Tapping steps and ranges KIK-TF-T2 KIK-TF-T2-Tap Changer -- OFFLOAD -- LV	Tap voltage range: Maximum: [11.55] kV Minimum: [10.45] kV Number of tapping steps: [5] Size of each tapping step as a percentage of nominal operating voltage range: [2.5]% On-load/Off-load [Offload] On-load tapping capability [Not Applicable] If on-load tapping capability is automatic, is it auto selected? [Not Applicable] If on-load tapping capability is manual, what tap step is normally set? (Actual or expected position at winter peak demand) [Not Applicable]

Interconnection Branch Report

As at : 01/07/2009 12:48

Site: Kinleith

Circuit Branch: ARI-KIN-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[300] Amps and [57.14] MVA [for summer period] and [366] Amps and [69.80] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.09842] PU (using 100MVA as the base) Reactance [0.35669] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.05443] PU (using 100MVA as the base) Reactance [0.12342] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: ARI-KIN-2

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[333] Amps and [63.36] MVA [for summer period] and [406] Amps and [77.36] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.10045] PU (using 100MVA as the base) Reactance [0.39708] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.05547] PU (using 100MVA as the base) Reactance [0.12262] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: KIN-LFT-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[266] Amps and [50.68] MVA [for summer period] and [325] Amps and [61.92] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.05000] PU (using 100MVA as the base) Reactance [0.18224] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.02962] PU (using 100MVA as the base) Reactance [0.06040] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: KIN-LFT-2

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[333] Amps and [63.36] MVA [for summer period] and [395] Amps and [75.26] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.04867] PU (using 100MVA as the base) Reactance [0.19126] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.02688] PU (using 100MVA as the base) Reactance [0.05961] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Interconnection Branch Report

As at : 01/07/2009 12:48

Site: Kaitimako

Circuit Branch: KMO-MTM-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[333] Amps and [63.36] MVA [for summer period] and [406] Amps and [77.36] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.02716] PU (using 100MVA as the base) Reactance [0.09304] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.01484] PU (using 100MVA as the base) Reactance [0.02938] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: KMO-TMI-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[333] Amps and [63.36] MVA [for summer period] and [406] Amps and [77.36] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.04859] PU (using 100MVA as the base) Reactance [0.19327] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.02683] PU (using 100MVA as the base) Reactance [0.05981] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: KMO-TRK-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[610] Amps and [116.27] MVA [for summer period] and [752] Amps and [143.19] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.07033] PU (using 100MVA as the base) Reactance [0.40162] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.02201] PU (using 100MVA as the base) Reactance [0.13121] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: KMO-TRK-2

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[610] Amps and [116.27] MVA [for summer period] and [752] Amps and [143.19] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.07013] PU (using 100MVA as the base) Reactance [0.40030] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.02195] PU (using 100MVA as the base) Reactance [0.13087] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Interconnection Branch Report

As at : 01/07/2009 12:48

Site: Kumara Substation

Circuit Branch: KUM-OTI-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[232] Amps and [26.51] MVA [for summer period] and [240] Amps and [27.44] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.58379] PU (using 100MVA as the base) Reactance [2.05040] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.37488] PU (using 100MVA as the base) Reactance [0.56057] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[66] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [72.6] kV Minimum: [59.4] kV

Circuit Branch: GYM-KUM-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[253] Amps and [28.94] MVA [for summer period] and [300] Amps and [34.29] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.22579] PU (using 100MVA as the base) Reactance [0.79357] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.14635] PU (using 100MVA as the base) Reactance [0.18756] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[66] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [72.6] kV Minimum: [59.4] kV

Interconnection Branch Report

As at : 01/07/2009 12:48

Site: Lichfield

Circuit Branch: LFD-LFT-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[60] Amps and [11.43] MVA [for summer period] and [60] Amps and [11.43] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.00002] PU (using 100MVA as the base) Reactance [0.00009] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00001] PU (using 100MVA as the base) Reactance [0.00003] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: LFD-LFT-2

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[60] Amps and [11.43] MVA [for summer period] and [60] Amps and [11.43] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.00002] PU (using 100MVA as the base) Reactance [0.00009] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00001] PU (using 100MVA as the base) Reactance [0.00003] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Interconnection Branch Report

As at : 01/07/2009 12:48

Site: Lichfield Transmission Tee Point

Circuit Branch: KIN-LFT-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[266] Amps and [50.68] MVA [for summer period] and [325] Amps and [61.92] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.05000] PU (using 100MVA as the base) Reactance [0.18224] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.02962] PU (using 100MVA as the base) Reactance [0.06040] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: KIN-LFT-2

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[333] Amps and [63.36] MVA [for summer period] and [395] Amps and [75.26] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.04867] PU (using 100MVA as the base) Reactance [0.19126] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.02688] PU (using 100MVA as the base) Reactance [0.05961] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: LFT-TRK-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[266] Amps and [50.68] MVA [for summer period] and [325] Amps and [61.92] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.10011] PU (using 100MVA as the base) Reactance [0.40023] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.05580] PU (using 100MVA as the base) Reactance [0.12960] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: LFT-TRK-2

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[333] Amps and [63.36] MVA [for summer period] and [406] Amps and [77.36] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.12038] PU (using 100MVA as the base) Reactance [0.47760] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.06648] PU (using 100MVA as the base) Reactance [0.14799] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: LFD-LFT-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[60] Amps and [11.43] MVA [for summer period] and [60] Amps and [11.43] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.00002] PU (using 100MVA as the base) Reactance [0.00009] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00001] PU (using 100MVA as the base) Reactance [0.00003] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: LFD-LFT-2

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[60] Amps and [11.43] MVA [for summer period] and [60] Amps and [11.43] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.00002] PU (using 100MVA as the base) Reactance [0.00009] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00001] PU (using 100MVA as the base) Reactance [0.00003] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Interconnection Branch Report

As at : 01/07/2009 12:48

Site: Livingstone

Circuit Branch: ISL-LIV-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[1060] Amps and [403.98] MVA [for summer period] and [1250] Amps and [476.31] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.09195] PU (using 100MVA as the base) Reactance [0.52359] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.02064] PU (using 100MVA as the base) Reactance [0.14903] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[220] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [242] kV Minimum: [198] kV

Circuit Branch: LIV-NSY-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[530] Amps and [201.99] MVA [for summer period] and [647] Amps and [246.43] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.02353] PU (using 100MVA as the base) Reactance [0.11983] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00883] PU (using 100MVA as the base) Reactance [0.04236] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[220] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [242] kV Minimum: [198] kV

Circuit Branch: LIV-WTK-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[770] Amps and [293.44] MVA [for summer period] and [848] Amps and [323.09] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.01627] PU (using 100MVA as the base) Reactance [0.08246] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00606] PU (using 100MVA as the base) Reactance [0.02940] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[220] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [242] kV Minimum: [198] kV

Interconnection Branch Report

As at : 01/07/2009 12:48

Site: Linton

Circuit Branch: BPE-LTN-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[1822] Amps and [694.33] MVA [for summer period] and [2000] Amps and [762.10] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.00769] PU (using 100MVA as the base) Reactance [0.03870] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00143] PU (using 100MVA as the base) Reactance [0.01251] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[220] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [242] kV Minimum: [198] kV

Circuit Branch: HAY-LTN-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[1822] Amps and [694.33] MVA [for summer period] and [2000] Amps and [762.10] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.04051] PU (using 100MVA as the base) Reactance [0.20255] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00752] PU (using 100MVA as the base) Reactance [0.06586] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[220] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [242] kV Minimum: [198] kV

Circuit Branch: LTN-WIL-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[1822] Amps and [694.33] MVA [for summer period] and [2000] Amps and [762.10] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.04886] PU (using 100MVA as the base) Reactance [0.25101] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00907] PU (using 100MVA as the base) Reactance [0.07917] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[220] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [242] kV Minimum: [198] kV

Circuit Branch: LTN-TWT-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[1822] Amps and [694.33] MVA [for summer period] and [2006] Amps and [764.34] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.00339] PU (using 100MVA as the base) Reactance [0.01709] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00063] PU (using 100MVA as the base) Reactance [0.00553] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[220] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [242] kV Minimum: [198] kV

Interconnection Branch Report

As at : 01/07/2009 12:48

Site: Manapouri

Circuit Branch: MAN-NMA-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[818] Amps and [311.62] MVA [for summer period] and [997] Amps and [379.94] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.05302] PU (using 100MVA as the base) Reactance [0.28850] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.01228] PU (using 100MVA as the base) Reactance [0.08692] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[220] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [242] kV Minimum: [198] kV

Circuit Branch: MAN-NMA-2

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[818] Amps and [311.62] MVA [for summer period] and [997] Amps and [379.94] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.05304] PU (using 100MVA as the base) Reactance [0.28864] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.01228] PU (using 100MVA as the base) Reactance [0.08694] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[220] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [242] kV Minimum: [198] kV

Circuit Branch: MAN-NMA-3

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[818] Amps and [311.62] MVA [for summer period] and [997] Amps and [379.94] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.05321] PU (using 100MVA as the base) Reactance [0.28526] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.01231] PU (using 100MVA as the base) Reactance [0.08538] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[220] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [242] kV Minimum: [198] kV

Circuit Branch: INV-MAN-2

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[818] Amps and [311.62] MVA [for summer period] and [997] Amps and [379.94] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.05744] PU (using 100MVA as the base) Reactance [0.30772] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.01329] PU (using 100MVA as the base) Reactance [0.09179] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[220] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [242] kV Minimum: [198] kV

