

Upper South Island Security

Summer 2009 Planning

20 November 2008

TRANSPOWER



Summer 09 Planning

- Ensure system can meet 08/09 summer demands
- Studies based on scenarios derived from current information
- Determine if a contingency plan workstream is required

Summer 09 Planning - Introduction

- Review of outages from POCP
- Review collected data
- Review of scenarios considered in the study
- Results
- Summary

Summer 09 Planning – Generator Outages

(Updated 10 November)

GIP / GXP	Start	End	MW Loss
KUM	16/01/2009 12:00	23/01/2009 17:00	10
TKA	30/01/2009 17:00	30/01/2009 17:35	25.2
COL	2/02/2009 08:00	10/04/2009 16:30	3
TKA	3/02/2009 09:00	3/02/2009 16:00	25.2
ARG	8/02/2009 10:00	20/02/2009 16:00	11
TKB	23/02/2009 06:00	25/02/2009 18:00	160
TKB	23/02/2009 06:30	28/02/2009 17:30	80
TKA	23/03/2009 06:30	27/03/2009 18:00	25.2
TKB	23/03/2009 06:30	27/03/2009 18:00	80

Summer 09 Planning – Plant Outages

(Updated 10 November)

Outage Block	Start	End	Type
ISL_C_14	14/01/2009 07:30	14/01/2009 17:00	daily
ISL_LIV_1	23/01/2009 07:00	23/01/2009 21:00	daily
ISL_SC_4	17/02/2009 07:00	17/02/2009 21:00	daily
ISL_SC_5	17/02/2009 07:00	17/02/2009 21:00	daily
ISL_T6	17/02/2009 07:00	17/02/2009 21:00	daily
ISL_T3	18/02/2009 07:00	18/02/2009 21:00	daily
ISL_SVC_3	18/02/2009 07:00	20/02/2009 21:00	daily
BRY_ISL_1	9/03/2009 07:00	13/03/2009 21:00	daily
ISL_T1	12/03/2009 07:00	13/03/2009 21:00	daily
ASB_ISL_1	16/03/2009 07:00	16/03/2009 21:00	daily
ISL_T1	19/03/2009 07:00	19/03/2009 21:00	daily
ISL_C_16	23/03/2009 07:30	27/03/2009 16:00	continuous
ISL_C_15	30/03/2009 07:30	3/04/2009 16:00	continuous
ISL_C_16	31/03/2009 07:30	31/03/2009 16:00	daily

