

Upper South Island (USI)

Winter Security 07

19th April 2007

Telephone Conference 1:30 - 2:30pm



USI AMPK Load Assessment for Winter 2007

Upper South Island Winter 2007 AMPK Load Estimate (morning)						
	2006	2007	%growth	2007	%growth	Controllable load
	Actual (MW)	Expected (MW)	of 2006	Prudent (MW)	of 2006	
Network Tasman	135	138	2.22%	141	4.44%	0
Marlborough Lines	57	58	1.75%	61	7.02%	0
Buller	13	13	0.00%	17	29.98%	0
Mainpower	78	76	-2.56%	78	0.00%	0
Orion	622	625	0.48%	642	3.22%	0
Electronet	28	26	-7.14%	29	3.57%	0
Electricity Ashburton	54	59	9.26%	59	9.26%	
Alpine	76	81	6.58%	83	9.21%	0
Total	1063	1076	1.22%	1110	4.41%	

Notes:

- Expected load forecast assumed normal levels of embedded generation
- Prudent load forecast assumed minimum levels of embedded generation
- The 2006 figures were from the half hour period of 08:00 to 08:30 on the 29th June 2006
- Expect AM P.F of 0.98
- Expected load is 2 MW lower and Prudent load is 21MW lower than PMPK



USI PMPK Load Assessment for Winter 2007

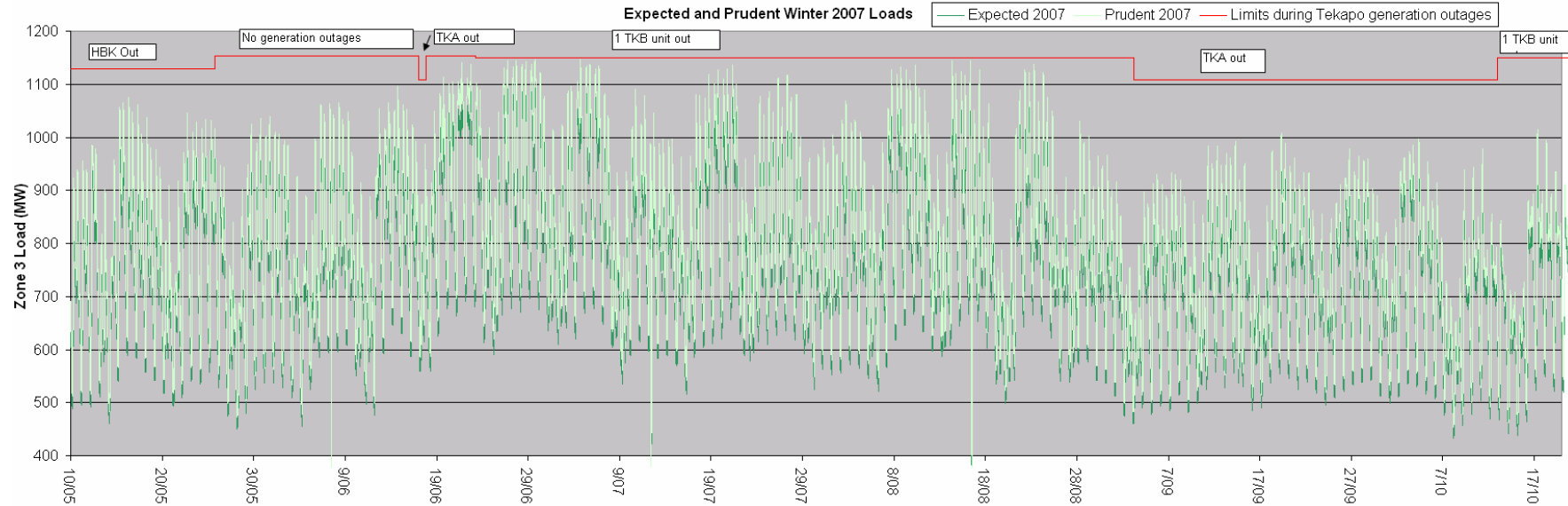
Upper South Island Winter 2007 PMPK Load Estimate (eveing)						
	2006	2007	%growth	2007	%growth	Controllable
	Actual (MW)	Expected (MW)	of 2006	Prudent (MW)	of 2006	load
Network Tasman	140	143	2.20%	145	4.20%	0
Marlborough Lines	59	60	3.00%	63	8.00%	0
Buller	13	13	0.00%	17	29.98%	4
Mainpower	84	87	2.57%	88	4.23%	0
Orion	625	625	0.02%	662	5.94%	0
Electronet	26	26	-0.84%	29	10.60%	0
Electricity Ashburton	40	43	9.00%	43	9.00%	
Alpine	79	81	2.00%	83	4.00%	0
Total	1066	1078	1.13%	1131	6.07%	