Interconnection Branch Report

As at : 01/07/2009 12:48

Site: Murchison

Circuit Branch: IGH-MCH-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[292] Amps and [55.68] MVA [for summer period] and [327] Amps and [62.30] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.11255] PU (using 100MVA as the base) Reactance [0.39102] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.06714] PU (using 100MVA as the base) Reactance [0.13129] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: KIK-MCH-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[292] Amps and [55.68] MVA [for summer period] and [327] Amps and [62.30] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.16268] PU (using 100MVA as the base) Reactance [0.56961] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.09705] PU (using 100MVA as the base) Reactance [0.18990] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Site: Marsden

Circuit Branch: BRB-MDN-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[795] Amps and [302.94] MVA [for summer period] and [795] Amps and [302.94] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.00137] PU (using 100MVA as the base) Reactance [0.00649] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00025] PU (using 100MVA as the base) Reactance [0.00226] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[220] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [242] kV Minimum: [198] kV

Circuit Branch: HPI-MDN-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[1200] Amps and [457.26] MVA [for summer period] and [1200] Amps and [457.26] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.04006] PU (using 100MVA as the base) Reactance [0.19737] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00744] PU (using 100MVA as the base) Reactance [0.06325] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[220] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [242] kV Minimum: [198] kV

Circuit Branch: MDN-MPE-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[1200] Amps and [228.63] MVA [for summer period] and [1200] Amps and [228.63] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.04619] PU (using 100MVA as the base) Reactance [0.18050] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.01067] PU (using 100MVA as the base) Reactance [0.06252] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: MDN-MPE-2

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[1200] Amps and [228.63] MVA [for summer period] and [1200] Amps and [228.63] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.04619] PU (using 100MVA as the base) Reactance [0.18050] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.01067] PU (using 100MVA as the base) Reactance [0.06252] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Transformer Branch: MDN-TF-T3

Service Measure	Service Level
Overall 24 hour post contingency capacity rating of the interconnection transformer branch	**HV** [] Amps and [] MVA [for summer period] and [] Amps and [] MVA [for winter period] **MV** [] Amps and [] MVA [for summer period] and [] Amps and [] MVA [for winter period] **LV** [] Amps and [] MVA [for summer period] and [] Amps and [] MVA [for winter period]
Continuous capacity rating of the interconnection transformer branch	**HV** [] Amps and [] MVA **MV** [] Amps and [] MVA **LV** [] Amps and [] MVA

Level of Impedance of the interconnection transformer branch Resistive and Reactive - Shunt	**HV** Resistance [] PU (using 100MVA as the base) **HV** Reactance [] PU (using 100MVA as the base) **MV** Resistance [] PU (using 100MVA as the base) **MV** Reactance [] PU (using 100MVA as the base) **LV** Resistance [] PU (using 100MVA as the base) **LV** Reactance [] PU (using 100MVA as the base)
Level of Impedance of the interconnection transformer branch Resistive and Reactive - Series	**HV** Resistance [] PU (using 100MVA as the base) **HV** Reactance [] PU (using 100MVA as the base) **MV** Resistance [] PU (using 100MVA as the base) **MV** Reactance [] PU (using 100MVA as the base) **LV** Resistance [] PU (using 100MVA as the base) **LV** Reactance [] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection transformer branch	[220] kV
High voltage range that the interconnection transformer branch can operate over	Maximum: [242] kV Minimum: [198] kV
Tapping steps and ranges MDN-TF-T3B MDN-TF-T3B-Tap Changer -- OFFLOAD -- HV	Tap voltage range: Maximum: [220] kV Minimum: [198] kV Number of tapping steps: [4] Size of each tapping step as a percentage of nominal operating voltage range: [2.5]% On-load/Off-load [Offload] On-load tapping capability [Not Applicable] If on-load tapping capability is automatic, is it auto selected? [Not Applicable] If on-load tapping capability is manual, what tap step is normally set? (Actual or expected position at winter peak demand) [Not Applicable]
Tapping steps and ranges MDN-TF-T3R MDN-TF-T3R-Tap Changer -- OFFLOAD -- HV	Tap voltage range: Maximum: [220] kV Minimum: [198] kV Number of tapping steps: [4] Size of each tapping step as a percentage of nominal operating voltage range: [2.5]% On-load/Off-load [Offload] On-load tapping capability [Not Applicable] If on-load tapping capability is automatic, is it auto selected? [Not Applicable] If on-load tapping capability is manual, what tap step is normally set? (Actual or expected position at winter peak demand) [Not Applicable]

Tapping steps and ranges MDN-TF-T3Y MDN-TF-T3Y-Tap Changer -- OFFLOAD -- HV	Tap voltage range: Maximum: [220] kV Minimum: [198] kV Number of tapping steps: [4] Size of each tapping step as a percentage of nominal operating voltage range: [2.5]% On-load/Off-load [Offload] On-load tapping capability [Not Applicable] If on-load tapping capability is automatic, is it auto selected? [Not Applicable] If on-load tapping capability is manual, what tap step is normally set? (Actual or expected position at winter peak demand) [Not Applicable]
Tapping steps and ranges MDN-TF-T3B MDN-TF-T3B-Tap Changer -- OFFLOAD -- LV	Tap voltage range: Maximum: [11.62] kV Minimum: [10.38] kV Number of tapping steps: [2] Size of each tapping step as a percentage of nominal operating voltage range: [5.6]% On-load/Off-load [Offload] On-load tapping capability [Not Applicable] If on-load tapping capability is automatic, is it auto selected? [Not Applicable] If on-load tapping capability is manual, what tap step is normally set? (Actual or expected position at winter peak demand) [Not Applicable]
Tapping steps and ranges MDN-TF-T3R MDN-TF-T3R-Tap Changer -- OFFLOAD -- LV	Tap voltage range: Maximum: [11.62] kV Minimum: [10.38] kV Number of tapping steps: [2] Size of each tapping step as a percentage of nominal operating voltage range: [5.6]% On-load/Off-load [Offload] On-load tapping capability [Not Applicable] If on-load tapping capability is automatic, is it auto selected? [Not Applicable] If on-load tapping capability is manual, what tap step is normally set? (Actual or expected position at winter peak demand) [Not Applicable]

Tapping steps and ranges MDN-TF-T3Y MDN-TF-T3Y-Tap Changer -- OFFLOAD -- LV	Tap voltage range: Maximum: [11.62] kV Minimum: [10.38] kV Number of tapping steps: [2] Size of each tapping step as a percentage of nominal operating voltage range: [5.6]% On-load/Off-load [Offload] On-load tapping capability [Not Applicable] If on-load tapping capability is automatic, is it auto selected? [Not Applicable] If on-load tapping capability is manual, what tap step is normally set? (Actual or expected position at winter peak demand) [Not Applicable]

Interconnection Branch Report

As at : 01/07/2009 12:48

Site: Mangamaire

Circuit Branch: MGM-MST-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[221] Amps and [42.10] MVA [for summer period] and [270] Amps and [51.43] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.22570] PU (using 100MVA as the base) Reactance [0.64007] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.15664] PU (using 100MVA as the base) Reactance [0.19263] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: MGM-WDV-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[221] Amps and [42.10] MVA [for summer period] and [270] Amps and [51.43] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.10457] PU (using 100MVA as the base) Reactance [0.29862] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.07236] PU (using 100MVA as the base) Reactance [0.08959] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Interconnection Branch Report

As at : 01/07/2009 12:48

Site: Mangahao

Circuit Branch: BPE-MHO-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[253] Amps and [48.23] MVA [for summer period] and [309] Amps and [58.90] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.14324] PU (using 100MVA as the base) Reactance [0.46649] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.09258] PU (using 100MVA as the base) Reactance [0.13803] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: BPE-MHO-2

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[253] Amps and [48.23] MVA [for summer period] and [309] Amps and [58.90] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.14351] PU (using 100MVA as the base) Reactance [0.46223] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.09275] PU (using 100MVA as the base) Reactance [0.13826] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: MHO-PRM-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[256] Amps and [48.85] MVA [for summer period] and [313] Amps and [59.65] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.17628] PU (using 100MVA as the base) Reactance [0.65175] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.10662] PU (using 100MVA as the base) Reactance [0.19587] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: MHO-PRM-2

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[256] Amps and [48.85] MVA [for summer period] and [313] Amps and [59.65] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.17649] PU (using 100MVA as the base) Reactance [0.64938] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.10674] PU (using 100MVA as the base) Reactance [0.19608] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Interconnection Branch Report

As at : 01/07/2009 12:48

Site: Mangere

Circuit Branch: MNG-OTA-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[1600] Amps and [304.84] MVA [for summer period] and [1600] Amps and [304.84] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.00554] PU (using 100MVA as the base) Reactance [0.02922] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00103] PU (using 100MVA as the base) Reactance [0.00786] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: MNG-OTA-2

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[1600] Amps and [304.84] MVA [for summer period] and [1600] Amps and [304.84] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.00554] PU (using 100MVA as the base) Reactance [0.02924] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00103] PU (using 100MVA as the base) Reactance [0.00787] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: MNG-ROS-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[482] Amps and [91.89] MVA [for summer period] and [531] Amps and [101.24] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.03184] PU (using 100MVA as the base) Reactance [0.12726] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.01751] PU (using 100MVA as the base) Reactance [0.03822] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: MNG-ROS-2

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[482] Amps and [91.89] MVA [for summer period] and [531] Amps and [101.24] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.03182] PU (using 100MVA as the base) Reactance [0.12715] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.01751] PU (using 100MVA as the base) Reactance [0.03820] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Interconnection Branch Report

As at : 01/07/2009 12:48

Site: Motunui

Circuit Branch: CST-MNI-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[324] Amps and [61.69] MVA [for summer period] and [395] Amps and [75.26] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.09160] PU (using 100MVA as the base) Reactance [0.31421] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.05059] PU (using 100MVA as the base) Reactance [0.10912] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: HUI-MNI-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[482] Amps and [91.89] MVA [for summer period] and [495] Amps and [94.31] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.02315] PU (using 100MVA as the base) Reactance [0.07382] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.01278] PU (using 100MVA as the base) Reactance [0.02757] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: MNI-SFD-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[482] Amps and [91.89] MVA [for summer period] and [495] Amps and [94.31] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.14178] PU (using 100MVA as the base) Reactance [0.54306] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.07830] PU (using 100MVA as the base) Reactance [0.16982] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Interconnection Branch Report

