56	27	55	27	56	27	56	27
Cardwell	22	R	5	3	5	3	5	3	5	3	5	3	5	3	5	3	5	3	5	3	5	3
Chinchilla	132	S	22	10	22	10	22	11	22	10	22	10	22	10	22	10	22	10	22	10	22	10
Clare South	66	R	89	28	90	29	94	30	94	30	94	30	94	30	95	30	94	30	95	30	95	30
Collinsville	33	N	15	8	15	8	16	8	16	8	15	8	15	8	16	8	15	8	15	8	15	8
Columboola	132	S	74	11	75	11	76	11	75	11	75	11	75	11	76	11	75	11	75	11	76	11
Dan Gleeson	66	R	118	25	119	25	121	25	114	22	114	22	114	22	116	22	115	22	115	22	116	22
Dysart	66	CW	44	8	45	8	45	8	45	8	45	8	44	8	45	8	44	8	44	8	45	8
Edmonton	22	FN	42	8	42	8	43	8	43	8	43	8	43	8	43	8	43	8	44	8	44	9
Egans Hill	66	CW	63	9	63	10	64	10	63	10	63	10	63	10	64	10	63	10	64	10	64	10
El Arish	22	FN	6	1	6	1	6	1	6	1	6	1	6	1	6	1	6	1	6	1	6	1
Garbutt	66	R	107	22	108	22	109	23	103	20	103	20	103	20	104	20	103	20	104	20	104	20

Table A.2 Ergon connection point forecast of summer medium growth native maximum demand *(continued)*

Connection point	Voltage (kV)	Zone	2019/20		2020/21		2021/22		2022/23		2023/24		2024/25		2025/26		2026/27		2027/28		2028/29	
			MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr
Gin Gin	132	WB	167	19	169	19	172	19	170	19	170	19	170	19	173	19	172	19	173	19	174	20
Gladstone South	66	G	43	16	43	16	44	16	43	16	43	16	43	15	43	16	43	16	43	16	43	16
Ingham	66	R	18	5	19	5	19	5	19	5	19	5	18	5	19	5	18	5	19	5	19	5
Innisfail	22	FN	27	14	27	14	27	14	27	14	27	14	27	14	27	14	27	14	27	14	27	14
Kamerunga	22	FN	60	22	61	22	63	23	63	23	63	23	63	23	65	24	64	24	65	24	66	24
Lilyvale (Barcaldine & Clermont)	132	CW	40	7	40	7	41	7	40	7	40	7	40	7	40	7	40	7	40	7	40	7
Lilyvale	66	CW	124	57	125	58	127	58	126	58	125	58	125	57	126	58	125	58	126	58	126	58
Mackay	33	N	84	34	84	34	85	34	84	34	84	34	84	34	85	34	84	34	84	34	84	34
Middle Ridge	110	SW	240	37	245	38	251	38	249	38	252	39	251	39	256	39	254	39	256	39	258	40
Middle Ridge (Postmans Ridge)	110	M	31	13	31	13	31	14	31	13	31	13	31	13	31	13	31	13	31	13	31	13
Moranbah (Broadlea)	132	N	43	12	43	12	44	12	43	12	43	12	43	12	43	12	43	12	43	12	43	12
Moranbah	66 and 11	N	119	41	120	41	121	41	122	42	123	42	123	42	124	42	123	42	123	42	124	42
Moura	66	CW	58	19	58	19	59	19	58	19	58	19	58	19	59	19	58	19	58	19	59	19
Nebo	11	N	3	1	3	1	3	1	3	1	3	1	3	1	3	1	3	1	3	1	3	1
Newlands	66	N	23	8	25	9	26	10	25	9	25	9	25	9	25	9	25	9	25	9	25	9
Oakey	110	SW	25	7	25	7	25	7	25	7	25	7	25	7	25	7	25	7	25	7	25	7
Pandoin	66	CW	41	6	42	6	43	7	44	7	44	7	45	7	45	7	45	7	45	7	46	7
Pioneer Valley	66	N	61	26	62	27	63	27	62	27	62	27	62	27	63	27	62	27	62	27	63	27
Proserpine	66	N	47	16	48	16	48	16	48	16	48	16	48	16	48	16	48	16	48	16	48	16
Rockhampton	66	CW	91	14	92	14	93	14	92	14	92	14	91	14	92	14	91	14	92	14	93	14

Table A.2 Ergon connection point forecast of summer medium growth native maximum demand *(continued)*

Connection point	Voltage (kV)	Zone	2019/20		2020/21		2021/22		2022/23		2023/24		2024/25		2025/26		2026/27		2027/28		2028/29	
			MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr
Ross (Kidston, Milchester and Georgetown)	132	R	39	14	45	16	48	17	49	18	51	18	51	18	51	18	51	18	51	18	51	18
Stoney Creek	132	N	5	2	5	2	5	2	5	2	5	2	5	2	5	2	5	2	5	2	5	2
Tangkam	110	SW	33	10	38	12	39	12	38	12	38	12	38	12	39	12	39	12	39	12	39	12
Tarong	66	SW	44	17	44	17	45	18	45	18	44	17	44	17	45	18	45	18	45	18	45	18
Teebar Creek (Isis and Maryborough)	132	WB	117	39	118	40	120	40	120	40	120	40	120	40	122	41	121	41	122	41	123	41
Townsville East	66	R	48	10	48	10	49	10	46	9	46	9	46	9	47	9	46	9	46	9	47	9
Townsville South	66	R	105	22	106	22	108	22	102	20	102	20	101	20	103	20	102	20	102	20	103	20
Tully	22	R	15	7	15	7	15	7	15	7	15	7	14	7	15	7	14	7	15	7	15	7
Turkinje (Craiglie and Lakeland)	132	FN	22	9	22	9	23	10	22	10	22	10	22	10	23	10	23	10	23	10	23	10
Turkinje	66	FN	60	15	63	16	64	16	63	16	63	16	63	16	64	16	63	16	63	16	63	16
Woolooga (Kilkivan)	132	WB	20	3	20	3	21	3	20	3	20	3	20	3	21	3	21	3	21	3	21	3
Woree (Cairns North)	132	FN	42	2	43	2	44	2	44	2	44	2	44	2	45	3	45	3	45	3	46	3
Yarwun (Boat Creek)	132	G	41	23	41	23	42	23	41	23	41	23	41	23	41	23	41	23	41	23	41	23
Hail Creek and King Creek	Various	N	43	10	43	10	44	10	43	10	43	10	43	10	43	10	43	10	43	10	43	10

Table A.3 Ergon connection point forecast of summer low growth native maximum demand

Connection point	Voltage (kV)	Zone	2019/20		2020/21		2021/22		2022/23		2023/24		2024/25		2025/26		2026/27		2027/28		2028/29 (1)	
			MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr
Alan Sherriff	132	R	24	11	23	11	23	11	23	11	23	11	22	10	22	10	21	10	21	10	22	10
Aligator Creek (Louisa Creek)	132	N	38	11	37	11	37	11	36	11	36	10	34	10	33	10	32	9	32	9	32	9
Alligator Creek	33	N	28	10	27	10	27	10	27	10	26	10	25	9	25	9	24	9	24	9	24	9
Biloela	66	CW	32	6	31	5	31	5	30	5	30	5	29	5	28	5	27	5	27	5	27	5
Blackwater	132	CW	24	14	24	13	24	13	23	13	23	13	22	12	21	12	21	12	21	12	21	12
Blackwater	66	CW	92	11	89	11	97	12	95	11	93	11	89	11	87	10	84	10	85	10	86	10
Bowen North	66	R	25	9	25	9	25	9	24	8	24	8	22	8	22	8	21	7	21	7	21	8
Bulli Creek (Waggamba)	132	B	20	4	20	3	20	3	20	3	19	3	19	3	19	3	18	3	18	3	18	3
Cairns	22	FN	57	28	55	27	55	27	54	27	52	26	50	25	49	25	47	24	47	24	48	24
Cairns City	132	FN	45	0	43	0	43	0	42	0	41	0	40	0	39	0	37	0	37	0	38	0
Calliope River	132	G	54	26	53	26	52	26	51	25	50	24	48	23	47	23	45	22	45	22	45	22
Cardwell	22	R	5	3	5	3	5	3	5	3	5	3	5	3	4	3	4	3	4	3	4	3
Chinchilla	132	S	21	10	20	10	20	10	20	9	20	9	19	9	18	9	18	8	18	8	18	9
Clare South	66	R	86	27	84	27	87	28	86	27	84	27	81	26	80	25	77	24	77	25	78	25
Collinsville	33	N	15	8	15	7	15	7	14	7	14	7	13	7	13	7	12	6	13	6	13	6
Columboola	132	S	72	11	70	10	70	10	68	10	67	10	64	9	63	9	61	9	61	9	62	9
Dan Gleeson	66	R	115	24	112	23	112	23	104	20	102	20	98	20	97	19	93	19	94	19	94	19
Dysart	66	CW	43	8	42	7	42	7	41	7	40	7	38	7	38	7	36	6	36	6	36	6
Edmonton	22	FN	40	8	40	8	40	8	39	8	38	7	37	7	36	7	35	7	35	7	36	7
Egans Hill	66	CW	61	10	59	12	59	12	58	11	57	11	54	12	53	12	52	11	52	11	52	11
El Arish	22	FN	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1	5	1
Garbutt	66	R	104	21	101	21	101	21	94	18	92	18	89	18	87	17	84	17	84	17	85	17
Gin Gin	132	WB	162	18	159	18	159	18	155	17	153	17	147	16	145	16	140	16	141	16	142	16

