

Upper South Island Security

Winter 08 Planning

28 Feb 2008

TRANSPower



SYSTEM OPERATOR
TRANSPower NZ LTD

24-7
instant delivery

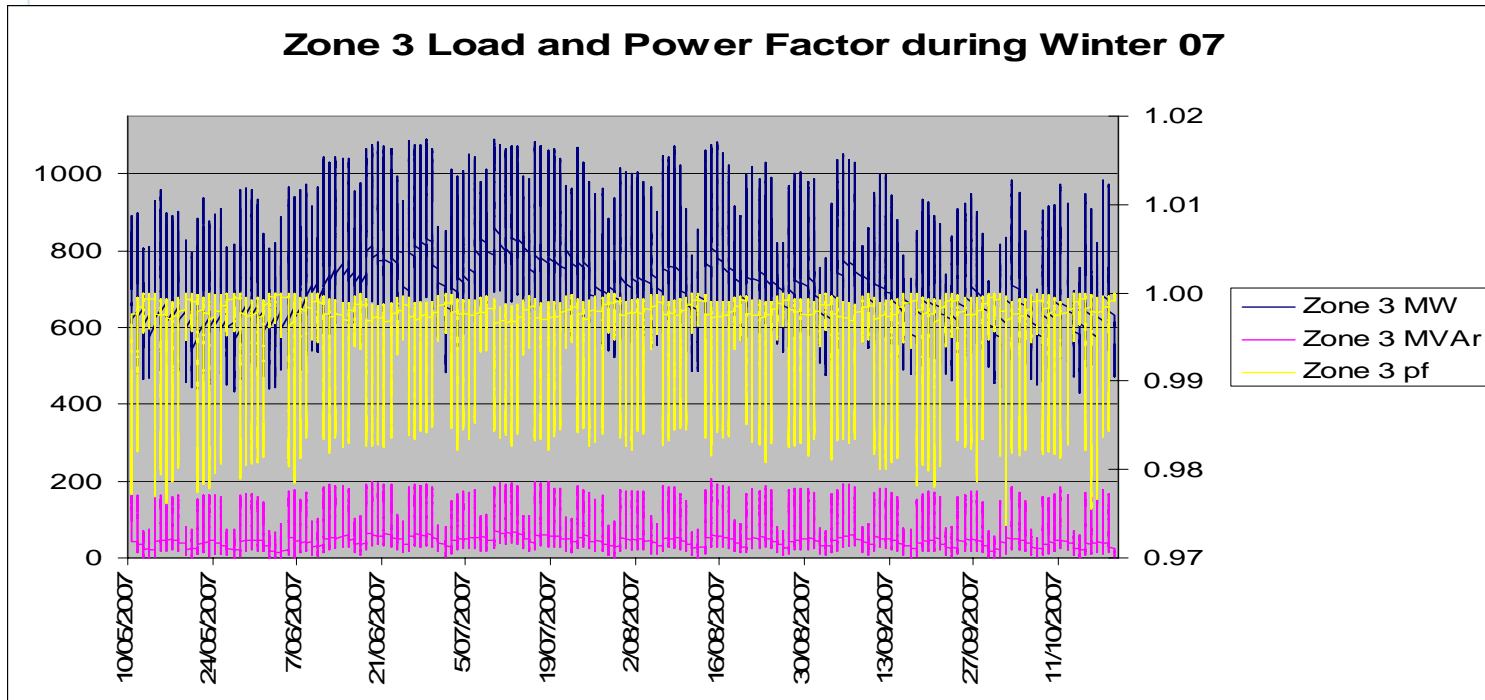


USI Forum

- Purpose
 - Ensure that USI demand is met over winter 2008 with minimum disruption to consumers
- Approach
 - Gather information about winter security issues for Upper South Island
 - Confirm assumptions around peak load, power factor, and regional generation availability
 - Review voltage stability limits across a range of scenarios in light of information
 - Determine whether a contingency plan is required