As at : 01/07/2009 12:48

Site: Maungatapere

Circuit Branch: MDN-MPE-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[1200] Amps and [228.63] MVA [for summer period] and [1200] Amps and [228.63] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.04619] PU (using 100MVA as the base) Reactance [0.18050] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.01067] PU (using 100MVA as the base) Reactance [0.06252] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: MDN-MPE-2

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[1200] Amps and [228.63] MVA [for summer period] and [1200] Amps and [228.63] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.04619] PU (using 100MVA as the base) Reactance [0.18050] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.01067] PU (using 100MVA as the base) Reactance [0.06252] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: MPE-MTO-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[292] Amps and [55.68] MVA [for summer period] and [357] Amps and [67.99] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.11830] PU (using 100MVA as the base) Reactance [0.44040] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.07056] PU (using 100MVA as the base) Reactance [0.12448] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: MPE-MTO-2

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[292] Amps and [55.68] MVA [for summer period] and [357] Amps and [67.99] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.11830] PU (using 100MVA as the base) Reactance [0.44513] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.07056] PU (using 100MVA as the base) Reactance [0.12448] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Interconnection Branch Report

As at : 01/07/2009 12:48

Site: Masterton

Circuit Branch: GYT-MST-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[400] Amps and [76.21] MVA [for summer period] and [400] Amps and [76.21] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.06223] PU (using 100MVA as the base) Reactance [0.22452] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.03436] PU (using 100MVA as the base) Reactance [0.07457] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: GYT-MST-2

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[400] Amps and [76.21] MVA [for summer period] and [400] Amps and [76.21] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.06223] PU (using 100MVA as the base) Reactance [0.22451] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.03436] PU (using 100MVA as the base) Reactance [0.07456] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: MGM-MST-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[221] Amps and [42.10] MVA [for summer period] and [270] Amps and [51.43] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.22570] PU (using 100MVA as the base) Reactance [0.64007] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.15664] PU (using 100MVA as the base) Reactance [0.19263] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Interconnection Branch Report

As at : 01/07/2009 12:48

Site: Mt Maunganui

Circuit Branch: MTM-PIE-2

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[333] Amps and [63.36] MVA [for summer period] and [406] Amps and [77.36] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.02622] PU (using 100MVA as the base) Reactance [0.10177] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.01497] PU (using 100MVA as the base) Reactance [0.03039] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: KMO-MTM-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[333] Amps and [63.36] MVA [for summer period] and [406] Amps and [77.36] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.02716] PU (using 100MVA as the base) Reactance [0.09304] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.01484] PU (using 100MVA as the base) Reactance [0.02938] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Interconnection Branch Report

As at : 01/07/2009 12:48

Site: Marton

Circuit Branch: BPE-MTN-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[333] Amps and [63.36] MVA [for summer period] and [406] Amps and [77.36] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.08669] PU (using 100MVA as the base) Reactance [0.34535] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.04787] PU (using 100MVA as the base) Reactance [0.10502] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: BPE-MTN-2

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[333] Amps and [63.36] MVA [for summer period] and [406] Amps and [77.36] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.08710] PU (using 100MVA as the base) Reactance [0.35032] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.04810] PU (using 100MVA as the base) Reactance [0.10554] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: MTN-WGN-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[333] Amps and [63.36] MVA [for summer period] and [406] Amps and [77.36] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.07635] PU (using 100MVA as the base) Reactance [0.30451] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.04216] PU (using 100MVA as the base) Reactance [0.09244] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: MTN-WGN-2

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[333] Amps and [63.36] MVA [for summer period] and [406] Amps and [77.36] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.07636] PU (using 100MVA as the base) Reactance [0.30597] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.04217] PU (using 100MVA as the base) Reactance [0.09246] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Interconnection Branch Report

As at : 01/07/2009 12:48

Site: Maungaturoto

Circuit Branch: MPE-MTO-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[292] Amps and [55.68] MVA [for summer period] and [357] Amps and [67.99] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.11830] PU (using 100MVA as the base) Reactance [0.44040] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.07056] PU (using 100MVA as the base) Reactance [0.12448] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: MPE-MTO-2

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[292] Amps and [55.68] MVA [for summer period] and [357] Amps and [67.99] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.11830] PU (using 100MVA as the base) Reactance [0.44513] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.07056] PU (using 100MVA as the base) Reactance [0.12448] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: MTO-WEL-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[292] Amps and [55.68] MVA [for summer period] and [357] Amps and [67.99] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.08528] PU (using 100MVA as the base) Reactance [0.31312] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.05084] PU (using 100MVA as the base) Reactance [0.09305] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: MTO-WEL-2

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[292] Amps and [55.68] MVA [for summer period] and [357] Amps and [67.99] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.08528] PU (using 100MVA as the base) Reactance [0.31416] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.05084] PU (using 100MVA as the base) Reactance [0.09305] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Interconnection Branch Report

As at : 01/07/2009 12:48

Site: Mataroa

Circuit Branch: BPE-MTR-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[300] Amps and [57.14] MVA [for summer period] and [366] Amps and [69.80] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.19405] PU (using 100MVA as the base) Reactance [0.77949] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.10753] PU (using 100MVA as the base) Reactance [0.25290] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: MTR-OKN-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[300] Amps and [57.14] MVA [for summer period] and [366] Amps and [69.80] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.10771] PU (using 100MVA as the base) Reactance [0.43019] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.05969] PU (using 100MVA as the base) Reactance [0.13993] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Site: North Makarewa

Circuit Branch: INV-NMA-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[1060] Amps and [403.98] MVA [for summer period] and [1132] Amps and [431.35] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.00421] PU (using 100MVA as the base) Reactance [0.02238] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00097] PU (using 100MVA as the base) Reactance [0.00638] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[220] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [242] kV Minimum: [198] kV

Circuit Branch: MAN-NMA-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[818] Amps and [311.62] MVA [for summer period] and [997] Amps and [379.94] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.05302] PU (using 100MVA as the base) Reactance [0.28850] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.01228] PU (using 100MVA as the base) Reactance [0.08692] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[220] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [242] kV Minimum: [198] kV

Circuit Branch: MAN-NMA-2

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[818] Amps and [311.62] MVA [for summer period] and [997] Amps and [379.94] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.05304] PU (using 100MVA as the base) Reactance [0.28864] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.01228] PU (using 100MVA as the base) Reactance [0.08694] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[220] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [242] kV Minimum: [198] kV

Circuit Branch: MAN-NMA-3

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[818] Amps and [311.62] MVA [for summer period] and [997] Amps and [379.94] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.05321] PU (using 100MVA as the base) Reactance [0.28526] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.01231] PU (using 100MVA as the base) Reactance [0.08538] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[220] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [242] kV Minimum: [198] kV

Circuit Branch: NMA-TMH-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[662] Amps and [252.26] MVA [for summer period] and [662] Amps and [252.26] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.08820] PU (using 100MVA as the base) Reactance [0.39938] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.02751] PU (using 100MVA as the base) Reactance [0.16771] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[220] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [242] kV Minimum: [198] kV

Circuit Branch: NMA-TMH-2

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[662] Amps and [252.26] MVA [for summer period] and [662] Amps and [252.26] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.08820] PU (using 100MVA as the base) Reactance [0.50314] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.02751] PU (using 100MVA as the base) Reactance [0.16771] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[220] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [242] kV Minimum: [198] kV

Circuit Branch: NMA-TWI-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[1011] Amps and [385.41] MVA [for summer period] and [1233] Amps and [469.76] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.01440] PU (using 100MVA as the base) Reactance [0.07695] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00330] PU (using 100MVA as the base) Reactance [0.02212] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[220] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [242] kV Minimum: [198] kV

Circuit Branch: NMA-TWI-2

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[1011] Amps and [385.41] MVA [for summer period] and [1233] Amps and [469.76] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.01440] PU (using 100MVA as the base) Reactance [0.07695] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00330] PU (using 100MVA as the base) Reactance [0.02212] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[220] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [242] kV Minimum: [198] kV

Site: New Plymouth

Circuit Branch: CST-NPL-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[1220] Amps and [232.53] MVA [for summer period] and [1503] Amps and [286.38] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.01608] PU (using 100MVA as the base) Reactance [0.07037] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00299] PU (using 100MVA as the base) Reactance [0.02289] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: CST-NPL-2

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[1220] Amps and [232.53] MVA [for summer period] and [1503] Amps and [286.38] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.01608] PU (using 100MVA as the base) Reactance [0.07045] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00299] PU (using 100MVA as the base) Reactance [0.02289] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: NPL-SFD-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[1537] Amps and [585.68] MVA [for summer period] and [1537] Amps and [585.68] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.01587] PU (using 100MVA as the base) Reactance [0.09727] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00294] PU (using 100MVA as the base) Reactance [0.02505] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[220] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [242] kV Minimum: [198] kV

Circuit Branch: NPL-SFD-2

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[1537] Amps and [585.68] MVA [for summer period] and [1537] Amps and [585.68] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.01588] PU (using 100MVA as the base) Reactance [0.09725] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00295] PU (using 100MVA as the base) Reactance [0.02509] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[220] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [242] kV Minimum: [198] kV