Table A.3 Ergon connection point forecast of summer low growth native maximum demand *(continued)*

Connection point	Voltage (kV)	Zone	2019/20		2020/21		2021/22		2022/23		2023/24		2024/25		2025/26		2026/27		2027/28		2028/29 (1)	
			MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr
Gladstone South	66	G	42	15	41	15	40	15	39	14	39	14	37	13	36	13	35	13	35	13	35	13
Ingham	66	R	18	5	17	5	17	4	17	4	17	4	16	4	16	4	15	4	15	4	15	4
Innisfail	22	FN	26	13	25	13	25	13	25	13	24	12	23	12	23	12	22	11	22	11	22	11
Kamerunga	22	FN	59	21	58	21	58	21	57	21	56	21	54	20	54	20	52	19	53	19	54	20
Lilyvale (Barcaldine & Clermont)	132	CW	39	6	38	6	38	6	37	6	36	6	34	6	34	6	33	5	33	5	33	5
Lilyvale	66	CW	120	55	118	54	117	54	114	53	112	52	107	49	106	49	102	47	102	47	103	47
Mackay	33	N	81	33	79	32	79	32	77	31	75	31	72	29	71	29	68	28	68	28	69	28
Middle Ridge	110	SW	233	36	230	35	232	36	228	35	226	35	217	33	214	33	207	32	209	32	210	32
Middle Ridge (Postmans Ridge)	110	M	30	13	29	13	29	12	28	12	28	12	27	11	26	11	25	11	25	11	25	11
Moranbah (Broadlea)	132	N	41	12	40	12	40	12	39	11	38	11	37	11	36	10	35	10	35	10	35	10
Moranbah	66 and 11	N	115	39	112	38	112	38	111	38	111	38	106	36	104	35	100	34	100	34	101	34
Moura	66	CW	56	18	54	18	54	18	53	17	52	17	50	17	49	16	47	16	47	16	48	16
Nebo	11	N	3	1	3	1	3	1	3	1	3	1	3	1	2	1	2	1	2	1	2	1
Newlands	66	N	22	8	24	9	24	9	23	9	23	8	22	8	21	8	20	8	21	8	21	8
Oakey	110	SW	24	6	23	6	23	6	23	6	22	6	21	6	21	6	20	5	20	5	20	5
Pandoin	66	CW	40	7	39	8	40	8	40	8	40	8	39	8	38	8	37	8	37	8	37	8
Pioneer Valley	66	N	59	26	58	25	58	25	57	24	56	24	53	23	53	23	51	22	51	22	51	22
Proserpine	66	N	46	15	45	15	45	15	44	15	43	15	41	14	40	14	39	13	39	13	39	13
Rockhampton	66	CW	89	15	86	17	86	17	84	16	82	16	78	17	77	17	74	16	75	16	75	16

Table A.3 Ergon connection point forecast of summer low growth native maximum demand *(continued)*

Connection point	Voltage (kV)	Zone	2019/20		2020/21		2021/22		2022/23		2023/24		2024/25		2025/26		2026/27		2027/28		2028/29 (1)	
			MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr
Ross (Kidston, Milchester and Georgetown)	132	R	38	14	43	15	44	16	45	16	46	16	44	16	43	15	41	15	41	15	42	15
Stoney Creek	132	N	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2	4	2
Tangkam	110	SW	32	10	36	11	36	11	35	11	34	11	33	10	33	10	31	10	32	10	32	10
Tarong	66	SW	43	17	42	16	42	16	41	16	40	16	38	15	38	15	36	14	36	14	37	14
Teebar Creek (Isis and Maryborough)	132	WB	113	38	111	37	111	37	109	37	107	36	103	35	102	34	99	33	99	33	100	34
Townsville East	66	R	46	10	45	9	45	9	42	8	41	8	40	8	39	8	38	7	38	8	38	8
Townsville South	66	R	102	21	100	21	100	21	93	18	91	17	87	18	86	17	83	16	83	17	84	17
Tully	22	R	14	7	14	6	14	6	13	6	13	6	12	6	12	6	12	6	12	6	12	6
Turkinje (Craiglie and Lakeland)	132	FN	21	9	21	9	21	9	20	9	20	9	19	8	19	8	18	8	18	8	19	8
Turkinje	66	FN	58	15	57	14	57	14	55	14	57	14	54	14	53	14	51	13	51	13	52	13
Woolooga (Kilkivan)	132	WB	20	3	19	3	19	3	19	2	18	2	18	2	17	2	17	2	17	2	17	2
Woree (Cairns North)	132	FN	41	2	40	2	41	2	40	2	39	2	38	2	38	2	36	2	37	2	37	2
Yarwun (Boat Creek)	132	G	40	22	39	22	39	22	38	21	37	21	35	20	35	19	33	19	33	19	34	19
Hail Creek and King Creek	Various	N	41	9	40	9	40	9	39	9	38	9	37	8	36	8	35	8	35	8	35	8

Note:

(1) Connection point loads for summer 2028/29 have been extrapolated.

Table A.4 Ergon connection point forecast of winter high growth native maximum demand

Connection point	Voltage (kV)	Zone	2019		2020		2021		2022		2023		2024		2025		2026		2027		2028	
			MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr
Alan Sherriff	132	R	21	10	21	10	21	11	22	11	23	11	23	11	24	12	24	12	24	12	25	12
Alligator Creek (Louisa Creek)	132	N	43	14	42	14	43	14	44	14	45	15	45	15	46	15	46	15	46	15	46	15
Alligator Creek	33	N	24	9	23	8	24	8	24	9	25	9	25	9	25	9	26	9	26	9	26	9
Biloela	66	CW	32	4	31	4	32	4	32	4	33	4	33	4	34	4	34	5	34	4	34	5
Blackwater	132	CW	30	19	29	18	29	19	30	19	31	20	31	20	31	20	32	20	31	20	31	20
Blackwater	66	CW	110	16	106	15	118	17	122	17	124	18	124	18	127	18	129	18	128	18	129	18
Bowen North	66	R	28	10	27	9	28	10	28	10	29	10	29	10	30	10	30	10	30	10	30	10
Bulli Creek (Waggamba)	132	B	25	12	24	11	25	12	26	12	26	12	26	12	27	13	27	13	27	13	27	13
Cairns	22	FN	49	26	47	25	48	26	50	26	51	27	51	27	52	27	52	28	52	27	52	28
Cairns City	132	FN	42	5	40	5	41	5	43	5	43	5	43	5	44	5	45	5	44	5	45	5
Calliope River	132	G	54	26	52	25	53	25	55	26	56	27	56	27	57	27	58	28	57	27	58	28
Cardwell	22	R	5	3	5	3	5	3	5	3	5	3	5	3	5	3	6	3	5	3	6	3
Chinchilla	132	S	18	5	17	4	18	5	18	5	19	5	19	5	19	5	19	5	19	5	19	5
Clare South	66	R	71	20	69	19	73	20	76	21	78	21	78	21	80	22	81	22	80	22	81	22
Collinsville	33	N	16	7	16	7	16	7	16	7	17	7	17	7	17	7	17	7	17	7	17	7
Columboola	132	S	66	16	64	15	65	15	67	16	69	16	69	16	70	17	71	17	70	17	71	17
Dan Gleeson	66	R	109	4	105	4	108	4	111	4	107	4	107	4	110	4	111	4	110	4	111	4
Dysart	66	CW	45	8	44	8	44	8	46	8	47	8	47	8	48	8	48	8	48	8	48	8
Edmonton	22	FN	41	7	39	7	40	7	41	7	42	8	42	7	43	8	44	8	43	8	44	8
Egans Hill	66	CW	47	15	46	15	47	15	50	16	51	16	52	17	53	17	54	17	54	17	54	17
El Arish	22	FN	5	0	4	0	4	0	5	0	5	1	5	1	5	1	5	1	5	1	5	1
Garbutt	66	R	113	5	109	4	112	5	115	5	111	4	111	4	113	4	115	4	114	4	115	4
Gin Gin	132	WB	176	25	170	24	174	25	180	26	184	26	184	26	188	27	191	27	190	27	191	27

Table A.4 Ergon connection point forecast of winter high growth native maximum demand *(continued)*

