

# Upper North Island (UNI)

## Summer 07/08 Planning

26<sup>th</sup> September 2007

Telephone Conference 2:00 - 3:00pm



## UNI Summer 07/08 – Henderson-Otahuhu update

- Environmental court decision complete
  - Appeal period to elapse
  - GO offer being confirmed
  - Load Intertrips / reconfiguration options no longer required



# UNI Summer 07/08 –Summer Planning

- Review summer 06/07
  - 2006/2007 actual 1600 MW, Expected 1645 MW, Prudent 1717 MW
  - HLY river heating constrained N-G-1 scenario limit was 1750 MW
  - Power factor performance planned 0.97.
- Pre-Xmas Planned 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
- Summer risk period mid Jan –mid Mar
  - No extended planned outages HLY 5 or OTC through risk period
- Risk period security planning to N-1 & N-G-1 limits
  - Include HLY U5. OTC contingent risk (-G)
  - HLY availability confirmed -minimum one unit at full load (1 x 250 MW +121MVA<sub>r</sub>) MDN SC2 uncertainty
  - ALB C2 (+100 MVA<sub>r</sub>) OTA SC 1&2. (+60 MVA<sub>r</sub>)
  - All plant normally available



# UNI Summer 07/08 –Summer Planning

UNISS 07/08 Scenario Limits Table v1. -DRAFT

| Summer Planning Scenarios |           |           |                          |            |           |           |                 |                    | Voltage Limits             | Thermal Limits          | Contingent Event |
|---------------------------|-----------|-----------|--------------------------|------------|-----------|-----------|-----------------|--------------------|----------------------------|-------------------------|------------------|
| Summer Security Limit     | Otahuhu B | Huntly U5 | Huntly units 1-4         | Huntly P40 | Southdown | Glenbrook | Marsden +90MVAR | OTA Condensers x 5 | Z1 Load Limits @ 5% margin | Z1 Load @ 15 min o/load |                  |
| N-1                       | Y         | Y         | Y<br>1x(250MW @ 121MVAR) | Y          | Y         | Y         | Y               | Y                  | 2050<br>(750)              | 2180                    | Otahuhu B Gen    |
| N-G-1                     |           | Y         | Y<br>1x(250MW @ 121MVAR) | Y          | Y         | Y         | Y               | Y                  | 1890<br>(920)              | 1930                    | Huntly U5 Gen    |

**Sensitivity of Zone 1 Stability limit**

| 100MVAR cap | Otahuhu B                | Huntly                   | Southdown                | Glenbrook                | Marsden +90MVAR | OTA Condensers | OTA_WKM_3 |
|-------------|--------------------------|--------------------------|--------------------------|--------------------------|-----------------|----------------|-----------|
| 0.54 / MVar | 0.36 / MW<br>0.60 / MVar | 0.24 / MW<br>0.40 / MVar | 0.52 / MW<br>0.50 / MVar | 0.50 / MW<br>0.50 / MVar | 0.67 / MVar     | 0.58 / MVar    | 0.66 / MW |

**Notes:**

1. Zone 1 P.F of 0.97
2. Voltage Stability limits have a 5% margin. Thermal limits at 15 min o/load.
3. Marsden C2 range is -20 to +90 MVar
4. ALB C2 +100 MVar
5. OTA Condensers 1-5



# UNI Summer 07/08 –Summer Planning

- Summer security limits maintained
  - N-1 limit 2050 MW
    - provides for up to 28% load growth on actual load 06/07 (1600 MW)
  - N-G-1 limit 1890 MW
    - provides for up to 18% load growth on actual load 06/07 (1600 MW)
  - Industry contingency plan not required at this stage
- Further work
  - Confirm power factor performance from 06/07 against planned 0.97
  - Co-ordination of planned outages (slide 3)
    - POCP update
    - Operational briefings if necessary
  - Monitor plant availability
    - MDN SC2
    - ALB SVC +/-100MVA<sub>r</sub> –Jan 08
  - Further info System Operator SSF: <http://www.transpower.co.nz/?id=5993>