Transformer Branch: NPL-TF-T8

Service Measure	Service Level
Overall 24 hour post contingency capacity rating of the interconnection transformer branch	**HV** [525] Amps and [200.05] MVA [for summer period] and [525] Amps and [200.05] MVA [for winter period] **MV** [1025] Amps and [195.28] MVA [for summer period] and [1025] Amps and [195.28] MVA [for winter period] **LV** [3637] Amps and [69.30] MVA [for summer period] and [3637] Amps and [69.30] MVA [for winter period]
Continuous capacity rating of the interconnection transformer branch	**HV** [525] Amps and [200.01] MVA **MV** [1025] Amps and [195.28] MVA **LV** [3031] Amps and [57.75] MVA

Level of Impedance of the interconnection transformer branch Resistive and Reactive - Shunt	**HV** Resistance [0.00031] PU (using 100MVA as the base) **HV** Reactance [0.02756] PU (using 100MVA as the base) **MV** Resistance [0.00054] PU (using 100MVA as the base) **MV** Reactance [-0.00134] PU (using 100MVA as the base) **LV** Resistance [0.00265] PU (using 100MVA as the base) **LV** Reactance [0.05607] PU (using 100MVA as the base)
Level of Impedance of the interconnection transformer branch Resistive and Reactive - Series	**HV** Resistance [0.00030] PU (using 100MVA as the base) **HV** Reactance [0.02756] PU (using 100MVA as the base) **MV** Resistance [0.00052] PU (using 100MVA as the base) **MV** Reactance [-0.00132] PU (using 100MVA as the base) **LV** Resistance [0.00265] PU (using 100MVA as the base) **LV** Reactance [0.05607] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection transformer branch	[220] kV
High voltage range that the interconnection transformer branch can operate over	Maximum: [242] kV Minimum: [198] kV
Tapping steps and ranges NPL-TF-T8B NPL-TF-T8B-Tap Changer -- ONLOAD -- HV	Tap voltage range: Maximum: [231] kV Minimum: [198] kV Number of tapping steps: [12] Size of each tapping step as a percentage of nominal operating voltage range: [1.25]% On-load/Off-load [Onload] On-load tapping capability [Manual] If on-load tapping capability is automatic, is it auto selected? [Not Applicable] If on-load tapping capability is manual, what tap step is normally set? (Actual or expected position at winter peak demand) [5]
Tapping steps and ranges NPL-TF-T8R NPL-TF-T8R-Tap Changer -- ONLOAD -- HV	Tap voltage range: Maximum: [231] kV Minimum: [198] kV Number of tapping steps: [12] Size of each tapping step as a percentage of nominal operating voltage range: [1.25]% On-load/Off-load [Onload] On-load tapping capability [Manual] If on-load tapping capability is automatic, is it auto selected? [Not Applicable] If on-load tapping capability is manual, what tap step is normally set? (Actual or expected position at winter peak demand) [5]

Tapping steps and ranges NPL-TF-T8Y NPL-TF-T8Y-Tap Changer -- ONLOAD -- HV	Tap voltage range: Maximum: [231] kV Minimum: [198] kV Number of tapping steps: [12] Size of each tapping step as a percentage of nominal operating voltage range: [1.25]% On-load/Off-load [Onload] On-load tapping capability [Manual] If on-load tapping capability is automatic, is it auto selected? [Not Applicable] If on-load tapping capability is manual, what tap step is normally set? (Actual or expected position at winter peak demand) [5]

Interconnection Branch Report

As at : 01/07/2009 12:48

Site: Naseby

Circuit Branch: LIV-NSY-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[530] Amps and [201.99] MVA [for summer period] and [647] Amps and [246.43] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.02353] PU (using 100MVA as the base) Reactance [0.11983] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00883] PU (using 100MVA as the base) Reactance [0.04236] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[220] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [242] kV Minimum: [198] kV

Circuit Branch: NSY-ROX-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[530] Amps and [201.99] MVA [for summer period] and [647] Amps and [246.43] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.04612] PU (using 100MVA as the base) Reactance [0.23489] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.01731] PU (using 100MVA as the base) Reactance [0.08303] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[220] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [242] kV Minimum: [198] kV

Interconnection Branch Report

As at : 01/07/2009 12:48

Site: Oamaru

Circuit Branch: BPC-OAM-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[253] Amps and [48.23] MVA [for summer period] and [309] Amps and [58.90] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.18336] PU (using 100MVA as the base) Reactance [0.63855] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.11215] PU (using 100MVA as the base) Reactance [0.19889] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Interconnection Branch Report

As at : 01/07/2009 12:48

Site: Ohau A

Circuit Branch: OHA-TWZ-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[795] Amps and [302.94] MVA [for summer period] and [795] Amps and [302.94] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.00359] PU (using 100MVA as the base) Reactance [0.02045] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00112] PU (using 100MVA as the base) Reactance [0.00681] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[220] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [242] kV Minimum: [198] kV

Circuit Branch: OHA-TWZ-2

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[795] Amps and [302.94] MVA [for summer period] and [795] Amps and [302.94] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.00359] PU (using 100MVA as the base) Reactance [0.02045] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00112] PU (using 100MVA as the base) Reactance [0.00681] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[220] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [242] kV Minimum: [198] kV

Interconnection Branch Report

As at : 01/07/2009 12:48

Site: Ohau B

Circuit Branch: BEN-OHB-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[1473] Amps and [561.32] MVA [for summer period] and [1620] Amps and [617.46] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.01265] PU (using 100MVA as the base) Reactance [0.06233] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00228] PU (using 100MVA as the base) Reactance [0.02545] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[220] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [242] kV Minimum: [198] kV

Circuit Branch: OHB-TWZ-3

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[1822] Amps and [694.33] MVA [for summer period] and [2006] Amps and [764.34] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.00136] PU (using 100MVA as the base) Reactance [0.00573] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00025] PU (using 100MVA as the base) Reactance [0.00220] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[220] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [242] kV Minimum: [198] kV

Site: Ohau C

Circuit Branch: BEN-OHC-2

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[1473] Amps and [561.32] MVA [for summer period] and [1620] Amps and [617.46] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.00995] PU (using 100MVA as the base) Reactance [0.04813] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00178] PU (using 100MVA as the base) Reactance [0.02117] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[220] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [242] kV Minimum: [198] kV

Circuit Branch: OHC-TWZ-4

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[1822] Amps and [694.33] MVA [for summer period] and [1995] Amps and [760.20] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.00448] PU (using 100MVA as the base) Reactance [0.01891] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00083] PU (using 100MVA as the base) Reactance [0.00725] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[220] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [242] kV Minimum: [198] kV

Interconnection Branch Report

As at : 01/07/2009 12:48

Site: Ohakuri

Circuit Branch: ATI-OHK-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[874] Amps and [333.13] MVA [for summer period] and [940] Amps and [358.32] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.00294] PU (using 100MVA as the base) Reactance [0.01223] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00110] PU (using 100MVA as the base) Reactance [0.00529] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[220] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [242] kV Minimum: [198] kV

Circuit Branch: KAW-OHK-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[627] Amps and [238.85] MVA [for summer period] and [765] Amps and [291.34] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.03993] PU (using 100MVA as the base) Reactance [0.18434] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.01250] PU (using 100MVA as the base) Reactance [0.07651] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[220] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [242] kV Minimum: [198] kV

Circuit Branch: OHK-WRK-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[874] Amps and [333.13] MVA [for summer period] and [940] Amps and [358.32] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.01267] PU (using 100MVA as the base) Reactance [0.05235] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00475] PU (using 100MVA as the base) Reactance [0.02282] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[220] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [242] kV Minimum: [198] kV

Site: Ohinewai

Circuit Branch: HAM-OHW-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[1060] Amps and [403.98] MVA [for summer period] and [1293] Amps and [492.85] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.01533] PU (using 100MVA as the base) Reactance [0.08117] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00353] PU (using 100MVA as the base) Reactance [0.02304] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[220] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [242] kV Minimum: [198] kV

Circuit Branch: OHW-OTA-2

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[1614] Amps and [615.03] MVA [for summer period] and [1761] Amps and [670.96] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.02886] PU (using 100MVA as the base) Reactance [0.15227] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00667] PU (using 100MVA as the base) Reactance [0.04323] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[220] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [242] kV Minimum: [198] kV

Circuit Branch: OHW-WKM-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[1060] Amps and [403.98] MVA [for summer period] and [1293] Amps and [492.85] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.04706] PU (using 100MVA as the base) Reactance [0.24827] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.01087] PU (using 100MVA as the base) Reactance [0.07049] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[220] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [242] kV Minimum: [198] kV

Circuit Branch: HLY-OHW-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[1806] Amps and [688.18] MVA [for summer period] and [1806] Amps and [688.18] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.00627] PU (using 100MVA as the base) Reactance [0.03325] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00116] PU (using 100MVA as the base) Reactance [0.01020] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[220] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [242] kV Minimum: [198] kV

Circuit Branch: HLY-OHW-2

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[1822] Amps and [694.33] MVA [for summer period] and [2000] Amps and [762.10] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.00628] PU (using 100MVA as the base) Reactance [0.03329] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00116] PU (using 100MVA as the base) Reactance [0.01022] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[220] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [198] kV Minimum: [242] kV

Circuit Branch: OHW-OTA-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[1614] Amps and [615.03] MVA [for summer period] and [1761] Amps and [670.96] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.02891] PU (using 100MVA as the base) Reactance [0.15252] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00668] PU (using 100MVA as the base) Reactance [0.04330] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[220] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [242] kV Minimum: [198] kV