Connection point	Voltage (kV)	Zone	2019		2020		2021		2022		2023		2024		2025		2026		2027		2028	
			MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr
Gladstone South	66	G	38	14	37	13	38	14	39	14	40	14	40	14	41	15	41	15	41	15	41	15
Ingham	66	R	17	3	16	3	17	3	17	3	18	3	18	3	18	3	18	3	18	3	18	3
Innisfail	22	FN	22	11	22	11	22	11	23	11	23	12	23	12	24	12	24	12	24	12	24	12
Kamerunga	22	FN	55	18	53	17	54	18	56	18	57	18	57	18	58	19	59	19	58	19	58	19
Lilyvale (Barcaldine & Clermont)	132	CW	37	4	35	4	36	4	37	4	38	4	38	4	39	4	39	4	39	4	39	4
Lilyvale	66	CW	139	62	134	60	137	62	141	63	144	65	144	65	147	66	148	67	147	66	148	67
Mackay	33	N	72	41	70	39	71	40	74	42	75	43	75	43	77	44	78	44	77	44	78	44
Middle Ridge	110	SW	227	22	222	22	231	23	238	23	246	24	246	24	252	25	255	25	254	25	256	25
Middle Ridge (Postmans Ridge)	110	M	30	9	29	9	29	9	30	9	31	10	31	10	31	10	32	10	32	10	32	10
Moranbah (Broadlea)	132	N	48	14	47	13	48	14	49	14	50	14	50	14	51	15	52	15	53	15	56	16
Moranbah	66 and 11	N	134	45	129	43	132	44	138	46	144	48	144	48	147	49	148	49	147	49	147	49
Moura	66	CW	65	20	63	20	65	20	67	21	69	22	69	21	70	22	71	22	70	22	71	22
Nebo	11	N	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1
Newlands	66	N	25	9	27	10	28	10	29	11	29	11	29	11	30	11	30	11	30	11	30	11
Oakey	110	SW	25	5	25	5	25	5	26	5	26	5	26	5	27	5	27	5	27	5	27	5
Pandoin	66	CW	32	10	31	10	32	10	33	11	35	11	35	11	36	12	37	12	36	12	37	12
Pioneer Valley	66	N	48	19	46	19	47	19	49	20	50	20	50	20	51	21	52	21	51	21	52	21
Proserpine	66	N	47	16	46	16	47	16	48	17	49	17	49	17	50	17	51	18	50	18	51	18
Rockhampton	66	CW	78	25	74	24	75	24	77	25	78	25	78	25	79	25	80	26	79	25	80	26
Ross (Kidston, Milchester and Georgetown)	132	R	40	14	45	15	48	16	52	17	55	19	55	19	56	19	57	19	56	19	57	19

Table A.4 Ergon connection point forecast of winter high growth native maximum demand *(continued)*

Connection point	Voltage (kV)	Zone	2019		2020		2021		2022		2023		2024		2025		2026		2027		2028	
			MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr
Stoney Creek	132	N	6	3	6	3	6	3	6	3	6	3	6	3	7	3	7	3	7	3	7	3
Tangkam	110	SW	33	8	37	9	38	9	39	9	40	10	40	10	41	10	42	10	41	10	42	10
Tarong	66	SW	46	14	44	14	45	14	46	14	47	15	47	15	48	15	49	15	48	15	49	15
Teebar Creek (Isis and Maryborough)	132	WB	106	14	103	14	106	14	109	15	112	15	112	15	114	15	116	15	115	15	116	15
Townsville East	66	R	40	2	39	2	40	2	41	2	39	1	39	1	40	1	41	2	41	2	41	2
Townsville South	66	R	94	4	91	4	93	4	96	4	93	3	93	3	95	4	96	4	96	4	97	4
Tully	22	R	12	5	12	5	12	5	13	5	13	5	13	5	13	5	13	5	13	5	13	5
Turkinje (Craiglie and Lakeland)	132	FN	21	9	20	9	21	9	21	10	22	10	22	10	22	10	23	10	22	10	23	10
Turkinje	66	FN	63	14	64	14	66	14	68	15	69	15	69	15	71	15	71	16	71	16	71	16
Woolooga (Kilkivan)	132	WB	14	3	13	2	14	2	14	3	14	3	14	3	15	3	15	3	15	3	15	3
Woree (Cairns North)	132	FN	39	7	38	7	40	7	41	7	42	7	43	7	44	7	45	8	45	8	46	8
Yarwun (Boat Creek)	132	G	44	20	43	20	44	20	45	21	46	21	46	21	47	22	48	22	47	22	48	22
Hail Creek and King Creek	Various	N	51	10	49	10	50	10	51	11	52	11	52	11	53	11	54	11	54	11	54	11

Table A.5 Ergon connection point forecast of winter medium growth native maximum demand

Connection point	Voltage (kV)	Zone	2019		2020		2021		2022		2023		2024		2025		2026		2027		2028	
			MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr
Alan Sherriff	132	R	19	10	19	9	19	9	20	10	20	10	20	10	20	10	21	10	20	10	21	10
Alligator Creek (Louisa Creek)	132	N	39	13	39	13	38	13	39	13	39	13	39	13	39	13	39	13	39	13	39	13
Alligator Creek	33	N	22	8	21	8	21	8	22	8	22	8	21	8	22	8	22	8	21	8	22	8
Biloela	66	CW	29	4	28	4	28	4	29	4	29	4	28	4	29	4	29	4	28	4	29	4
Blackwater	132	CW	27	17	26	17	26	17	27	17	27	17	26	17	26	17	27	17	26	17	26	17
Blackwater	66	CW	100	14	98	14	106	15	108	15	109	16	106	15	107	15	109	16	108	15	109	15
Bowen North	66	R	25	9	25	9	25	9	25	9	25	9	25	9	25	9	25	9	25	9	25	9
Bulli Creek (Waggamba)	132	B	23	11	23	11	22	10	23	11	23	11	23	11	23	11	23	11	23	11	23	11
Cairns	22	FN	45	24	44	23	43	23	44	23	45	24	44	23	44	23	44	23	44	23	44	23
Cairns City	132	FN	38	5	37	4	37	4	38	5	38	5	37	4	38	5	38	5	37	4	38	5
Calliope River	132	G	49	23	48	23	48	23	49	23	49	23	48	23	48	23	49	23	48	23	48	23
Cardwell	22	R	5	3	4	3	4	3	5	3	5	3	5	3	5	3	5	3	5	3	5	3
Chinchilla	132	S	16	4	16	4	16	4	16	4	16	4	16	4	16	4	16	4	16	4	16	4
Clare South	66	R	65	18	64	18	66	18	68	19	68	19	67	18	68	19	68	19	68	19	68	19
Collinsville	33	N	15	6	14	6	14	6	15	6	15	6	14	6	15	6	15	6	14	6	15	6
Columboola	132	S	60	14	59	14	59	14	60	14	60	14	59	14	59	14	60	14	59	14	60	14
Dan Gleeson	66	R	99	4	97	4	97	4	99	4	93	3	92	3	93	3	94	3	93	3	94	3
Dysart	66	CW	41	7	40	7	40	7	41	7	41	7	40	7	40	7	41	7	40	7	40	7
Edmonton	22	FN	37	7	36	6	36	6	37	7	37	7	36	6	37	6	37	7	36	6	37	6
Egans Hill	66	CW	42	13	42	13	42	13	44	14	45	14	44	14	45	14	46	14	45	14	46	14
El Arish	22	FN	4	0	4	0	4	0	4	0	4	0	4	0	4	0	4	0	4	0	4	0
Garbutt	66	R	102	4	101	4	100	4	103	4	97	4	95	4	96	4	97	4	96	4	97	4
Gin Gin	132	WB	160	23	157	22	156	22	160	23	161	23	158	22	160	23	161	23	159	23	161	23

Table A.5 Ergon connection point forecast of winter medium growth native maximum demand *(continued)*

Connection point	Voltage (kV)	Zone	2019		2020		2021		2022		2023		2024		2025		2026		2027		2028	
			MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr
Gladstone South	66	G	35	13	34	12	34	12	35	13	35	13	34	12	35	12	35	13	35	12	35	13
Ingham	66	R	15	3	15	3	15	3	15	3	15	3	15	3	15	3	15	3	15	3	15	3
Innisfail	22	FN	20	10	20	10	20	10	20	10	20	10	20	10	20	10	20	10	20	10	20	10
Kamerunga	22	FN	50	16	49	16	48	16	50	16	50	16	49	16	49	16	49	16	49	16	49	16
Lilyvale (Barcaldine & Clermont)	132	CW	33	4	33	4	32	4	33	4	33	4	32	4	33	4	33	4	33	4	33	4
Lilyvale	66	CW	126	57	124	56	123	55	126	56	126	57	123	55	124	56	125	56	124	56	125	56
Mackay	33	N	65	37	64	36	64	36	66	37	66	37	65	37	65	37	66	37	65	37	66	37
Middle Ridge	110	SW	207	20	206	20	208	20	213	21	216	21	212	21	214	21	216	21	214	21	216	21
Middle Ridge (Postmans Ridge)	110	M	27	8	27	8	26	8	27	8	27	8	26	8	27	8	27	8	26	8	27	8
Moranbah (Broadlea)	132	N	44	13	43	12	43	12	44	13	44	13	43	12	43	12	43	12	43	12	43	12
Moranbah	66 and 11	N	122	41	120	40	119	39	123	41	126	42	123	41	124	41	125	42	124	41	124	41
Moura	66	CW	59	19	58	18	58	18	60	19	60	19	59	18	59	19	60	19	59	18	59	19
Nebo	11	N	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1
Newlands	66	N	23	9	25	9	25	9	25	10	26	10	25	9	25	9	25	10	25	9	25	9
Oakey	110	SW	23	5	23	4	22	4	23	5	23	5	23	4	23	4	23	5	23	4	23	5
Pandoin	66	CW	29	9	28	9	29	9	30	9	30	9	30	9	31	10	31	10	30	9	31	10
Pioneer Valley	66	N	44	18	43	17	43	17	44	18	44	18	43	17	43	18	44	18	43	18	44	18
Proserpine	66	N	43	15	42	15	42	15	43	15	43	15	42	15	42	15	43	15	42	15	43	15
Rockhampton	66	CW	70	22	69	22	67	21	69	22	69	22	67	21	67	21	67	21	66	21	67	21
Ross (Kidston, Milchester and Georgetown)	132	R	37	12	42	14	43	14	46	16	48	16	47	16	48	16	48	16	47	16	48	16

