

DEMAND MANAGEMENT SCREENING TEST

Lindfield, Pymble Zones

Current Supply Arrangements

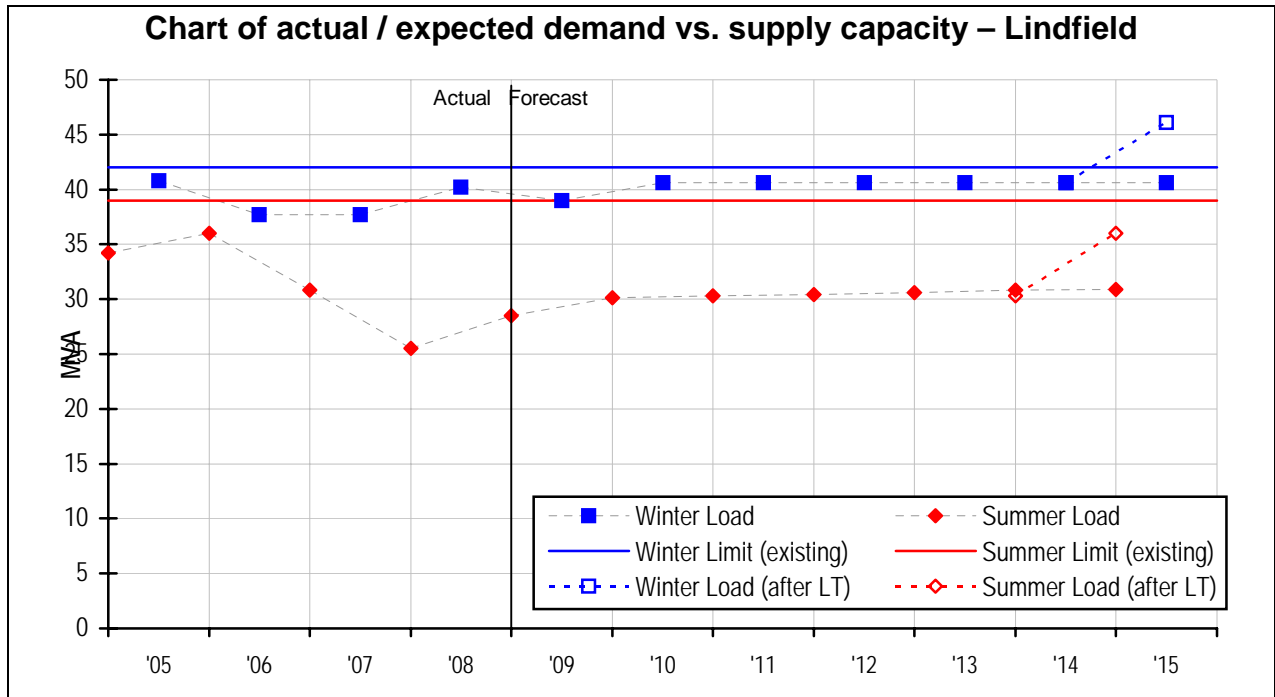
Lindfield 33/11kV zone substation is supplied by three 33kV feeders from Kuringai STS. Lindfield zone has a current supply capacity of 42MVA in winter and 39MVA in summer. Two of the three 33kV feeders, 534 and 535, are going to be replaced before 2011 based on their age and condition. The third feeder would be due for replacement in about 2021.

Lindfield zone substation supplies areas of Chatswood, Lindfield, Chatswood West, Lane Cove, Roseville, Willoughby, East Roseville, and Killara. Nearby Pymble zone substation supplies parts of Gordon, Pymble, West Pymble, Killara, East Killara and Macquarie Park.

Supply Capacity and Demand Forecast

The peak load at Lindfield zone is not forecast to exceed licence capacity in the forecast period; however, the 11kV oil filled switchgear at Pymble zone is to be replaced in the period 2015-2016. In order to enable this, a temporary load transfer of 5.5MVA is required from Pymble zone substation to Lindfield.

As a result of this load transfer of 5.5MVA from Pymble, Lindfield zone substation would exceed its licence capacity in winter 2015.



Supply Strategy Option

The preferred supply side option is to replace 33kV feeder 536 in conjunction with the replacement of feeders 534 and 535. This will increase the capacity at Lindfield to 46.1 MVA in winter and 39.2MVA in summer limited by the transformers. The proposed cable replacement is to be completed by April 2012. The estimated cost of replacing feeder 536 is \$2m if carried out in conjunction with the other feeder works.

If feeder 536 was replaced as a separate project, the estimated cost would increase to \$2.44m.

Required Demand Management Characteristics

Even if no demand issues existed, the replacement of feeder 536 would be required in 2021. The reduction in cost, in present value terms, of replacing it in 2021 rather than in conjunction with the other feeders would be \$770,000.

If the demand on Lindfield and Pymble zone substations could be reduced by 5.5MVA (6% of total demand on both substations) before winter 2015, the proposed investment could be deferred by four years to winter 2016. The savings from this deferral would be \$220,000 or \$40/kVA which is low.

If demand could be reduced by a total of 5.7 MVA, the cable replacement could be deferred until 2020. The savings from this deferral would be \$670,000 or \$118/kVA which is also low.

The demand reduction requirement is large in absolute and relative terms, and the deferral value is low.

Recommendation

Based on this analysis it is not considered reasonable to expect that it would be cost-effective to postpone the proposed supply-side solution by implementing demand management strategies.