Winter 07 Load Review

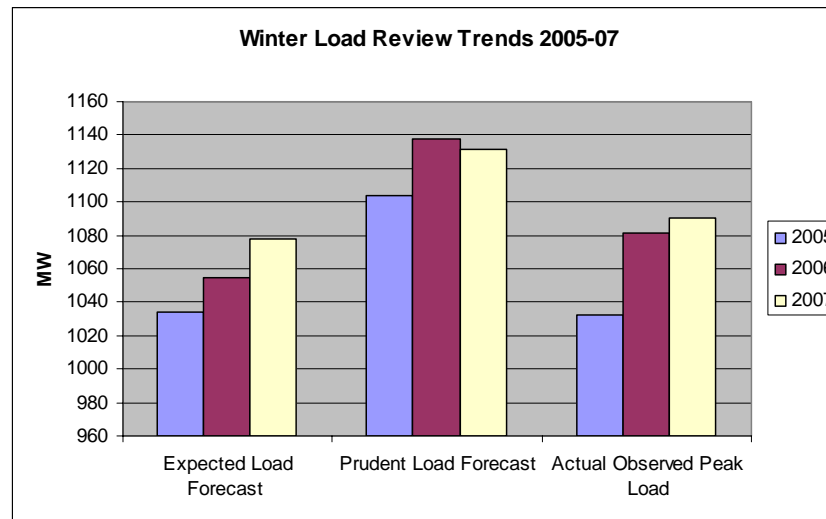


- Winter 07 observed peak load was 1090 MW on 9 Jul
- Loads typically below 1075 MW

Top 5 days peaks	
Time Stamp	Zone 1 Load
09-Jul-2007 17:40	1090
28-Jun-2007 17:20	1090
28-Jun-2007 17:50	1089
28-Jun-2007 17:40	1089
09-Jul-2007 17:50	1088

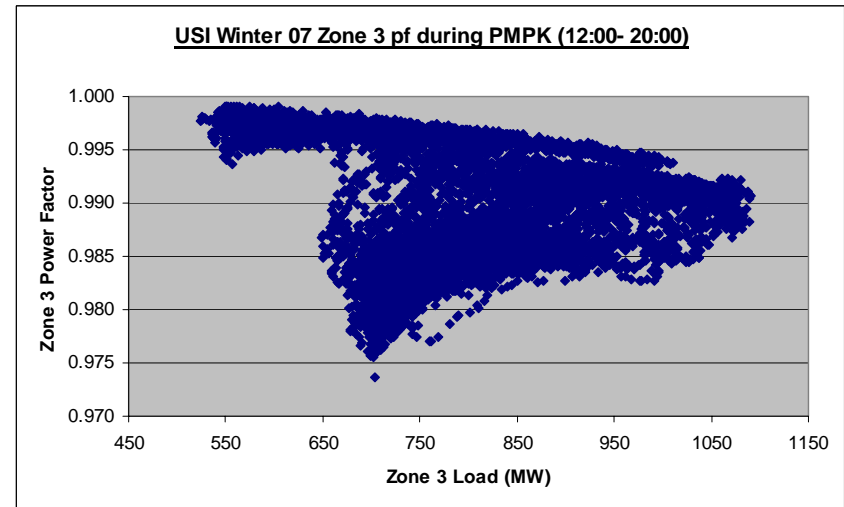
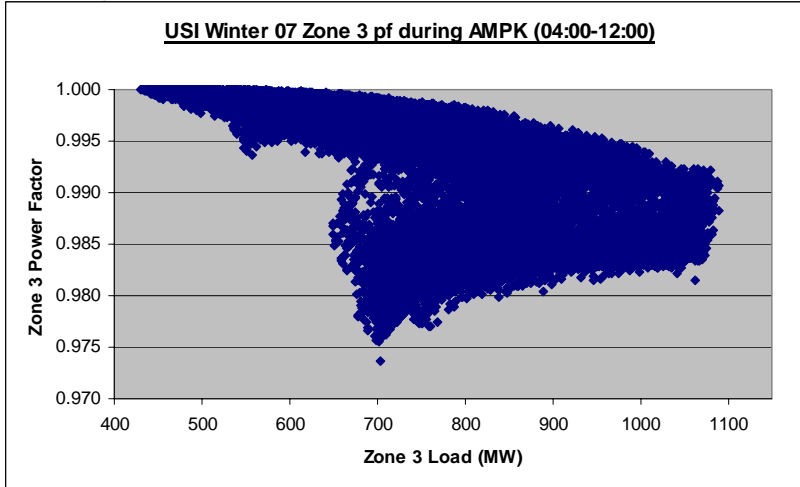
Winter 07 Load Review

- Winter 2006 peak load was 1081 MW
- Winter 07 Expected load forecast was 1078 MW (1.13 % growth)
- Winter 07 Prudent load forecast was 1131 MW (6.07 % growth)
- Actual observed Winter 07 peak load was 1090 MW on 9 Jul 07 @ 17:40