Table A.5 Ergon connection point forecast of winter medium growth native maximum demand *(continued)*

Connection point	Voltage (kV)	Zone	2019		2020		2021		2022		2023		2024		2025		2026		2027		2028	
			MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr
Stoney Creek	132	N	6	3	6	3	5	3	6	3	6	3	6	3	6	3	6	3	6	3	6	3
Tangkam	110	SW	30	7	34	8	34	8	35	8	35	8	34	8	35	8	35	8	35	8	35	8
Tarong	66	SW	41	13	41	13	40	12	41	13	41	13	40	13	41	13	41	13	41	13	41	13
Teebar Creek (Isis and Maryborough)	132	WB	97	13	95	13	95	13	97	13	98	13	96	13	97	13	98	13	97	13	98	13
Townsville East	66	R	36	1	36	1	36	1	37	1	34	1	34	1	34	1	35	1	34	1	35	1
Townsville South	66	R	85	3	84	3	84	3	86	3	81	3	79	3	80	3	81	3	80	3	81	3
Tully	22	R	11	5	11	5	11	4	11	5	11	5	11	4	11	5	11	5	11	5	11	5
Turkinje (Craiglie and Lakeland)	132	FN	19	8	19	8	19	8	19	9	19	9	19	8	19	8	19	9	19	8	19	9
Turkinje	66	FN	58	13	57	12	59	13	60	13	61	13	59	13	60	13	60	13	59	13	60	13
Woolooga (Kilkivan)	132	WB	12	2	12	2	12	2	12	2	12	2	12	2	12	2	12	2	12	2	12	2
Woree (Cairns North)	132	FN	36	6	35	6	36	6	37	6	37	6	37	6	37	6	38	6	38	6	38	6
Yarwun (Boat Creek)	132	G	40	19	40	18	39	18	40	19	41	19	40	18	40	18	40	19	40	18	40	18
Hail Creek and King Creek	Various	N	46	9	45	9	45	9	46	9	46	9	45	9	45	9	46	9	45	9	45	9

Table A.6 Ergon connection point forecast of winter low growth native maximum demand

Connection point	Voltage (kV)	Zone	2019		2020		2021		2022		2023		2024		2025		2026		2027		2028	
			MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr
Alan Sherriff	132	R	19	9	19	9	18	9	18	9	18	9	18	9	17	9	17	8	17	8	17	8
Alligator Creek (Louisa Creek)	132	N	38	12	38	12	36	12	36	12	36	12	35	11	34	11	33	11	31	10	32	10
Alligator Creek	33	N	21	7	21	7	20	7	20	7	20	7	19	7	19	7	18	7	17	6	18	6
Biloela	66	CW	28	4	28	4	27	4	27	4	26	4	25	3	25	3	24	3	23	3	23	3
Blackwater	132	CW	26	17	26	16	25	16	25	16	24	16	24	15	23	15	22	14	21	14	22	14
Blackwater	66	CW	96	14	95	14	100	14	100	14	99	14	95	14	93	13	91	13	88	13	88	13
Bowen North	66	R	25	8	24	8	23	8	24	8	23	8	22	8	22	7	21	7	20	7	20	7
Bulli Creek (Waggamba)	132	B	22	10	22	10	21	10	21	10	21	10	20	10	20	9	19	9	19	9	19	9
Cairns	22	FN	43	23	42	22	41	22	41	22	41	21	39	21	38	20	37	20	36	19	36	19
Cairns City	132	FN	37	4	36	4	35	4	35	4	35	4	33	4	32	4	32	4	30	4	31	4
Calliope River	132	G	47	23	47	22	45	21	45	22	45	21	43	21	42	20	41	20	39	19	39	19
Cardwell	22	R	4	3	4	3	4	3	4	3	4	3	4	2	4	2	4	2	4	2	4	2
Chinchilla	132	S	16	4	16	4	15	4	15	4	15	4	14	4	14	4	14	3	13	3	13	3
Clare South	66	R	62	17	62	17	62	17	63	17	62	17	60	17	59	16	57	16	55	15	56	15
Collinsville	33	N	14	6	14	6	14	6	14	6	13	6	13	6	13	5	12	5	12	5	12	5
Columboola	132	S	58	14	57	14	55	13	56	13	55	13	53	12	51	12	50	12	48	11	49	11
Dan Gleeson	66	R	95	4	94	4	91	4	92	4	85	3	82	3	80	3	79	3	76	3	76	3
Dysart	66	CW	40	7	39	7	38	7	38	7	37	7	36	6	35	6	34	6	33	6	33	6
Edmonton	22	FN	36	6	35	6	34	6	34	6	34	6	33	6	32	6	31	5	30	5	30	5
Egans Hill	66	CW	41	13	41	13	40	12	41	13	41	13	40	13	39	13	38	12	37	12	37	12
El Arish	22	FN	4	0	4	0	4	0	4	0	4	0	4	0	4	0	3	0	3	0	3	0
Garbutt	66	R	99	4	98	4	94	4	95	4	88	3	85	3	83	3	81	3	78	3	79	3

Table A.6 Ergon connection point forecast of winter low growth native maximum demand *(continued)*

Connection point	Voltage (kV)	Zone	2019		2020		2021		2022		2023		2024		2025		2026		2027		2028	
			MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr
Gin Gin	132	WB	154	22	152	22	147	21	148	21	147	21	142	20	138	20	135	19	130	18	131	19
Gladstone South	66	G	34	12	33	12	32	12	32	12	32	12	31	11	30	11	29	11	28	10	28	10
Ingham	66	R	15	3	15	3	14	3	14	3	14	3	14	3	13	2	13	2	12	2	12	2
Innisfail	22	FN	20	10	19	10	19	9	19	9	19	9	18	9	17	9	17	9	16	8	16	8
Kamerunga	22	FN	48	16	47	15	46	15	46	15	45	15	44	14	42	14	41	13	40	13	40	13
Lilyvale (Barcaldine & Clermont)	132	CW	32	4	32	4	30	3	31	3	30	3	29	3	28	3	28	3	27	3	27	3
Lilyvale	66	CW	122	55	120	54	115	52	116	52	115	52	111	50	107	48	105	47	101	45	101	46
Mackay	33	N	63	36	62	35	60	34	61	34	60	34	58	33	57	32	55	31	53	30	53	30
Middle Ridge	110	SW	200	20	199	20	195	19	197	19	197	19	190	19	185	18	181	18	174	17	176	17
Middle Ridge (Postmans Ridge)	110	M	26	8	26	8	25	8	25	8	25	8	24	7	23	7	22	7	22	7	22	7
Moranbah (Broadlea)	132	N	42	12	42	12	40	12	40	12	40	11	38	11	37	11	36	10	35	10	35	10
Moranbah	66 and 11	N	118	39	116	39	112	37	114	38	115	38	111	37	107	36	105	35	101	34	101	33
Moura	66	CW	57	18	56	18	54	17	55	17	55	17	53	17	51	16	50	16	48	15	48	15
Nebo	11	N	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1
Newlands	66	N	22	8	24	9	23	9	24	9	23	9	22	8	22	8	21	8	20	8	21	8
Oakey	110	SW	22	4	22	4	21	4	21	4	21	4	20	4	20	4	19	4	18	4	19	4
Pandoin	66	CW	28	9	28	9	27	8	28	9	28	9	27	9	26	9	26	8	25	8	25	8
Pioneer Valley	66	N	42	17	42	17	40	16	40	16	40	16	38	16	37	15	37	15	35	14	35	14
Proserpine	66	N	41	14	41	14	39	14	40	14	39	14	38	13	37	13	36	13	34	12	35	12
Rockhampton	66	CW	68	21	66	21	63	20	64	20	63	19	60	19	58	19	56	18	54	17	55	17

Table A.6 Ergon connection point forecast of winter low growth native maximum demand *(continued)*

