

# Upper North Island (UNI)

Winter 07 Review  
Summer 07/08 Planning

29<sup>th</sup> August 2007

Telephone Conference 2:00 - 3:00pm



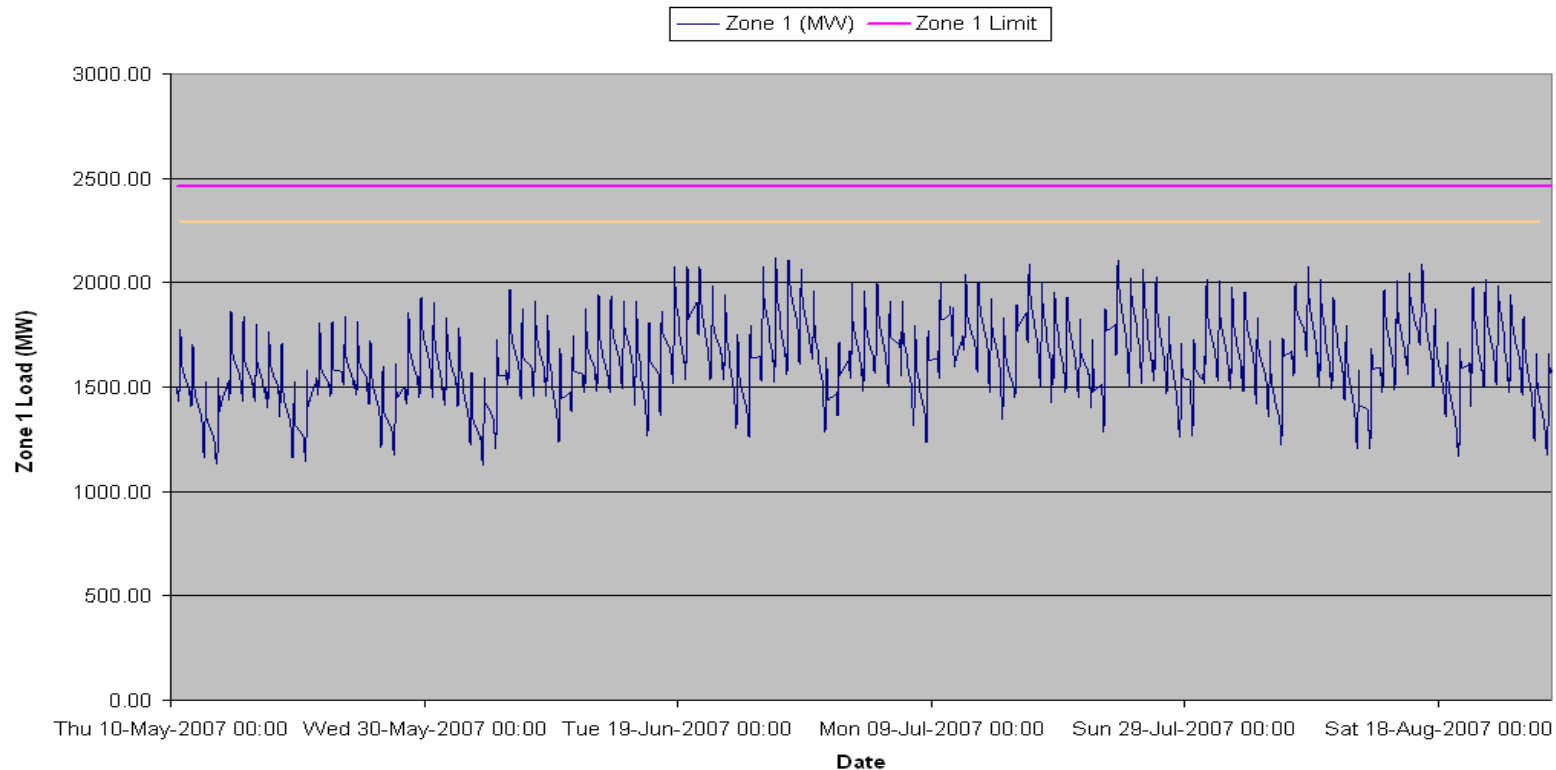
# UNI Regional Forum

- Review Winter 2007
- Preparation Summer 07/08
  - Scenarios and Planning requirements
- Winter 2008
  - Initial View