Interconnection Branch Report

As at : 01/07/2009 12:48

Site: Okere

Circuit Branch: OKE-OWH-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[306] Amps and [58.27] MVA [for summer period] and [373] Amps and [71.16] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.02987] PU (using 100MVA as the base) Reactance [0.12572] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.01292] PU (using 100MVA as the base) Reactance [0.04684] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: OKE-TMI-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[333] Amps and [63.36] MVA [for summer period] and [406] Amps and [77.36] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.07130] PU (using 100MVA as the base) Reactance [0.28349] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.03937] PU (using 100MVA as the base) Reactance [0.08773] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: OKE-TRK-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[333] Amps and [63.36] MVA [for summer period] and [406] Amps and [77.36] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.05723] PU (using 100MVA as the base) Reactance [0.22639] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.03160] PU (using 100MVA as the base) Reactance [0.07034] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Interconnection Branch Report

As at : 01/07/2009 12:48

Site: Ohakune

Circuit Branch: MTR-OKN-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[300] Amps and [57.14] MVA [for summer period] and [366] Amps and [69.80] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.10771] PU (using 100MVA as the base) Reactance [0.43019] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.05969] PU (using 100MVA as the base) Reactance [0.13993] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: OKN-RTR-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[300] Amps and [57.14] MVA [for summer period] and [366] Amps and [69.80] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.07958] PU (using 100MVA as the base) Reactance [0.32200] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.04411] PU (using 100MVA as the base) Reactance [0.10086] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Interconnection Branch Report

As at : 01/07/2009 12:48

Site: Ongarue

Circuit Branch: ONG-RTO-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[300] Amps and [57.14] MVA [for summer period] and [366] Amps and [69.80] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.13884] PU (using 100MVA as the base) Reactance [0.55786] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.07694] PU (using 100MVA as the base) Reactance [0.18082] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: ONG-RTR-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[300] Amps and [57.14] MVA [for summer period] and [366] Amps and [69.80] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.13615] PU (using 100MVA as the base) Reactance [0.54871] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.07545] PU (using 100MVA as the base) Reactance [0.17731] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Site: Opihi

Circuit Branch: ASB-OPI-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[1822] Amps and [694.33] MVA [for summer period] and [1995] Amps and [760.20] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.02607] PU (using 100MVA as the base) Reactance [0.16035] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00484] PU (using 100MVA as the base) Reactance [0.04136] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[220] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [242] kV Minimum: [198] kV

Circuit Branch: ASB-OPI-2

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[1822] Amps and [694.33] MVA [for summer period] and [2000] Amps and [762.10] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.02601] PU (using 100MVA as the base) Reactance [0.16005] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00483] PU (using 100MVA as the base) Reactance [0.04127] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[220] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [242] kV Minimum: [198] kV

Circuit Branch: OPI-TIM-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[627] Amps and [238.85] MVA [for summer period] and [765] Amps and [291.34] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.01441] PU (using 100MVA as the base) Reactance [0.08172] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00451] PU (using 100MVA as the base) Reactance [0.02736] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[220] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [242] kV Minimum: [198] kV

Circuit Branch: OPI-TIM-2

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[627] Amps and [238.85] MVA [for summer period] and [765] Amps and [291.34] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.01441] PU (using 100MVA as the base) Reactance [0.08172] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00451] PU (using 100MVA as the base) Reactance [0.02736] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[220] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [242] kV Minimum: [198] kV

Circuit Branch: OPI-TWZ-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[1822] Amps and [694.33] MVA [for summer period] and [1995] Amps and [760.20] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.02811] PU (using 100MVA as the base) Reactance [0.15375] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00522] PU (using 100MVA as the base) Reactance [0.04460] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[220] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [242] kV Minimum: [198] kV

Circuit Branch: OPI-TWZ-2

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[1822] Amps and [694.33] MVA [for summer period] and [1995] Amps and [760.20] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.02811] PU (using 100MVA as the base) Reactance [0.15375] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00522] PU (using 100MVA as the base) Reactance [0.04460] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[220] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [242] kV Minimum: [198] kV

Site: Otahuhu

Circuit Branch: HEN-OTA-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[2400] Amps and [914.52] MVA [for summer period] and [2400] Amps and [914.52] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.01184] PU (using 100MVA as the base) Reactance [0.05881] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00220] PU (using 100MVA as the base) Reactance [0.01922] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[220] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [242] kV Minimum: [198] kV

Circuit Branch: OHW-OTA-2

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[1614] Amps and [615.03] MVA [for summer period] and [1761] Amps and [670.96] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.02886] PU (using 100MVA as the base) Reactance [0.15227] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00667] PU (using 100MVA as the base) Reactance [0.04323] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[220] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [242] kV Minimum: [198] kV

Circuit Branch: MNG-OTA-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[1600] Amps and [304.84] MVA [for summer period] and [1600] Amps and [304.84] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.00554] PU (using 100MVA as the base) Reactance [0.02922] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00103] PU (using 100MVA as the base) Reactance [0.00786] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: MNG-OTA-2

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[1600] Amps and [304.84] MVA [for summer period] and [1600] Amps and [304.84] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.00554] PU (using 100MVA as the base) Reactance [0.02924] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00103] PU (using 100MVA as the base) Reactance [0.00787] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: OTA-PAK-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[1292] Amps and [246.16] MVA [for summer period] and [1292] Amps and [246.16] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.00718] PU (using 100MVA as the base) Reactance [0.03335] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00073] PU (using 100MVA as the base) Reactance [0.01215] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: OTA-PEN-2

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[911] Amps and [173.58] MVA [for summer period] and [1003] Amps and [191.08] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.01791] PU (using 100MVA as the base) Reactance [0.05557] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00590] PU (using 100MVA as the base) Reactance [0.01485] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: OTA-PEN-5

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[1231] Amps and [469.17] MVA [for summer period] and [1250] Amps and [476.31] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.00444] PU (using 100MVA as the base) Reactance [0.02091] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00138] PU (using 100MVA as the base) Reactance [0.00849] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[220] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [242] kV Minimum: [198] kV

Circuit Branch: OTA-ROS-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[482] Amps and [91.89] MVA [for summer period] and [531] Amps and [101.24] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.05132] PU (using 100MVA as the base) Reactance [0.15470] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.02707] PU (using 100MVA as the base) Reactance [0.05975] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: OTA-ROS-2

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[482] Amps and [91.89] MVA [for summer period] and [531] Amps and [101.24] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.05087] PU (using 100MVA as the base) Reactance [0.19704] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.02693] PU (using 100MVA as the base) Reactance [0.05899] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: OTA-SWN-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[2395] Amps and [912.62] MVA [for summer period] and [2395] Amps and [912.62] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.00227] PU (using 100MVA as the base) Reactance [0.01419] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00042] PU (using 100MVA as the base) Reactance [0.00367] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[220] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [242] kV Minimum: [198] kV

Circuit Branch: OTA-TAT-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[2802] Amps and [1,067.71] MVA [for summer period] and [2802] Amps and [1,067.71] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.00398] PU (using 100MVA as the base) Reactance [0.02060] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00039] PU (using 100MVA as the base) Reactance [0.00675] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[220] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [242] kV Minimum: [198] kV

Circuit Branch: OTA-TAT-2

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[2000] Amps and [762.10] MVA [for summer period] and [2000] Amps and [762.10] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.00399] PU (using 100MVA as the base) Reactance [0.02064] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00039] PU (using 100MVA as the base) Reactance [0.00676] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[220] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [242] kV Minimum: [198] kV

Circuit Branch: OTA-WKM-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[770] Amps and [293.44] MVA [for summer period] and [848] Amps and [323.09] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.09342] PU (using 100MVA as the base) Reactance [0.47433] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.03507] PU (using 100MVA as the base) Reactance [0.16851] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[220] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [242] kV Minimum: [198] kV

Circuit Branch: OTA-WKM-2

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[770] Amps and [293.44] MVA [for summer period] and [848] Amps and [323.09] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.09348] PU (using 100MVA as the base) Reactance [0.47530] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.03509] PU (using 100MVA as the base) Reactance [0.16829] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[220] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [242] kV Minimum: [198] kV

Circuit Branch: OTA-WRT-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[482] Amps and [91.89] MVA [for summer period] and [531] Amps and [101.17] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.01163] PU (using 100MVA as the base) Reactance [0.04344] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00642] PU (using 100MVA as the base) Reactance [0.01408] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: OTA-WRT-2

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[482] Amps and [91.89] MVA [for summer period] and [531] Amps and [101.17] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.01182] PU (using 100MVA as the base) Reactance [0.04738] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00653] PU (using 100MVA as the base) Reactance [0.01430] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: OTA-OTG-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[1600] Amps and [304.84] MVA [for summer period] and [1600] Amps and [304.84] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.00043] PU (using 100MVA as the base) Reactance [0.00245] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00008] PU (using 100MVA as the base) Reactance [0.00060] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: OTA-OTG-2

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[1600] Amps and [304.84] MVA [for summer period] and [1600] Amps and [304.84] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.00100] PU (using 100MVA as the base) Reactance [0.00546] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00019] PU (using 100MVA as the base) Reactance [0.00150] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: OTA-OTC-3

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[1822] Amps and [694.33] MVA [for summer period] and [2006] Amps and [764.34] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.00024] PU (using 100MVA as the base) Reactance [0.00114] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00005] PU (using 100MVA as the base) Reactance [0.00040] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[220] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [242] kV Minimum: [198] kV

Circuit Branch: OHW-OTA-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[1614] Amps and [615.03] MVA [for summer period] and [1761] Amps and [670.96] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.02891] PU (using 100MVA as the base) Reactance [0.15252] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00668] PU (using 100MVA as the base) Reactance [0.04330] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[220] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [242] kV Minimum: [198] kV