Connection point	Voltage (kV)	Zone	2019		2020		2021		2022		2023		2024		2025		2026		2027		2028	
			MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr
Ross (Kidston, Milchester and Georgetown)	132	R	35	12	40	14	40	14	43	14	44	15	42	14	41	14	40	14	39	13	39	13
Stoney Creek	132	N	5	2	5	2	5	2	5	2	5	2	5	2	5	2	5	2	4	2	5	2
Tangkam	110	SW	29	7	33	8	32	8	32	8	32	8	31	7	30	7	29	7	28	7	29	7
Tarong	66	SW	40	12	39	12	38	12	38	12	38	12	36	11	35	11	34	11	33	10	33	10
Teebar Creek (Isis and Maryborough)	132	WB	93	12	92	12	89	12	90	12	89	12	86	11	84	11	82	11	79	11	80	11
Townsville East	66	R	35	1	35	1	34	1	34	1	32	1	30	1	30	1	29	1	28	1	28	1
Townsville South	66	R	83	3	82	3	79	3	80	3	74	3	71	3	70	3	68	3	65	2	66	2
Tully	22	R	11	4	11	4	10	4	10	4	10	4	10	4	10	4	9	4	9	4	9	4
Turkinje (Craiglie and Lakeland)	132	FN	18	8	18	8	17	8	18	8	17	8	17	8	16	7	16	7	15	7	15	7
Turkinje	66	FN	56	12	55	12	53	12	53	12	53	12	53	12	52	11	51	11	48	11	49	11
Woolooga (Kilkivan)	132	WB	12	2	12	2	11	2	12	2	11	2	11	2	11	2	10	2	10	2	10	2
Woree (Cairns North)	132	FN	35	6	34	6	33	6	34	6	34	6	33	6	32	5	32	5	31	5	31	5
Yarwun (Boat Creek)	132	G	39	18	38	18	37	17	37	17	37	17	36	16	35	16	34	16	32	15	33	15
Hail Creek and King Creek	Various	N	44	9	44	9	42	9	42	9	42	9	40	8	39	8	38	8	37	8	37	8

Table A.7 Energex connection point forecast of summer high growth native maximum demand

Connection point	Voltage (kV)	Zone	2019/20		2020/21		2021/22		2022/23		2023/24		2024/25		2025/26		2026/27		2027/28		2028/29	
			MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr
Abermain	110	M	68	23	69	23	68	23	68	23	69	23	69	23	69	23	70	23	71	24	72	24
Abermain	33	M	103	17	108	17	111	18	113	18	115	18	116	19	119	19	121	20	125	20	128	21
Algester	33	M	65	16	65	16	64	16	64	16	64	16	64	16	64	16	65	16	67	16	67	16
Ashgrove West	110	M	114	20	119	21	123	22	126	22	130	23	134	23	136	24	138	24	142	25	146	26
Ashgrove West	33	M	73	8	73	8	73	8	72	7	72	7	72	7	73	8	74	8	75	8	77	8
Belmont	110	M	391	217	406	225	415	230	415	230	422	234	426	236	432	239	439	243	449	249	459	255
Blackstone (Raceview)	110	M	102	14	102	14	101	14	101	14	101	14	101	14	102	14	103	14	105	14	107	15
Bundamba	110	M	36	21	36	21	36	21	35	21	36	21	36	21	36	21	36	21	37	21	37	22
Goodna	33	M	121	14	123	14	125	15	126	15	128	15	130	15	132	16	136	16	140	16	144	17
Loganlea	110	M	392	150	394	151	397	152	397	152	401	153	404	154	409	156	415	159	423	162	431	165
Loganlea	33	M	96	16	96	16	96	16	95	16	95	16	95	16	96	16	96	16	99	16	101	17
Middle Ridge (Postmans Ridge and Gatton)	110	M	110	13	110	13	110	13	109	13	109	13	109	13	109	13	110	13	111	13	112	14
Molendinar	110	GC	459	53	462	54	467	54	465	54	467	54	470	55	474	55	479	56	487	57	495	57
Mudgeeraba	110	GC	358	97	358	97	358	97	356	96	356	96	358	97	361	98	363	98	368	100	374	101
Mudgeeraba	33	GC	21	8	21	8	21	8	21	8	21	8	21	8	21	8	21	8	22	8	22	8
Muramie	110	M	482	115	490	106	491	106	493	106	504	120	517	123	526	125	535	128	543	130	553	119
Palmwoods	110 & 132	M	380	181	383	182	391	186	393	187	399	190	403	192	412	196	418	199	427	203	436	207
Redbank Plains	11	M	26	8	26	8	27	8	27	9	28	9	28	9	29	9	30	10	31	10	32	10
Richlands	33	M	133	34	133	34	132	34	131	33	131	33	131	33	132	34	134	34	136	35	138	35
Rocklea	110	M	166	63	165	63	164	63	163	63	162	62	162	62	162	62	163	63	165	63	167	64
Runcorn	33	M	65	8	64	8	64	8	64	8	64	8	64	8	64	8	65	8	66	9	67	9
South Pine	110	M	947	149	957	150	959	151	955	150	960	151	966	152	975	153	987	155	1003	158	1019	160

Table A.7 Energex connection point forecast of summer high growth native maximum demand *(continued)*

Connection point	Voltage (kV)	Zone	2019/20		2020/21		2021/22		2022/23		2023/24		2024/25		2025/26		2026/27		2027/28		2028/29	
			MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr
Sumner	110	M	35	16	35	16	35	16	35	16	35	16	34	16	35	16	36	16	37	17	39	17
Tennyson	33	M	177	27	180	27	179	27	179	27	183	28	185	28	186	28	188	28	191	29	193	29
Wecker Road	33	M	131	21	131	21	131	21	130	21	130	21	131	21	132	21	134	22	137	22	140	23
Woolooga (Gympie)	132	M	200	24	200	24	200	24	199	24	199	24	200	24	202	24	204	24	207	25	210	25

Table A.8 Energex connection point forecast of summer medium growth native maximum demand

Connection point	Voltage (kV)	Zone	2019/20		2020/21		2021/22		2022/23		2023/24		2024/25		2025/26		2026/27		2027/28		2028/29	
			MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr
Abermain	110	M	68	22	68	22	67	22	67	22	66	22	66	22	67	22	67	22	67	22	68	22
Abermain	33	M	102	16	107	17	109	18	111	18	112	18	113	18	115	18	117	19	119	19	121	19
Algester	33	M	64	16	64	16	63	16	63	15	62	15	62	15	62	15	62	15	63	15	62	15
Ashgrove West	110	M	113	20	117	21	122	21	123	22	126	22	129	23	131	23	132	23	134	23	136	24
Ashgrove West	33	M	73	8	72	7	72	7	71	7	70	7	70	7	70	7	71	7	71	7	72	7
Belmont	110	M	387	214	400	222	408	226	406	225	408	226	410	228	414	230	417	231	422	234	428	237
Blackstone (Raceview)	110	M	100	14	100	14	100	14	98	13	98	13	98	13	98	13	98	13	99	13	100	14
Bundamba	110	M	35	20	35	20	35	20	35	20	34	20	34	20	35	20	34	20	35	20	35	20
Goodna	33	M	120	14	121	14	123	14	123	14	124	15	125	15	127	15	129	15	132	15	134	16
Loganlea	110	M	388	148	389	149	391	150	389	149	388	148	390	149	393	150	396	151	399	153	402	154
Loganlea	33	M	95	16	94	16	94	16	93	15	92	15	92	15	92	15	92	15	93	15	94	16
Middle Ridge (Postmans Ridge and Gatton)	110	M	109	13	109	13	108	13	107	13	107	13	106	13	106	13	106	13	106	13	107	13
Molendinar	110	GC	453	53	455	53	459	53	454	53	452	52	453	53	455	53	455	53	458	53	461	53
Mudgeeraba	110	GC	354	96	353	96	352	95	348	94	346	94	346	94	348	94	347	94	348	94	350	95
Mudgeeraba	33	GC	21	8	21	8	21	8	20	7	20	7	20	7	20	7	20	7	20	7	20	7
Murarrie	110	M	478	114	484	104	485	105	484	104	492	117	503	120	510	122	515	123	519	124	525	113
Palmwoods	110 & 132	M	375	178	378	180	385	183	384	183	386	183	388	185	395	188	397	189	401	191	406	193
Redbank Plains	11	M	25	8	26	8	26	8	26	8	27	9	27	9	28	9	28	9	29	9	30	9
Richlands	33	M	131	33	131	33	130	33	128	33	127	32	126	32	127	32	127	32	128	33	129	33
Rocklea	110	M	164	63	162	62	162	62	159	61	157	60	156	60	156	60	155	60	156	60	156	60
Runcorn	33	M	64	8	64	8	63	8	62	8	62	8	62	8	62	8	62	8	62	8	62	8
South Pine	110	M	937	147	944	149	945	149	935	147	931	146	934	147	940	148	943	148	950	149	957	150

Table A.8 Energex connection point forecast of summer medium growth native maximum demand *(continued)*

Connection point	Voltage (kV)	Zone	2019/20		2020/21		2021/22		2022/23		2023/24		2024/25		2025/26		2026/27		2027/28		2028/29	
			MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr
Sumner	110	M	35	16	35	16	34	16	34	15	33	15	33	15	33	15	34	15	35	16	36	16
Tennyson	33	M	175	26	177	27	176	27	175	26	177	27	179	27	179	27	179	27	180	27	181	27
Wecker Road	33	M	130	21	129	21	129	21	127	21	126	20	126	20	127	21	127	21	129	21	130	21
Woolooga (Gympie)	132	M	198	23	198	23	197	23	194	23	193	23	194	23	194	23	194	23	196	23	197	23