# UNI Winter 07 Review – UNI MW Load

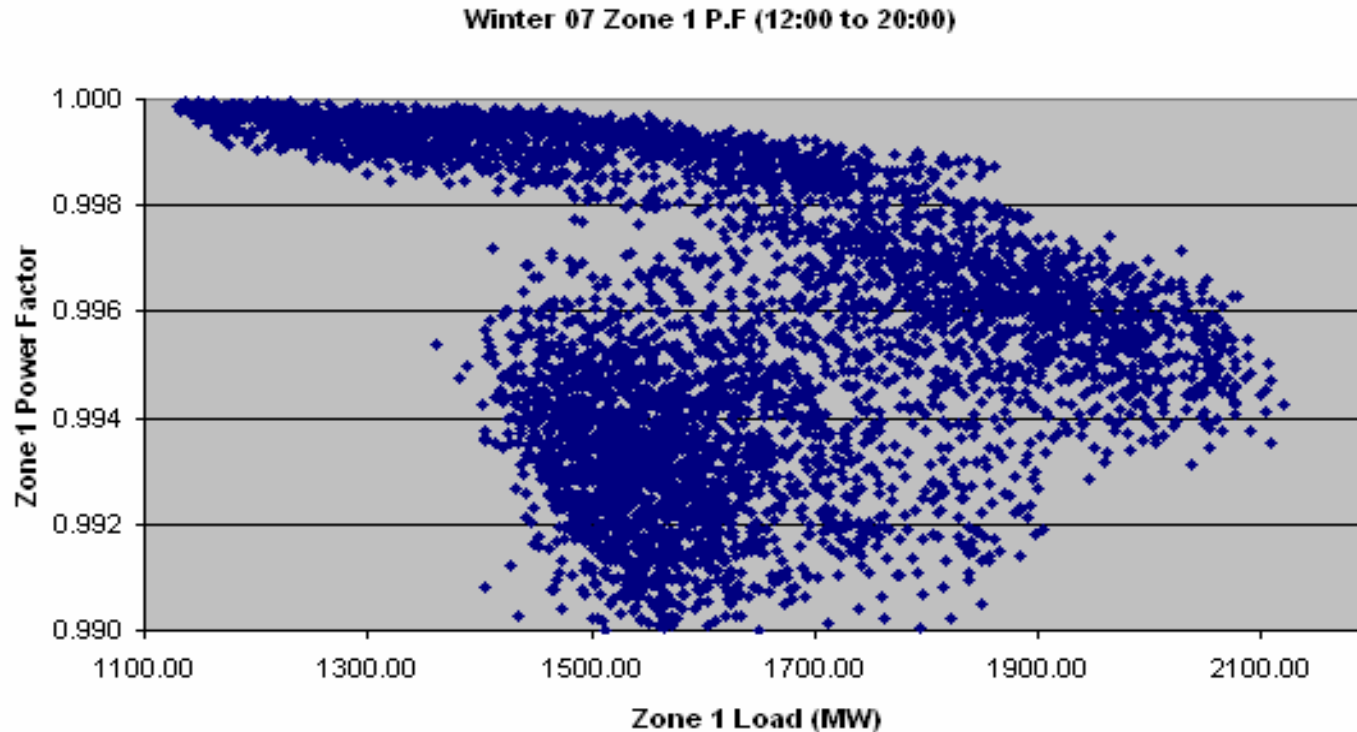
Winter 2007 - Zone 1 Load (12:00 to 20:00)



- **Default System Limits**
  - N-1 limit 2463 MW –scenario 1A -3xHLY, OTC & HLY U5.
  - N-G-1 limit 2300 MW –scenario 2A -3x HLY, & HLY U5.
- **Winter 07 Peak Load was 2118 MW on 26 June 17:50 (1.5% on 2006)**
  - Expected planning peak 2170 MW
  - Prudent planning peak 2258 MW
- **Winter 06 Peak load was 2087 MW from 23 June**