Transformer Branch: OTA-TF-T2

Service Measure	Service Level
Overall 24 hour post contingency capacity rating of the interconnection transformer branch	**HV** [415] Amps and [158.00] MVA [for summer period] and [445] Amps and [169.70] MVA [for winter period] **MV** [709] Amps and [135.00] MVA [for summer period] and [761] Amps and [145.00] MVA [for winter period] **LV** [4157] Amps and [79.20] MVA [for summer period] and [4157] Amps and [79.20] MVA [for winter period]
Continuous capacity rating of the interconnection transformer branch	**HV** [307] Amps and [117.00] MVA **MV** [525] Amps and [99.99] MVA **LV** [3149] Amps and [60.00] MVA
Level of Impedance of the interconnection transformer branch Resistive and Reactive - Shunt	**HV** Resistance [0.00055] PU (using 100MVA as the base) **HV** Reactance [0.01858] PU (using 100MVA as the base) **MV** Resistance [0.00111] PU (using 100MVA as the base) **MV** Reactance [0.02225] PU (using 100MVA as the base) **LV** Resistance [0.00239] PU (using 100MVA as the base) **LV** Reactance [0.03888] PU (using 100MVA as the base)
Level of Impedance of the interconnection transformer branch Resistive and Reactive - Series	**HV** Resistance [0.00055] PU (using 100MVA as the base) **HV** Reactance [0.01858] PU (using 100MVA as the base) **MV** Resistance [0.00111] PU (using 100MVA as the base) **MV** Reactance [0.02225] PU (using 100MVA as the base) **LV** Resistance [0.00239] PU (using 100MVA as the base) **LV** Reactance [0.03888] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection transformer branch	[220] kV
High voltage range that the interconnection transformer branch can operate over	Maximum: [239.8] kV Minimum: [198] kV
Tapping steps and ranges OTA-TF-T2B OTA-TF-T2B-Tap Changer -- OFFLOAD -- HV	Tap voltage range: Maximum: [220] kV Minimum: [198] kV Number of tapping steps: [4] Size of each tapping step as a percentage of nominal operating voltage range: [2.5]% On-load/Off-load [Offload] On-load tapping capability [Not Applicable] If on-load tapping capability is automatic, is it auto selected? [Not Applicable] If on-load tapping capability is manual, what tap step is normally set? (Actual or expected position at winter peak demand) [Not Applicable]

Tapping steps and ranges OTA-TF-T2R OTA-TF-T2R-Tap Changer -- OFFLOAD -- HV	Tap voltage range: Maximum: [220] kV Minimum: [198] kV Number of tapping steps: [4] Size of each tapping step as a percentage of nominal operating voltage range: [2.5]% On-load/Off-load [Offload] On-load tapping capability [Not Applicable] If on-load tapping capability is automatic, is it auto selected? [Not Applicable] If on-load tapping capability is manual, what tap step is normally set? (Actual or expected position at winter peak demand) [Not Applicable]
Tapping steps and ranges OTA-TF-T2Y OTA-TF-T2Y-Tap Changer -- OFFLOAD -- HV	Tap voltage range: Maximum: [220] kV Minimum: [198] kV Number of tapping steps: [4] Size of each tapping step as a percentage of nominal operating voltage range: [2.5]% On-load/Off-load [Offload] On-load tapping capability [Not Applicable] If on-load tapping capability is automatic, is it auto selected? [Not Applicable] If on-load tapping capability is manual, what tap step is normally set? (Actual or expected position at winter peak demand) [Not Applicable]
Tapping steps and ranges OTA-TF-T2B OTA-TF-T2B-Tap Changer -- OFFLOAD -- LV	Tap voltage range: Maximum: [11.62] kV Minimum: [10.38] kV Number of tapping steps: [2] Size of each tapping step as a percentage of nominal operating voltage range: [5.6]% On-load/Off-load [Offload] On-load tapping capability [Not Applicable] If on-load tapping capability is automatic, is it auto selected? [Not Applicable] If on-load tapping capability is manual, what tap step is normally set? (Actual or expected position at winter peak demand) [Not Applicable]

Tapping steps and ranges OTA-TF-T2R OTA-TF-T2R-Tap Changer -- OFFLOAD -- LV	Tap voltage range: Maximum: [11.62] kV Minimum: [10.38] kV Number of tapping steps: [2] Size of each tapping step as a percentage of nominal operating voltage range: [5.6]% On-load/Off-load [Offload] On-load tapping capability [Not Applicable] If on-load tapping capability is automatic, is it auto selected? [Not Applicable] If on-load tapping capability is manual, what tap step is normally set? (Actual or expected position at winter peak demand) [Not Applicable]
Tapping steps and ranges OTA-TF-T2Y OTA-TF-T2Y-Tap Changer -- OFFLOAD -- LV	Tap voltage range: Maximum: [11.62] kV Minimum: [10.38] kV Number of tapping steps: [2] Size of each tapping step as a percentage of nominal operating voltage range: [5.6]% On-load/Off-load [Offload] On-load tapping capability [Not Applicable] If on-load tapping capability is automatic, is it auto selected? [Not Applicable] If on-load tapping capability is manual, what tap step is normally set? (Actual or expected position at winter peak demand) [Not Applicable]

Transformer Branch: OTA-TF-T3

Service Measure	**Service Level**
Overall 24 hour post contingency capacity rating of the interconnection transformer branch	**HV** [849] Amps and [323.60] MVA [for summer period] and [886] Amps and [337.70] MVA [for winter period] **MV** [1698] Amps and [323.60] MVA [for summer period] and [1772] Amps and [337.70] MVA [for winter period] **LV** [4755] Amps and [90.60] MVA [for summer period] and [4965] Amps and [94.60] MVA [for winter period]
Continuous capacity rating of the interconnection transformer branch	**HV** [656] Amps and [250.00] MVA **MV** [1312] Amps and [250.00] MVA **LV** [3674] Amps and [70.00] MVA

Level of Impedance of the interconnection transformer branch Resistive and Reactive - Shunt	**HV** Resistance [0.00000] PU (using 100MVA as the base) **HV** Reactance [0.06419] PU (using 100MVA as the base) **MV** Resistance [0.00000] PU (using 100MVA as the base) **MV** Reactance [0.00587] PU (using 100MVA as the base) **LV** Resistance [0.00000] PU (using 100MVA as the base) **LV** Reactance [0.09587] PU (using 100MVA as the base)
Level of Impedance of the interconnection transformer branch Resistive and Reactive - Series	**HV** Resistance [0.00030] PU (using 100MVA as the base) **HV** Reactance [0.06419] PU (using 100MVA as the base) **MV** Resistance [0.00054] PU (using 100MVA as the base) **MV** Reactance [-0.00584] PU (using 100MVA as the base) **LV** Resistance [0.00327] PU (using 100MVA as the base) **LV** Reactance [0.09581] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection transformer branch	[220] kV
High voltage range that the interconnection transformer branch can operate over	Maximum: [242] kV Minimum: [198] kV
Tapping steps and ranges OTA-TF-T3 OTA-TF-T3-Tap Changer -- ONLOAD -- HV	Tap voltage range: Maximum: [242] kV Minimum: [198] kV Number of tapping steps: [16] Size of each tapping step as a percentage of nominal operating voltage range: [1.25]% On-load/Off-load [Onload] On-load tapping capability [Manual] If on-load tapping capability is automatic, is it auto selected? [Not Applicable] If on-load tapping capability is manual, what tap step is normally set? (Actual or expected position at winter peak demand) [9]
Tapping steps and ranges OTA-TF-T3 OTA-TF-T3-Tap Changer -- OFFLOAD -- LV	Tap voltage range: Maximum: [11.55] kV Minimum: [10.45] kV Number of tapping steps: [4] Size of each tapping step as a percentage of nominal operating voltage range: [2.5]% On-load/Off-load [Offload] On-load tapping capability [Not Applicable] If on-load tapping capability is automatic, is it auto selected? [Not Applicable] If on-load tapping capability is manual, what tap step is normally set? (Actual or expected position at winter peak demand) [Not Applicable]

Transformer Branch: OTA-TF-T4

Service Measure	Service Level
Overall 24 hour post contingency capacity rating of the interconnection transformer branch	**HV** [667] Amps and [254.00] MVA [for summer period] and [709] Amps and [270.00] MVA [for winter period] **MV** [1333] Amps and [254.00] MVA [for summer period] and [1417] Amps and [270.00] MVA [for winter period] **LV** [3999] Amps and [76.20] MVA [for summer period] and [4251] Amps and [81.00] MVA [for winter period]
Continuous capacity rating of the interconnection transformer branch	**HV** [525] Amps and [200.01] MVA **MV** [1050] Amps and [200.01] MVA **LV** [3149] Amps and [60.00] MVA
Level of Impedance of the interconnection transformer branch Resistive and Reactive - Shunt	**HV** Resistance [0.00129] PU (using 100MVA as the base) **HV** Reactance [0.02716] PU (using 100MVA as the base) **MV** Resistance [0.00068] PU (using 100MVA as the base) **MV** Reactance [-0.00169] PU (using 100MVA as the base) **LV** Resistance [0.00183] PU (using 100MVA as the base) **LV** Reactance [0.06404] PU (using 100MVA as the base)
Level of Impedance of the interconnection transformer branch Resistive and Reactive - Series	**HV** Resistance [0.00129] PU (using 100MVA as the base) **HV** Reactance [0.02716] PU (using 100MVA as the base) **MV** Resistance [0.00068] PU (using 100MVA as the base) **MV** Reactance [-0.00169] PU (using 100MVA as the base) **LV** Resistance [0.00183] PU (using 100MVA as the base) **LV** Reactance [0.06404] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection transformer branch	[220] kV
High voltage range that the interconnection transformer branch can operate over	Maximum: [242] kV Minimum: [198] kV
Tapping steps and ranges OTA-TF-T4B OTA-TF-T4B-Tap Changer -- ONLOAD -- HV	Tap voltage range: Maximum: [231] kV Minimum: [198] kV Number of tapping steps: [12] Size of each tapping step as a percentage of nominal operating voltage range: [1.25]% On-load/Off-load [Onload] On-load tapping capability [Manual] If on-load tapping capability is automatic, is it auto selected? [Not Applicable] If on-load tapping capability is manual, what tap step is normally set? (Actual or expected position at winter peak demand) [5]