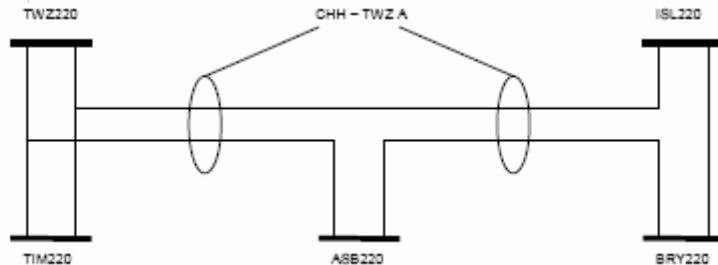
Winter 07 Load Review

- Morning (AMPK) and afternoon (PMPK) peak power factor summaries

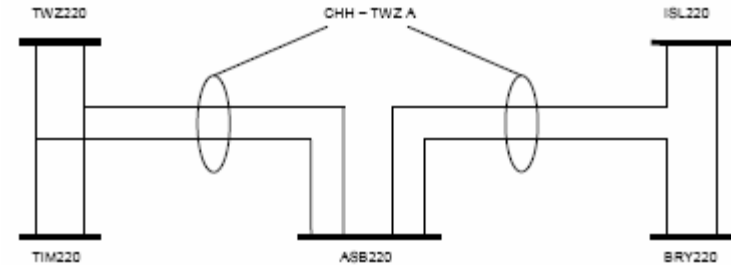


Winter 08 – System changes

- KIK 220kV/110kV interconnector transformer – commissioned Sept 07
- STK 220kV/110kV interconnector transformer – commissioned Feb 08
- STK condenser currently being de-commissioned
- ROX ISL A Duplexing - planned commissioning Mar 08
- ASB 220 Switchyard extension - planned commissioning May 08
- ISL 220kV 2 x 75 MVar Cap banks - planned commissioning Jul 08



Pre ASB Project



Post ASB Project

Winter 08 – Outages

- Notified generator outages (as per POCP 7/2/08)

GIP/GXPs	Start	End	Type	MW Loss
TKB	11/05/2008 06:00	11/05/2008 18:00	continuous	80
TKB	16/06/2008 06:00	16/06/2008 18:00	continuous	80
TKA	16/06/2008 06:30	16/06/2008 18:00	continuous	25.2
TKB	16/06/2008 07:30	16/06/2008 17:00	continuous	160
TKB	11/08/2008 06:30	16/08/2008 18:00	continuous	80
TKA	15/09/2008 06:30	15/09/2008 18:00	continuous	25.2
TKB	15/09/2008 06:30	15/09/2008 18:00	continuous	80

Winter 08 – Outages

- Notified transmission outages (as per POCP 23/2/08)
 - ISL BRY 1: 26 May 08
 - ISL LIV : 27-29 May 08
 - ISL TIM TWZ 1 : 19-23 May 08
 - ISL TKB 1 : 8-16 May 08
- Outages to be managed through normal outage planning process



Winter 08 – Potential Scenarios

- Potential scenarios to be considered for Winter 08
 - All equipment in service
 - TKA/TKB generator outages
 - HBK available / unavailable
 - Low regional generation

Scenario	TKB	TKA	HBK
1	YY 2 x 80MW	Y 1 x 25MW	Y
2	out	out	Y
3	Y 1 x 80MW	Y 1 x 12.5MW	Y
4	out	Y 1 x 12.5MW	Y
5	YY 2 x 80MW	Y 1 x 25MW	N



Winter 08 – Summary

- With currently available information studies show that USI peak winter demand can be met with all available plant in service.
- Top of South Island (GZ9)
 - No issues expected with all equipment in service
 - Outages to be managed through normal outage planning process
- Scenarios to be confirmed – Scenario and monitoring group
 - N-1 all equipment in service and TKB contingency
 - N-G-1 TKB out of service, ISL LIV cct contingency
- Transmission outages after 30 June 08 not yet available in POCP



Winter 08 – What's Next

Please provide information on the following by 13 March 08:

- Distributor load forecasts - prudent, expected loads and power factors
- Asset Owners - outages confirmed for generation and transmission

Next meeting around end March 2008

- Voltage stability limits reviewed across scenarios
- Need for contingency plan established