# UNI Winter 07 Review – Power Factor

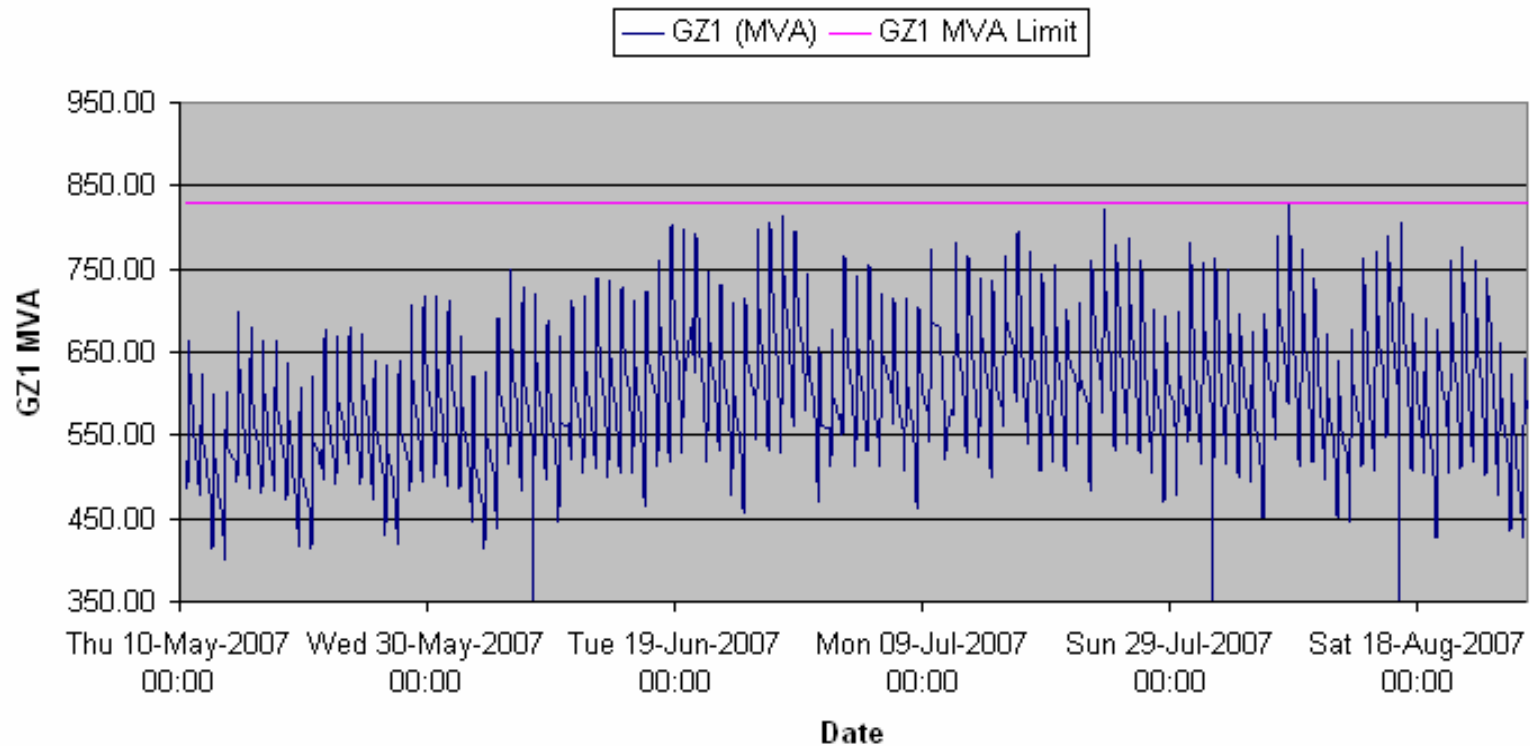


- Peak load P.F typically ~0.994
- Planned peak load P.F of ~0.99
  - P.F performance very good -slightly better than expected



# UNI Winter 07 Review – HEN\_OTA MW Load

GZ1 MVA (12:00 to 20:00)



- System Limits
  - 830 MVA RMA limit
- Regional Peak 810 MW -7 August 18:20



## UNI Winter 07 Review – Summary

- Winter weather conditions –details below
  - Below average over much of the South Island, warmer in the north of the North Island
- Load forecasting planning vs actuals (load forecast and pf)
  - Actual 2% under Expected
  - Actual 6.5% under Prudent
  - Power factor performance better than expected.
- Forced outage of MDN T2 / SC2 11<sup>th</sup> July (+90 MVAR's)