Tapping steps and ranges OTA-TF-T4R OTA-TF-T4R-Tap Changer -- ONLOAD -- HV	Tap voltage range: Maximum: [231] kV Minimum: [198] kV Number of tapping steps: [12] Size of each tapping step as a percentage of nominal operating voltage range: [1.25]% On-load/Off-load [Onload] On-load tapping capability [Manual] If on-load tapping capability is automatic, is it auto selected? [Not Applicable] If on-load tapping capability is manual, what tap step is normally set? (Actual or expected position at winter peak demand) [5]
Tapping steps and ranges OTA-TF-T4Y OTA-TF-T4Y-Tap Changer -- ONLOAD -- HV	Tap voltage range: Maximum: [231] kV Minimum: [198] kV Number of tapping steps: [12] Size of each tapping step as a percentage of nominal operating voltage range: [1.25]% On-load/Off-load [Onload] On-load tapping capability [Manual] If on-load tapping capability is automatic, is it auto selected? [Not Applicable] If on-load tapping capability is manual, what tap step is normally set? (Actual or expected position at winter peak demand) [5]
Tapping steps and ranges OTA-TF-T4B OTA-TF-T4B-Tap Changer -- OFFLOAD -- LV	Tap voltage range: Maximum: [11.73] kV Minimum: [10.27] kV Number of tapping steps: [4] Size of each tapping step as a percentage of nominal operating voltage range: [3.33]% On-load/Off-load [Offload] On-load tapping capability [Not Applicable] If on-load tapping capability is automatic, is it auto selected? [Not Applicable] If on-load tapping capability is manual, what tap step is normally set? (Actual or expected position at winter peak demand) [Not Applicable]

Tapping steps and ranges OTA-TF-T4R OTA-TF-T4R-Tap Changer -- OFFLOAD -- LV	Tap voltage range: Maximum: [11.73] kV Minimum: [10.27] kV Number of tapping steps: [4] Size of each tapping step as a percentage of nominal operating voltage range: [3.33]% On-load/Off-load [Offload] On-load tapping capability [Not Applicable] If on-load tapping capability is automatic, is it auto selected? [Not Applicable] If on-load tapping capability is manual, what tap step is normally set? (Actual or expected position at winter peak demand) [Not Applicable]
Tapping steps and ranges OTA-TF-T4Y OTA-TF-T4Y-Tap Changer -- OFFLOAD -- LV	Tap voltage range: Maximum: [11.73] kV Minimum: [10.27] kV Number of tapping steps: [4] Size of each tapping step as a percentage of nominal operating voltage range: [3.33]% On-load/Off-load [Offload] On-load tapping capability [Not Applicable] If on-load tapping capability is automatic, is it auto selected? [Not Applicable] If on-load tapping capability is manual, what tap step is normally set? (Actual or expected position at winter peak demand) [Not Applicable]

Transformer Branch: OTA-TF-T5

Service Measure	**Service Level**
Overall 24 hour post contingency capacity rating of the interconnection transformer branch	[1660] Amps and [316.19] MVA [for summer period] and [1660] Amps and [316.19] MVA [for winter period]
Continuous capacity rating of the interconnection transformer branch	2 Winding [1312] Amps and [250.00] MVA
Level of Impedance of the interconnection transformer branch Resistive and Reactive - Shunt	Resistance [0.00000] PU (using 100MVA as the base) Reactance [0.05868] PU (using 100MVA as the base)
Level of Impedance of the interconnection transformer branch Resistive and Reactive - Series	Resistance [0.00068] PU (using 100MVA as the base) Reactance [0.05868] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection transformer branch	[220] kV
High voltage range that the interconnection transformer branch can operate over	Maximum: [242] kV Minimum: [198] kV

Tapping steps and ranges OTA-TF-T5 OTA-TF-T5-Tap Changer -- ONLOAD -- HV	Tap voltage range: Maximum: [242] kV Minimum: [198] kV Number of tapping steps: [16] Size of each tapping step as a percentage of nominal operating voltage range: [1.25]% On-load/Off-load [Onload] On-load tapping capability [Manual] If on-load tapping capability is automatic, is it auto selected? [Not Applicable] If on-load tapping capability is manual, what tap step is normally set? (Actual or expected position at winter peak demand) [9]

Interconnection Branch Report

As at : 01/07/2009 12:48

Site: Otahuhu Combined Cycle Power Station

Circuit Branch: OTC-PEN-6

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[1200] Amps and [457.26] MVA [for summer period] and [1200] Amps and [457.26] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.00419] PU (using 100MVA as the base) Reactance [0.01900] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00130] PU (using 100MVA as the base) Reactance [0.00801] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[220] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [242] kV Minimum: [198] kV

Circuit Branch: OTA-OTC-3

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[1822] Amps and [694.33] MVA [for summer period] and [2006] Amps and [764.34] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.00024] PU (using 100MVA as the base) Reactance [0.00114] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00005] PU (using 100MVA as the base) Reactance [0.00040] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[220] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [242] kV Minimum: [198] kV

Interconnection Branch Report

As at : 01/07/2009 12:48

Site: Otahuhu Power Station

Circuit Branch: OTA-OTG-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[1600] Amps and [304.84] MVA [for summer period] and [1600] Amps and [304.84] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.00043] PU (using 100MVA as the base) Reactance [0.00245] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00008] PU (using 100MVA as the base) Reactance [0.00060] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: OTA-OTG-2

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[1600] Amps and [304.84] MVA [for summer period] and [1600] Amps and [304.84] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.00100] PU (using 100MVA as the base) Reactance [0.00546] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00019] PU (using 100MVA as the base) Reactance [0.00150] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Interconnection Branch Report

As at : 01/07/2009 12:48

Site: Otira

Circuit Branch: COL-OTI-2

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[232] Amps and [26.51] MVA [for summer period] and [283] Amps and [32.39] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.80552] PU (using 100MVA as the base) Reactance [2.70927] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.52070] PU (using 100MVA as the base) Reactance [0.78811] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[66] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [72.6] kV Minimum: [59.4] kV

Circuit Branch: APS-OTI-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[232] Amps and [26.51] MVA [for summer period] and [283] Amps and [32.39] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.12777] PU (using 100MVA as the base) Reactance [0.44010] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.08158] PU (using 100MVA as the base) Reactance [0.12403] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[66] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [72.6] kV Minimum: [59.4] kV

Circuit Branch: HKK-OTI-2

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[232] Amps and [26.51] MVA [for summer period] and [283] Amps and [32.39] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.67800] PU (using 100MVA as the base) Reactance [2.36250] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.43695] PU (using 100MVA as the base) Reactance [0.65176] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[66] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [72.6] kV Minimum: [59.4] kV

Circuit Branch: KUM-OTI-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[232] Amps and [26.51] MVA [for summer period] and [240] Amps and [27.44] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.58379] PU (using 100MVA as the base) Reactance [2.05040] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.37488] PU (using 100MVA as the base) Reactance [0.56057] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[66] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [72.6] kV Minimum: [59.4] kV

Interconnection Branch Report

As at : 01/07/2009 12:48

Site: Owhata

Circuit Branch: EDG-OWH-2

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[300] Amps and [57.14] MVA [for summer period] and [366] Amps and [69.80] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.14362] PU (using 100MVA as the base) Reactance [0.57918] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.07616] PU (using 100MVA as the base) Reactance [0.19185] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: OKE-OWH-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[306] Amps and [58.27] MVA [for summer period] and [373] Amps and [71.16] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.02987] PU (using 100MVA as the base) Reactance [0.12572] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.01292] PU (using 100MVA as the base) Reactance [0.04684] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Interconnection Branch Report

As at : 01/07/2009 12:48

Site: Pakuranga

Circuit Branch: ARI-PAK-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[584] Amps and [111.36] MVA [for summer period] and [714] Amps and [135.98] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.30558] PU (using 100MVA as the base) Reactance [1.39893] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.11342] PU (using 100MVA as the base) Reactance [0.24678] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: OTA-PAK-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[1292] Amps and [246.16] MVA [for summer period] and [1292] Amps and [246.16] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.00718] PU (using 100MVA as the base) Reactance [0.03335] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00073] PU (using 100MVA as the base) Reactance [0.01215] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: PAK-PEN-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[600] Amps and [114.28] MVA [for summer period] and [733] Amps and [139.59] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.01117] PU (using 100MVA as the base) Reactance [0.04622] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00573] PU (using 100MVA as the base) Reactance [0.01456] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Interconnection Branch Report

As at : 01/07/2009 12:48

Site: Penrose

Circuit Branch: OTA-PEN-2

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[911] Amps and [173.58] MVA [for summer period] and [1003] Amps and [191.08] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.01791] PU (using 100MVA as the base) Reactance [0.05557] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00590] PU (using 100MVA as the base) Reactance [0.01485] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: OTA-PEN-5

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[1231] Amps and [469.17] MVA [for summer period] and [1250] Amps and [476.31] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.00444] PU (using 100MVA as the base) Reactance [0.02091] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00138] PU (using 100MVA as the base) Reactance [0.00849] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[220] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [242] kV Minimum: [198] kV

Circuit Branch: PAK-PEN-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[600] Amps and [114.28] MVA [for summer period] and [733] Amps and [139.59] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.01117] PU (using 100MVA as the base) Reactance [0.04622] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00573] PU (using 100MVA as the base) Reactance [0.01456] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: OTC-PEN-6

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[1200] Amps and [457.26] MVA [for summer period] and [1200] Amps and [457.26] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.00419] PU (using 100MVA as the base) Reactance [0.01900] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00130] PU (using 100MVA as the base) Reactance [0.00801] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[220] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [242] kV Minimum: [198] kV