Table A.9 Energex connection point forecast of summer low growth native maximum demand

Connection point	Voltage (kV)	Zone	2019/20		2020/21		2021/22		2022/23		2023/24		2024/25		2025/26		2026/27		2027/28		2028/29 (1)	
			MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr
Abermain	110	M	67	22	67	22	67	22	66	22	65	22	65	22	65	22	65	21	65	21	65	21
Abermain	33	M	101	16	106	17	108	17	109	18	110	18	111	18	112	18	114	18	115	18	117	19
Algester	33	M	63	16	63	16	62	15	61	15	61	15	60	15	60	15	60	15	60	15	61	15
Ashgrove West	110	M	112	20	116	20	120	21	121	21	124	22	126	22	127	22	127	22	129	23	130	23
Ashgrove West	33	M	72	7	72	7	71	7	70	7	69	7	68	7	68	7	68	7	69	7	69	7
Belmont	110	M	383	212	395	219	402	223	398	221	399	221	400	222	401	223	402	223	404	224	406	225
Blackstone (Raceview)	110	M	99	14	99	13	98	13	97	13	96	13	95	13	95	13	95	13	95	13	95	13
Bundamba	110	M	35	20	35	20	35	20	34	20	34	20	34	19	33	19	33	19	33	19	33	19
Goodna	33	M	119	14	120	14	121	14	121	14	121	14	122	14	123	14	124	15	126	15	128	15
Loganlea	110	M	384	147	385	147	385	147	382	146	380	145	380	145	382	146	382	146	383	146	383	146
Loganlea	33	M	94	16	93	16	92	15	91	15	90	15	89	15	89	15	88	15	89	15	89	15
Middle Ridge (Postmans Ridge and Gatton)	110	M	108	13	108	13	107	13	106	13	105	13	105	13	104	13	104	13	104	13	103	13
Molendinar	110	GC	449	52	450	52	452	52	446	52	442	51	441	51	441	51	439	51	438	51	438	51
Mudgeeraba	110	GC	351	95	350	95	347	94	342	93	339	92	338	92	338	91	336	91	335	91	334	91
Mudgeeraba	33	GC	21	8	20	8	20	7	20	7	20	7	20	7	20	7	20	7	20	7	19	7
Murarrie	110	M	474	113	478	114	480	103	478	103	485	116	494	118	499	119	502	120	503	120	504	120
Palmwoods	110 & 132	M	371	177	373	177	379	180	377	179	378	180	379	180	383	182	383	182	384	183	385	183
Redbank Plains	11	M	25	8	26	8	26	8	26	8	26	8	27	8	27	9	27	9	28	9	28	9
Richlands	33	M	130	33	129	33	128	33	126	32	124	32	123	31	123	31	122	31	122	31	122	31
Rocklea	110	M	162	62	160	62	159	61	156	60	154	59	152	59	151	58	150	58	149	57	148	57
Runcorn	33	M	63	8	63	8	62	8	61	8	60	8	60	8	60	8	60	8	60	8	59	8
South Pine	110	M	928	146	935	147	932	147	920	145	914	144	914	144	915	144	914	144	914	144	914	144

Table A.9 Energex connection point forecast of summer low growth native maximum demand *(continued)*

Connection point	Voltage (kV)	Zone	2019/20		2020/21		2021/22		2022/23		2023/24		2024/25		2025/26		2026/27		2027/28		2028/29 (1)	
			MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr
Sumner	110	M	34	16	34	15	34	15	33	15	33	15	32	15	32	15	33	15	34	15	34	15
Tennyson	33	M	173	26	175	27	173	26	172	26	173	26	175	26	174	26	173	26	173	26	172	26
Wecker Road	33	M	128	21	128	21	127	20	125	20	124	20	123	20	123	20	123	20	123	20	124	20
Woolooga (Gympie)	132	M	196	23	196	23	194	23	191	23	190	22	189	22	189	22	188	22	188	22	188	22

Note:

(1) Connection point loads for summer 2028/29 have been extrapolated.

Table A.10 Energex connection point forecast of winter high growth native maximum demand

Connection point	Voltage (kV)	Zone	2019		2020		2021		2022		2023		2024		2025		2026		2027		2028	
			MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr
Abermain	110	M	56	21	56	21	56	21	55	21	57	22	58	22	58	22	59	22	60	23	61	23
Abermain	33	M	69	5	71	6	75	6	77	6	80	6	83	6	84	7	86	7	90	7	92	7
Algester	33	M	53	27	53	26	53	26	52	26	54	27	54	27	54	27	55	27	57	28	58	29
Ashgrove West	110	M	89	17	89	17	97	19	97	19	102	20	107	21	110	21	113	22	117	22	120	23
Ashgrove West	33	M	60	7	61	7	60	7	60	6	61	7	62	7	62	7	63	7	65	7	66	7
Belmont	110	M	300	49	303	49	317	51	327	53	327	53	336	54	340	55	348	56	359	58	369	60
Blackstone (Raceview)	110	M	67	12	68	12	68	12	67	12	69	13	70	13	70	13	72	13	74	13	75	14
Bundamba	110	M	29	16	29	16	29	16	29	16	30	16	30	16	30	16	31	17	31	17	32	18
Goodna	33	M	90	7	94	8	96	8	96	8	100	8	103	9	104	9	107	9	112	9	116	10
Loganlea	110	M	296	84	298	85	300	86	300	85	309	88	315	90	317	90	324	92	335	95	342	98
Loganlea	33	M	77	12	77	12	77	12	76	12	78	12	79	12	80	12	81	13	83	13	85	13
Middle Ridge (Postmans Ridge and Gatton)	110	M	53	10	54	10	54	10	53	10	54	10	54	10	54	10	55	10	55	10	56	10
Molendinar	110	GC	427	30	435	31	436	31	435	31	449	32	455	32	458	32	467	33	480	34	490	35
Mudgeeraba	110	GC	254	68	256	68	255	68	253	68	259	69	262	70	263	71	268	72	274	73	279	75
Mudgeeraba	33	GC	18	6	19	6	19	6	18	6	19	6	19	6	19	6	19	6	20	6	20	6
Murarrie	110	M	370	77	373	78	376	79	376	79	392	82	404	85	412	86	420	88	429	90	437	91
Palmwoods	110 & 132	M	310	123	314	124	316	125	320	127	334	133	342	136	346	137	356	141	368	146	378	150
Redbank Plains	11	M	18	4	19	4	19	4	19	4	20	4	21	5	21	5	22	5	23	5	24	5
Richlands	33	M	104	17	104	17	104	17	103	17	105	17	106	17	106	17	108	18	111	18	114	19
Rocklea	110	M	110	28	110	28	110	28	108	28	111	28	112	28	111	28	113	29	115	29	117	30

Table A.10 Energex connection point forecast of winter high growth native maximum demand *(continued)*

Connection point	Voltage (kV)	Zone	2019		2020		2021		2022		2023		2024		2025		2026		2027		2028	
			MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr
Runcorn	33	M	57	10	57	10	57	10	56	10	58	10	58	10	58	10	59	10	61	11	62	11
South Pine	110	M	718	94	725	95	730	96	725	95	744	98	754	99	759	100	774	102	795	105	810	106
Sumner	110	M	25	8	25	8	25	7	24	7	25	8	25	8	25	8	25	8	27	8	28	9
Tennyson	33	M	141	13	144	13	144	13	142	13	147	14	152	14	154	14	157	14	161	15	164	15
Wecker Road	33	M	97	10	97	10	97	10	96	9	99	10	100	10	101	10	102	10	105	10	108	11
Woolooga (Gympie)	132	M	229	12	233	12	234	12	231	12	237	12	240	13	241	13	246	13	252	13	257	14

Table A.11 Energex connection point forecast of winter medium growth native maximum demand