Notes:

- Expected load forecast assumed normal levels of embedded generation
- Prudent load forecast assumed minimum levels of embedded generation
- The 2006 figures were from the half hour period of 1730 to 1800 on the 29th June 2006
- Expect PM P.F of 0.985



USI Winter 2006 PM Power Factor



- Expected load profile for Winter 07 based on Winter 06 loads
- Tekapo generation outage issues resolved
 - TKA moved to September / October – expect lower loads
 - Expected prudent load ~1000 MW based on winter 2006 loads

Outage Block	Start	End	Length	MW Loss	Limit
No outage					1154
ASB STN (HBK)	25/04/2007 07:00	25/05/2007 18:00	30 days	27	1129
TKB3	Tue 17/07/2007 06:00	Tue 17/07/2007 18:00	1 day	80	1109
TKA1	Tue 17/07/2007 06:30	Tue 17/07/2007 21:00	1 day	25.2	1109
TKB2	Mon 23/07/2007 06:00	Wed 31/10/2007 17:30	100 days	80	
TKA1	Mon 23/07/2007 06:30	Wed 3/10/2007 06:30	42 days	12.6	1149
TKA1	Wed 3/10/2007 06:30	Sat 13/10/2007 18:00	40 days	25.2	1109
TKA1	Sat 13/10/2007 18:00	Wed 31/10/2007 18:00	19 days	12.6	1149

Note; Limits based on P.F of 0.98, about 20 MW higher for P.F of 0.985



Major USI outages during Winter 07

Outage Block	Start Day	Start Time	Finish Day	Finish Time	D / C
ISL_LIV_1	Sat 22-Sep-2007	07:00:00	Sat 22-Sep-2007	21:00:00	D
TKB_TWZ_1	Wed 26-Sep-2007	07:00:00	Thu 27-Sep-2007	21:00:00	D
ISL_TKB_1	Sat 29-Sep-2007	07:00:00	Sat 29-Sep-2007	21:00:00	D
ISL_T3	Fri 5-Oct-2007	07:00:00	Fri 5-Oct-2007	21:00:00	D
ISL_SVC_3	Fri 5-Oct-2007	07:00:00	Fri 5-Oct-2007	21:00:00	D
ISL_KIK_1	Mon 8-Oct-2007	07:00:00	Thu 11-Oct-2007	21:00:00	D
BRY_ISL_1	Wed 10-Oct-2007	07:00:00	Thu 11-Oct-2007	21:00:00	D
ASB_TIM_TWZ_1	Sat 13-Oct-2007	07:00:00	Sat 13-Oct-2007	21:00:00	D

- Major transmission outages during Tekapo generation outages
- Work in progress to review timing of Grid Owner outages now coinciding with TKA outage
 - Expect any conflicts to be resolved - Full assessment in progress
- Expect voltage stability issues to set transmission limits



Summary

- ✓ N-G-1 limit maintained for expected and prudent load forecasts
- ✓ N-1 limits maintained during major plant outages
- Finalise arrangements for Grid Owner ISL–TWZ 220 outages (short duration)
- Update to contingency plan
 - Triggers for arming AUVLs and starting Stoke condenser