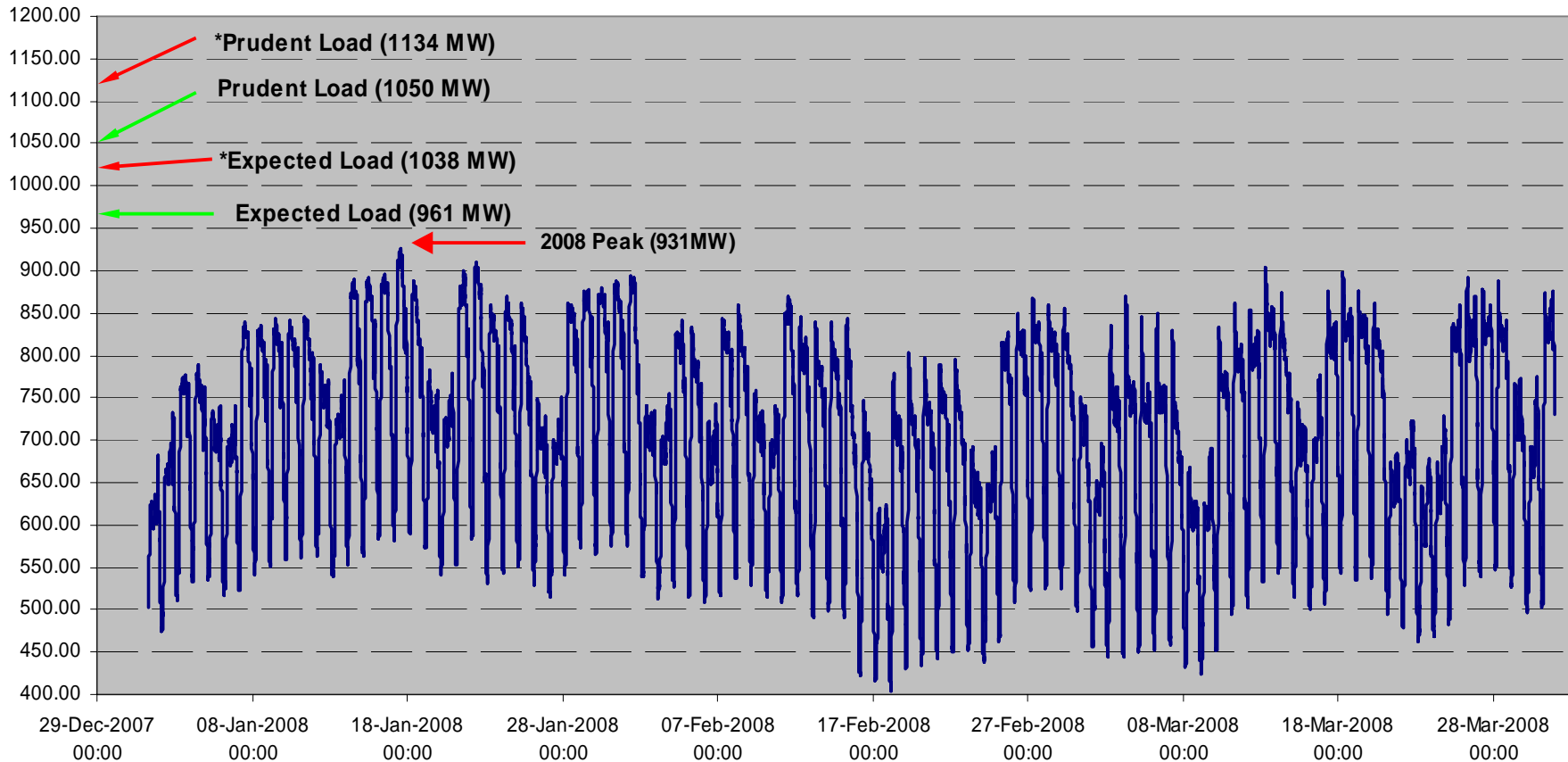
Summer 09 Planning – Load Estimates

Network Company	Network Peaks (With Load Control)		Network Peaks (*Without Load Control)	
	Expected	Prudent	*Expected	*Prudent
Alpine Energy	85	100	100	115
Buller Network	16	18	17	19
Electricity Ashburton	105	105	110	114
Electronet Services	37	40	41	44
Mainpower	80	85	90	95
Marlborough Lines	60	60	60	63
Network Tasman	108	112	120	124
Orion	470	530	500	560

Z3 peak

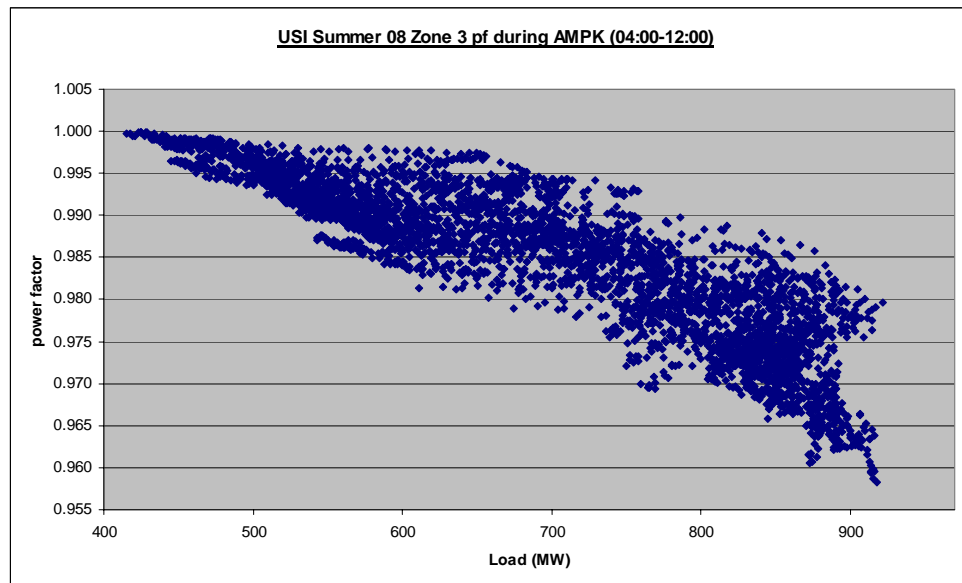
961	1050	1038	1134
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Summer 09 Planning – Load Comparison



Summer 09 Planning – Assumptions

- ISL C27 available for service
- HBK unavailable
- HVDC North flow
- March AMPK with p.f. = 0.96



Summer 09 Planning – Scenarios

- The following scenarios have been considered for Summer 09:

Scenario	TKA	TKB	ISL Synchronous Condensers
1	Y 1 x 25 MW	YY 2 x 80 MW	Both available
2	Out	Out	Both available
3	Y 1 x 25 MW	YY 2 x 80 MW	Both unavailable
4	Out	Out	Both unavailable

Summer 09 Planning – Results

Scenario	TKA	TKB	ISL Synchronous Condensers	VSAT Limit (MW)	AUVLS
1	Y 1 x 25 MW	YY 2 x 80 MW	Both available	1068	Disabled
2	Out	Out	Both available	1066	Disabled
3	Y 1 x 25 MW	YY 2 x 80 MW	Both unavailable	1063	Enabled
4	Out	Out	Both unavailable	1056	Enabled

- Able to maintain N-1 voltage stability (ASB TWZ 1 contingency)
- The different scenarios have different reactive profiles

Summer 09 Planning – Summary

- USI peak summer demand can be met with all other plant available
- Contingency plan workstream should not be activated but the status of the system will continue to be monitored