Connection point	Voltage (kV)	Zone	2019		2020		2021		2022		2023		2024		2025		2026		2027		2028	
			MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr
Abermain	110	M	54	21	54	21	53	20	53	20	54	21	54	21	54	21	54	21	55	21	55	21
Abermain	33	M	67	5	69	5	72	6	74	6	77	6	78	6	79	6	81	6	83	6	84	7
Algester	33	M	51	25	50	25	50	25	49	25	50	25	50	25	50	25	50	25	51	25	51	26
Ashgrove West	110	M	86	17	86	16	92	18	92	18	96	19	100	19	102	20	103	20	105	20	107	21
Ashgrove West	33	M	58	6	58	6	58	6	57	6	58	6	57	6	57	6	58	6	58	6	59	6
Belmont	110	M	288	47	289	47	301	49	310	50	307	50	310	50	312	50	315	51	321	52	324	53
Blackstone (Raceview)	110	M	64	12	65	12	64	12	64	12	65	12	65	12	64	12	65	12	66	12	66	12
Bundamba	110	M	28	15	28	15	28	15	27	15	28	15	28	15	28	15	28	15	28	15	28	15
Goodna	33	M	86	7	90	7	91	8	91	8	94	8	95	8	96	8	97	8	100	8	102	8
Loganlea	110	M	285	81	285	81	286	82	285	81	291	83	292	83	293	83	296	84	301	86	303	86
Loganlea	33	M	74	11	74	11	73	11	72	11	73	11	73	11	73	11	73	11	74	11	75	12
Middle Ridge (Postmans Ridge and Gatton)	110	M	52	9	52	9	52	9	52	9	52	9	52	9	52	9	52	9	52	9	52	9
Molendinar	110	GC	410	29	414	29	414	29	413	29	421	30	420	30	420	30	423	30	428	30	431	30
Mudgeeraba	110	GC	245	66	245	66	244	65	241	65	245	66	244	65	244	65	246	66	248	66	249	67
Mudgeeraba	33	GC	18	6	18	6	18	6	17	5	18	6	18	6	18	6	18	6	18	6	18	6
Murarrie	110	M	360	75	361	76	363	76	363	76	375	78	383	80	389	81	393	82	397	83	400	84
Palmwoods	110 & 132	M	297	118	299	119	300	119	304	120	313	124	316	125	317	126	323	128	329	130	332	132
Redbank Plains	11	M	17	4	18	4	18	4	18	4	19	4	19	4	20	4	20	4	21	4	21	5
Richlands	33	M	100	16	99	16	99	16	97	16	99	16	98	16	98	16	98	16	99	16	100	16
Rocklea	110	M	106	27	105	27	104	27	103	26	104	27	104	26	103	26	103	26	104	26	104	26

Table A.11 Energex connection point forecast of winter medium growth native maximum demand *(continued)*

Connection point	Voltage (kV)	Zone	2019		2020		2021		2022		2023		2024		2025		2026		2027		2028	
			MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr
Runcorn	33	M	55	10	55	10	54	9	54	9	54	9	54	9	54	9	54	9	55	10	55	10
South Pine	110	M	693	91	696	92	698	92	694	91	705	93	704	93	706	93	712	94	721	95	725	95
Sumner	110	M	24	7	23	7	23	7	23	7	23	7	23	7	23	7	23	7	24	7	25	7
Tennyson	33	M	135	12	138	13	137	13	135	12	138	13	141	13	142	13	143	13	144	13	145	13
Wecker Road	33	M	93	9	93	9	92	9	91	9	93	9	92	9	92	9	93	9	94	9	95	9
Woolooga (Gympie)	132	M	221	12	224	12	223	12	221	12	224	12	223	12	223	12	225	12	227	12	228	12

Table A.12 Energex connection point forecast of winter low growth native maximum demand

Connection point	Voltage (kV)	Zone	2019		2020		2021		2022		2023		2024		2025		2026		2027		2028	
			MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr
Abermain	110	M	52	20	52	20	52	20	51	19	51	20	51	20	51	20	51	20	51	20	51	19
Abermain	33	M	66	5	67	5	70	5	71	6	74	6	75	6	76	6	77	6	78	6	79	6
Algester	33	M	50	25	49	24	48	24	47	23	48	24	47	24	47	23	47	23	47	23	47	23
Ashgrove West	110	M	84	16	83	16	89	17	88	17	92	18	95	18	97	19	97	19	98	19	99	19
Ashgrove West	33	M	57	6	56	6	56	6	55	6	55	6	55	6	54	6	55	6	55	6	54	6
Belmont	110	M	280	45	278	45	288	47	295	48	291	47	293	47	293	48	296	48	297	48	297	48
Blackstone (Raceview)	110	M	62	11	62	11	62	11	61	11	61	11	61	11	61	11	61	11	61	11	61	11
Bundamba	110	M	27	15	27	15	26	14	26	14	26	14	26	14	26	14	26	14	26	14	26	14
Goodna	33	M	84	7	87	7	87	7	87	7	89	7	90	7	90	7	91	8	93	8	93	8
Loganlea	110	M	277	79	275	78	274	78	272	78	277	79	277	79	276	79	278	79	280	80	278	79
Loganlea	33	M	72	11	71	11	70	11	69	11	70	11	69	11	69	11	69	11	69	11	68	11
Middle Ridge (Postmans Ridge and Gatton)	110	M	52	9	51	9	51	9	51	9	51	9	51	9	50	9	50	9	50	9	50	9
Molendinar	110	GC	398	28	399	28	397	28	393	28	399	28	397	28	396	28	397	28	397	28	394	28
Mudgeeraba	110	GC	239	64	237	64	235	63	231	62	234	63	233	62	232	62	232	62	232	62	230	62
Mudgeeraba	33	GC	17	5	17	5	17	5	17	5	17	5	17	5	17	5	17	5	17	5	16	5
Murarrie	110	M	353	74	353	74	353	74	352	74	363	76	369	77	373	78	377	79	378	79	377	79
Palmwoods	110 & 132	M	289	115	288	114	287	114	289	115	297	118	298	118	299	118	303	120	305	121	303	120
Redbank Plains	11	M	17	4	17	4	17	4	17	4	18	4	18	4	18	4	19	4	19	4	19	4
Richlands	33	M	97	16	96	16	95	16	93	15	94	15	93	15	92	15	92	15	92	15	91	15
Rocklea	110	M	103	26	101	26	100	25	99	25	99	25	98	25	97	25	97	25	97	24	96	24
Runcorn	33	M	53	9	53	9	52	9	51	9	52	9	51	9	51	9	51	9	51	9	51	9

Table A.12 Energex connection point forecast of winter low growth native maximum demand *(continued)*

Connection point	Voltage (kV)	Zone	2019		2020		2021		2022		2023		2024		2025		2026		2027		2028	
			MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr
South Pine	110	M	676	89	674	89	673	89	666	88	674	89	671	88	671	88	674	89	676	89	672	88
Sumner	110	M	23	7	23	7	22	7	22	7	22	7	22	7	21	7	22	7	22	7	22	7
Tennyson	33	M	132	12	133	12	131	12	129	12	131	12	133	12	134	12	135	12	134	12	133	12
Wecker Road	33	M	90	9	89	9	88	9	86	9	88	9	87	9	87	9	87	9	87	9	87	9
Woolooga (Gympie)	132	M	215	11	216	11	215	11	211	11	214	11	213	11	212	11	212	11	213	11	211	11

Table A.13 Sum of individual summer high growth native peak forecast demands for the transmission connected loads

Connection point (1)	2019/20		2020/21		2021/22		2022/23		2023/24		2024/25		2025/26		2026/27		2027/28		2028/29	
	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr
Transmission connected industrial loads (2)	1138	371	1138	371	1143	372	1154	376	1154	376	1154	376	1154	376	1154	376	1154	376	1154	376
Transmission connected mining loads (3)	70	22.0	70	22.0	70	22.0	70	22.0	70	22.0	70	22.0	70	22.0	80	25.0	80	25.0	80	25.0
Transmission connected CSG loads (4)	819	113	903	124	907	125	905	124	896	123	869	119	850	117	851	117	828	114	822	113
Transmission connected rail supply substations (5)(6)	255	-253	255	-253	255	-253	255	-253	255	-253	255	-253	255	-253	255	-253	255	-253	255	-253

Notes:

(1) Transmission connected customers supply 10-year active power (MW) forecasts. The reactive power (MVAr) forecasts are calculated based on historical power factors at each connection point.

(2) Industrial loads include:
Ross zone – Townsville Nickel, Sun Metals and Invicta Mill
Gladstone zone – RTA, QAL and BSL.

(3) Mining loads include:
North zone – North Goonyella, Goonyella Riverside and Eagle Downs.

(4) CSG loads include:
Bulli zone – Kumbarilla Park
Surat zone – Wandoan South, Orana and Columboola.

(5) Rail supply substations include:
North zone – Mackay Ports, Oonooie, Bolingbroke, Wandoo, Mindi, Coppabella, Wotonga, Peak Downs and Mt McLaren
Central West zone – Norwich Park, Gregory, Blackwater, Bluff, Wycarbah, Duaringa, Grantleigh and Raglan
Gladstone zone – Callemondah.

(6) There are a number of connection points that supply the Aurizon rail network and these individual connection point peaks have been summated. Due to the load diversity between the connection points, the real and reactive power (MW and MVAr) coincident peak is significantly lower.

Table A.14 Sum of individual summer medium growth native peak forecast demands for the transmission connected loads

Connection point (1)	2019/20		2020/21		2021/22		2022/23		2023/24		2024/25		2025/26		2026/27		2027/28		2028/29	
	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr
Transmission connected industrial loads (2)	1138	371	1138	371	1143	372	1154	376	1154	376	1154	376	1154	376	1154	376	1154	376	1154	376
Transmission connected mining loads (3)	70	22.0	45	10.0	45	10.0	45	10.0	45	10.0	45	10.0	45	10.0	55	13.0	55	13.0	55	13.0
Transmission connected CSG loads (4)	803	111	850	118	857	119	845	117	826	115	798	111	782	109	755	105	745	104	732	102
Transmission connected rail supply substations (5)(6)	255	-253	255	-253	255	-253	255	-253	255	-253	255	-253	255	-253	255	-253	255	-253	255	-253

Notes:

(1) Transmission connected customers supply 10-year active power (MW) forecasts. The reactive power (MVAr) forecasts are calculated based on historical power factors at each connection point.