Interconnection Branch Report

As at : 01/07/2009 12:48

Site: Poike

Circuit Branch: MTM-PIE-2

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[333] Amps and [63.36] MVA [for summer period] and [406] Amps and [77.36] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.02622] PU (using 100MVA as the base) Reactance [0.10177] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.01497] PU (using 100MVA as the base) Reactance [0.03039] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Interconnection Branch Report

As at : 01/07/2009 12:48

Site: Pauatahanui Tee

Circuit Branch: PNT-PRM-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[258] Amps and [49.22] MVA [for summer period] and [319] Amps and [60.77] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.06217] PU (using 100MVA as the base) Reactance [0.25279] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.03434] PU (using 100MVA as the base) Reactance [0.07263] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: PNT-PRM-2

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[258] Amps and [49.22] MVA [for summer period] and [319] Amps and [60.77] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.06138] PU (using 100MVA as the base) Reactance [0.24922] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.03390] PU (using 100MVA as the base) Reactance [0.07158] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: PNT-TKR-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[482] Amps and [91.89] MVA [for summer period] and [531] Amps and [101.24] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.01854] PU (using 100MVA as the base) Reactance [0.07461] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.01023] PU (using 100MVA as the base) Reactance [0.02159] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: PNT-TKR-2

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[482] Amps and [91.89] MVA [for summer period] and [531] Amps and [101.24] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.01858] PU (using 100MVA as the base) Reactance [0.07625] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.01026] PU (using 100MVA as the base) Reactance [0.02164] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Interconnection Branch Report

As at : 01/07/2009 12:48

Site: Poihipi Tee

Circuit Branch: PPT-WKM-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[1106] Amps and [421.51] MVA [for summer period] and [1177] Amps and [448.60] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.01459] PU (using 100MVA as the base) Reactance [0.06699] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00457] PU (using 100MVA as the base) Reactance [0.02802] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[220] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [242] kV Minimum: [198] kV

Circuit Branch: PPT-WRK-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[1106] Amps and [421.51] MVA [for summer period] and [1177] Amps and [448.60] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.00207] PU (using 100MVA as the base) Reactance [0.00951] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00065] PU (using 100MVA as the base) Reactance [0.00398] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[220] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [242] kV Minimum: [198] kV

Interconnection Branch Report

As at : 01/07/2009 12:48

Site: Paraparaumu

Circuit Branch: MHO-PRM-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[256] Amps and [48.85] MVA [for summer period] and [313] Amps and [59.65] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.17628] PU (using 100MVA as the base) Reactance [0.65175] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.10662] PU (using 100MVA as the base) Reactance [0.19587] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: MHO-PRM-2

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[256] Amps and [48.85] MVA [for summer period] and [313] Amps and [59.65] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.17649] PU (using 100MVA as the base) Reactance [0.64938] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.10674] PU (using 100MVA as the base) Reactance [0.19608] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: PNT-PRM-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[258] Amps and [49.22] MVA [for summer period] and [319] Amps and [60.77] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.06217] PU (using 100MVA as the base) Reactance [0.25279] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.03434] PU (using 100MVA as the base) Reactance [0.07263] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: PNT-PRM-2

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[258] Amps and [49.22] MVA [for summer period] and [319] Amps and [60.77] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.06138] PU (using 100MVA as the base) Reactance [0.24922] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.03390] PU (using 100MVA as the base) Reactance [0.07158] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Site: Redclyffe

Circuit Branch: FHL-RDF-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[266] Amps and [50.68] MVA [for summer period] and [325] Amps and [61.92] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.02346] PU (using 100MVA as the base) Reactance [0.08780] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.01406] PU (using 100MVA as the base) Reactance [0.02655] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: FHL-RDF-2

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[266] Amps and [50.68] MVA [for summer period] and [325] Amps and [61.92] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.02397] PU (using 100MVA as the base) Reactance [0.08939] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.01437] PU (using 100MVA as the base) Reactance [0.02728] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: RDF-TUI-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[300] Amps and [57.15] MVA [for summer period] and [366] Amps and [69.81] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.26980] PU (using 100MVA as the base) Reactance [1.11476] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.14948] PU (using 100MVA as the base) Reactance [0.33993] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: RDF-TUI-2

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[300] Amps and [57.15] MVA [for summer period] and [366] Amps and [69.81] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.26981] PU (using 100MVA as the base) Reactance [1.10751] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.14949] PU (using 100MVA as the base) Reactance [0.33994] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: RDF-WHI-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[1250] Amps and [476.31] MVA [for summer period] and [1250] Amps and [476.31] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.00863] PU (using 100MVA as the base) Reactance [0.05145] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00160] PU (using 100MVA as the base) Reactance [0.01371] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[220] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [242] kV Minimum: [198] kV

Circuit Branch: RDF-WRK-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[1254] Amps and [477.69] MVA [for summer period] and [1440] Amps and [548.71] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.05136] PU (using 100MVA as the base) Reactance [0.31543] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00953] PU (using 100MVA as the base) Reactance [0.08150] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[220] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [242] kV Minimum: [198] kV

Transformer Branch: RDF-TF-T3

Service Measure	Service Level
Overall 24 hour post contingency capacity rating of the interconnection transformer branch	[596] Amps and [113.60] MVA [for summer period] and [630] Amps and [120.00] MVA [for winter period]
Continuous capacity rating of the interconnection transformer branch	2 Winding [420] Amps and [80.00] MVA
Level of Impedance of the interconnection transformer branch Resistive and Reactive - Shunt	Resistance [0.00000] PU (using 100MVA as the base) Reactance [0.10100] PU (using 100MVA as the base)
Level of Impedance of the interconnection transformer branch Resistive and Reactive - Series	Resistance [0.00419] PU (using 100MVA as the base) Reactance [0.10091] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection transformer branch	[220] kV
High voltage range that the interconnection transformer branch can operate over	Maximum: [242] kV Minimum: [198] kV
Tapping steps and ranges RDF-TF-T3 RDF-TF-T3-Tap Changer -- ONLOAD -- HV	Tap voltage range: Maximum: [231] kV Minimum: [187] kV Number of tapping steps: [16] Size of each tapping step as a percentage of nominal operating voltage range: [1.25]% On-load/Off-load [Onload] On-load tapping capability [Manual] If on-load tapping capability is automatic, is it auto selected? [Not Applicable] If on-load tapping capability is manual, what tap step is normally set? (Actual or expected position at winter peak demand) [5]

Transformer Branch: RDF-TF-T4

Service Measure	Service Level
Overall 24 hour post contingency capacity rating of the interconnection transformer branch	[596] Amps and [113.60] MVA [for summer period] and [630] Amps and [120.00] MVA [for winter period]
Continuous capacity rating of the interconnection transformer branch	2 Winding [420] Amps and [80.00] MVA
Level of Impedance of the interconnection transformer branch Resistive and Reactive - Shunt	Resistance [0.00000] PU (using 100MVA as the base) Reactance [0.10100] PU (using 100MVA as the base)
Level of Impedance of the interconnection transformer branch Resistive and Reactive - Series	Resistance [0.00419] PU (using 100MVA as the base) Reactance [0.10091] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection transformer branch	[220] kV
High voltage range that the interconnection transformer branch can operate over	Maximum: [242] kV Minimum: [198] kV
Tapping steps and ranges RDF-TF-T4 RDF-TF-T4-Tap Changer -- ONLOAD -- HV	Tap voltage range: Maximum: [231] kV Minimum: [187] kV Number of tapping steps: [16] Size of each tapping step as a percentage of nominal operating voltage range: [1.25]% On-load/Off-load [Onload] On-load tapping capability [Manual] If on-load tapping capability is automatic, is it auto selected? [Not Applicable] If on-load tapping capability is manual, what tap step is normally set? (Actual or expected position at winter peak demand) [5]

Interconnection Branch Report

As at : 01/07/2009 12:48

Site: Reefton Transmission Tee Point

Circuit Branch: IGH-RFC-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[292] Amps and [55.68] MVA [for summer period] and [357] Amps and [67.99] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.08711] PU (using 100MVA as the base) Reactance [0.30609] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.05197] PU (using 100MVA as the base) Reactance [0.10050] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: RFC-RFN-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[120] Amps and [22.86] MVA [for summer period] and [120] Amps and [22.86] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.00010] PU (using 100MVA as the base) Reactance [0.00037] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00006] PU (using 100MVA as the base) Reactance [0.00011] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: ATU-RFC-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[292] Amps and [55.68] MVA [for summer period] and [357] Amps and [67.99] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.12460] PU (using 100MVA as the base) Reactance [0.45079] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.07433] PU (using 100MVA as the base) Reactance [0.14009] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Interconnection Branch Report

As at : 01/07/2009 12:48

Site: Reefton

Circuit Branch: IGH-RFN-2

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[120] Amps and [22.86] MVA [for summer period] and [120] Amps and [22.86] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.07864] PU (using 100MVA as the base) Reactance [0.36448] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.03851] PU (using 100MVA as the base) Reactance [0.10149] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV

Circuit Branch: RFC-RFN-1

Service Measure	Service Level
Overall continuous capacity rating of the interconnection circuit branch	[120] Amps and [22.86] MVA [for summer period] and [120] Amps and [22.86] MVA [for winter period]
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Shunt	Resistance [0.00010] PU (using 100MVA as the base) Reactance [0.00037] PU (using 100MVA as the base)
Level of Impedance of the interconnection circuit branch Resistive and Reactive - Series	Resistance [0.00006] PU (using 100MVA as the base) Reactance [0.00011] PU (using 100MVA as the base)
Nominal high voltage rating of the interconnection circuit branch	[110] kV
High voltage range that the interconnection circuit branch can operate over	Maximum: [121] kV Minimum: [99] kV