(July climate summary: [http://www.niwascience.co.nz/ncc/cs/mclimsum\\_07\\_07](http://www.niwascience.co.nz/ncc/cs/mclimsum_07_07))

- July 2007 was a month of extremes and contrasts with depressions (lows) often tracking over or to the north of the North Island. These produced floods and at least twice the normal July rainfall in parts of Northland (more than 400 mm in places), Hawke's Bay, coastal South Canterbury and Otago, damaging windstorms to Northland, Auckland, and the Coromandel, and thunderstorms and tornadoes to Taranaki, Auckland, and Bay of Plenty. In contrast, calm conditions in the south, often with periods of freezing fog, produced dry, cold and very icy conditions during the first three weeks of July to the southern half of the South Island.
- The national average temperature of 8.1 °C was 0.2 °C above normal. However this belies the north/south contrast with mean temperatures at least 1.0 °C below average over much of the southern half of the South Island. Freezing conditions existed for much of July in Central Otago and inland Southland. At Lauder (Central Otago), air temperatures were constantly below zero from July 12th to 21st, and there were 13 days from July 7 to 22 with minimum air temperatures below –10.0 °C. In contrast, temperatures were at least 0.5 °C above average throughout much of the North Island. Rainfall was double normal in Hawke's Bay, parts of Northland, and the South Canterbury–Otago coast, but was 50 percent (half) or less of average in the north and west of the South Island. July was very sunny in inland South Island areas not affected by fog, as well as coastal Otago and north Westland, but rather cloudy in the east of the North Island..



# UNI Summer 07/08 –Summer Planning

- Planned Plant Outages
  - Otahuhu B (OTC) 27-30 Oct 07
  - OTA\_WKM\_1 1-21 Nov 07
  - OTA\_WKM\_2 23 Nov-14 Dec.
  - Huntly U5 1-16 Dec 07
    - Potential conflict HLY U5 and OTA\_WKM\_2 Dec 1-14 (to be reviewed)
  
- No extended planned outages HLY 5 or OTC through risk period
  - Load risk period mid Jan to mid March -POCP 28 Aug 07
  
- New plant commissioning
  - Albany SVC +/- 100 MVAR -Jan 08
  - OTA\_WKM upgrade –April 08
    - 246/202 MVA to 323/293 MVA
  - Grid Caps HEP 1x50 MVA. PEN 2x50 MVA –May 08
  - Ohinewai station –May 08
  - Kaitaia caps 2x12 MVA –June 08
  - Ngawha +17 MW to 25MW -2008?



# UNI Summer 07/08 –Summer Planning

- Summer risk period load 06/07
  - Actual 1600 MW, Expected 1645 MW, Prudent 1717 MW
  - HLY river heating constrained N-G-1 scenario limit was 1750 MW
- Planning 07/08 to N-1 & N-G-1 limits
  - Include HLY U5. OTC contingent risk (-G)
  - MDN SC2 uncertainty. ALB SVC being commissioned
  - All plant normally available –noting HLY river heating restriction
  - Expect N-G-1 limit 1850-1900 MW (incl HLY constrained) (12% growth on 2006)
- Unlikely industry contingency plan will be required
  - Outages and shutdowns co-ordinated through planning process



## UNI Winter 08 –Initial Look Ahead

- Expect HEN\_OTA RMA restrictions to be resolved
- Commissioning of new plant complete
  - Ohinewai
  - ALB SVC
  - Akld caps
  - OTA\_WKM upgrade
- Winter 07 Peak Load was 2118 MW on 26 June 17:50
- Winter 2008 expect approximate limits
  - N-G-1 2321 – 2416 MW (OTC extended outage & HLY\_OTA\_2 contingency)
    - 11% growth on Winter 07
  - N-1 2444 – 2539 MW (OTC contingency)
    - 17% growth on Winter 07
- Review operational / dispatch practice with commissioning of new plant



# UNI Regional Planning –Summary & Actions

- Co-ordination of outages through the summer period.
  - POCP
- Maintain watching brief on progress of committed projects
- Confirm N-1 & N-G-1 limits for summer risk period
  - Include HLY constrained generation due to river heating
- Confirm N-1 & N-G-1 limits for winter 08
  - Expect HEN\_OTA RMA restrictions resolved
- Further info System Operator SSF:  
<http://www.transpower.co.nz/?id=5993>