(2) Industrial loads include:
Ross zone – Townsville Nickel, Sun Metals and Invicta Mill
Gladstone zone – RTA, QAL and BSL.

(3) Mining loads include:
North zone – North Goonyella, Goonyella Riverside and Eagle Downs.

(4) CSG loads include:
Bulli zone – Kumbarilla Park
Surat zone – Wandoan South, Orana and Columboola.

(5) Rail supply substations include:
North zone – Mackay Ports, Oonooie, Bolingbroke, Wandoo, Mindi, Coppabella, Wotonga, Peak Downs and Mt McLaren
Central West zone – Norwich Park, Gregory, Blackwater, Bluff, Wycarbah, Duaringa, Grantleigh and Raglan
Gladstone zone – Callemondah.

(6) There are a number of connection points that supply the Aurizon rail network and these individual connection point peaks have been summated. Due to the load diversity between the connection points, the real and reactive power (MW and MVAr) coincident peak is significantly lower.

Table A.15 Sum of individual summer low growth native peak forecast demands for the transmission connected loads

Connection point (1)	2019/20		2020/21		2021/22		2022/23		2023/24		2024/25		2025/26		2026/27		2027/28		2028/29	
	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr
Transmission connected industrial loads (2)	1132	369	1126	367	1125	366	1130	368	1124	366	1119	364	1113	363	1107	361	1101	359	1096	357
Transmission connected mining loads (3)	69	22.0	45	10.0	45	10.0	44	10.0	44	10.0	44	10.0	44	10.0	52	12.0	52	12.0	52	12.0
Transmission connected CSG loads (4)	790	110	820	114	823	114	808	112	786	109	756	105	737	102	709	98	697	97	681	95
Transmission connected rail supply substations (5)(6)	254	-252	252	-250	251	-249	250	-248	249	-247	247	-245	246	-244	245	-243	244	-242	242	-240

Notes:

(1) Transmission connected customers supply 10-year active power (MW) forecasts. The reactive power (MVAr) forecasts are calculated based on historical power factors at each connection point.

(2) Industrial loads include:
Ross zone – Townsville Nickel, Sun Metals and Invicta Mill
Gladstone zone – RTA, QAL and BSL.

(3) Mining loads include:
North zone – North Goonyella, Goonyella Riverside and Eagle Downs.

(4) CSG loads include:
Bulli zone – Kumbarilla Park
Surat zone – Wandoan South, Orana and Columboola.

(5) Rail supply substations include:
North zone – Mackay Ports, Oonooie, Bolingbroke, Wandoo, Mindi, Coppabella, Wotonga, Peak Downs and Mt McLaren
Central West zone – Norwich Park, Gregory, Blackwater, Bluff, Wycarbah, Duaringa, Grantleigh and Raglan
Gladstone zone – Callemondah.

(6) There are a number of connection points that supply the Aurizon rail network and these individual connection point peaks have been summated. Due to the load diversity between the connection points, the real and reactive power (MW and MVAr) coincident peak is significantly lower.

Table A.16 Sum of individual winter high growth native peak forecast demands for the transmission connected loads

Connection point (1)	2019		2020		2021		2022		2023		2024		2025		2026		2027		2028	
	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr
Transmission connected industrial loads (2)	1136	370	1136	370	1136	370	1146	373	1153	376	1153	376	1153	376	1153	376	1153	376	1153	376
Transmission connected mining loads (3)	70	22.0	70	22.0	70	22.0	70	22.0	70	22.0	70	22.0	70	22.0	80	25.0	80	25.0	80	25.0
Transmission connected CSG loads (4)	826	115	897	125	914	127	899	125	893	124	879	122	858	119	852	118	836	116	824	114
Transmission connected rail supply substations (5)(6)	255	-253	255	-253	255	-253	255	-253	255	-253	255	-253	255	-253	255	-253	255	-253	255	-253

Notes:

(1) Transmission connected customers supply 10-year active power (MW) forecasts. The reactive power (MVAr) forecasts are calculated based on historical power factors at each connection point.

(2) Industrial loads include:
Ross zone – Townsville Nickel, Sun Metals and Invicta Mill
Gladstone zone – RTA, QAL and BSL.

(3) Mining loads include:
North zone – North Goonyella, Goonyella Riverside and Eagle Downs.

(4) CSG loads include:
Bulli zone – Kumbarilla Park
Surat zone – Wandoan South, Orana and Columboola.

(5) Rail supply substations include:
North zone – Mackay Ports, Oonooie, Bolingbroke, Wandoo, Mindi, Coppabella, Wotonga, Peak Downs and Mt McLaren
Central West zone – Norwich Park, Gregory, Blackwater, Bluff, Wycarbah, Duaringa, Grantleigh and Raglan
Gladstone zone – Callemondah.

(6) There are a number of connection points that supply the Aurizon rail network and these individual connection point peaks have been summated. Due to the load diversity between the connection points, the real and reactive power (MW and MVAr) coincident peak is significantly lower.

Table A.17 Sum of individual winter medium growth native peak forecast demands for the transmission connected loads

Connection point (1)	2019		2020		2021		2022		2023		2024		2025		2026		2027		2028	
	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr
Transmission connected industrial loads (2)	1136	370	1136	370	1136	370	1146	373	1153	376	1153	376	1153	376	1153	376	1153	376	1153	376
Transmission connected mining loads (3)	70	22.0	45	10.0	45	10.0	45	10.0	45	10.0	45	10.0	45	10.0	55	13.0	55	13.0	55	13.0
Transmission connected CSG loads (4)	791	110	826	115	858	119	842	117	830	115	812	113	787	109	757	105	748	104	737	102
Transmission connected rail supply substations (5)(6)	255	-253	255	-253	255	-253	255	-253	255	-253	255	-253	255	-253	255	-253	255	-253	255	-253

Notes:

(1) Transmission connected customers supply 10-year active power (MW) forecasts. The reactive power (MVAr) forecasts are calculated based on historical power factors at each connection point.

(2) Industrial loads include:
Ross zone – Townsville Nickel, Sun Metals and Invicta Mill
Gladstone zone – RTA, QAL and BSL.

(3) Mining loads include:
North zone – North Goonyella, Goonyella Riverside and Eagle Downs.

(4) CSG loads include:
Bulli zone – Kumbarilla Park
Surat zone – Wandoan South, Orana and Columboola.

(5) Rail supply substations include:
North zone – Mackay Ports, Oonooie, Bolingbroke, Wandoo, Mindi, Coppabella, Wotonga, Peak Downs and Mt McLaren
Central West zone – Norwich Park, Gregory, Blackwater, Bluff, Wycarbah, Duaringa, Grantleigh and Raglan
Gladstone zone – Callemondah.

(6) There are a number of connection points that supply the Aurizon rail network and these individual connection point peaks have been summated. Due to the load diversity between the connection points, the real and reactive power (MW and MVAr) coincident peak is significantly lower.

Table A.18 Sum of individual winter low growth native peak forecast demands for the transmission connected loads

Connection point (1)	2019		2020		2021		2022		2023		2024		2025		2026		2027		2028	
	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr	MW	MVAr
Transmission connected industrial loads (2)	1139	371	1133	369	1127	367	1131	368	1132	369	1126	367	1121	365	1115	363	1109	361	1103	359
Transmission connected mining loads (3)	69	22.0	45	10.0	45	10.0	44	10.0	44	10.0	44	10.0	44	10.0	52	12.0	52	12.0	52	12.0
Transmission connected CSG loads (4)	779	108	799	111	823	114	806	112	791	110	770	107	743	103	710	99	700	97	685	95
Transmission connected rail supply substations (5)(6)	254	-252	252	-250	251	-249	250	-248	249	-247	247	-245	246	-244	245	-243	244	-242	242	-240

Notes:

(1) Transmission connected customers supply 10-year active power (MW) forecasts. The reactive power (MVAr) forecasts are calculated based on historical power factors at each connection point.

(2) Industrial loads include:
Ross zone – Townsville Nickel, Sun Metals and Invicta Mill
Gladstone zone – RTA, QAL and BSL.

(3) Mining loads include:
North zone – North Goonyella, Goonyella Riverside and Eagle Downs.

(4) CSG loads include:
Bulli zone – Kumbarilla Park
Surat zone – Wandoan South, Orana and Columboola.

(5) Rail supply substations include:
North zone – Mackay Ports, Oonooie, Bolingbroke, Wandoo, Mindi, Coppabella, Wotonga, Peak Downs and Mt McLaren
Central West zone – Norwich Park, Gregory, Blackwater, Bluff, Wycarbah, Duaringa, Grantleigh and Raglan
Gladstone zone – Callemondah.

(6) There are a number of connection points that supply the Aurizon rail network and these individual connection point peaks have been summated. Due to the load diversity between the connection points, the real and reactive power (MW and MVAr) coincident peak is significantly lower.