

## DEMAND MANAGEMENT SCREENING TEST

### Cronulla Zone Augmentation

#### Current Supply Arrangements

Cronulla Zone Substation consists of two 45MVA transformers and is supplied via the 132kV feeder 916(3) teed off from feeder 916 linking Sydney South BSP and Kurnell STS. The 132kV feeder 281 from Kirrawee provides back up supply.

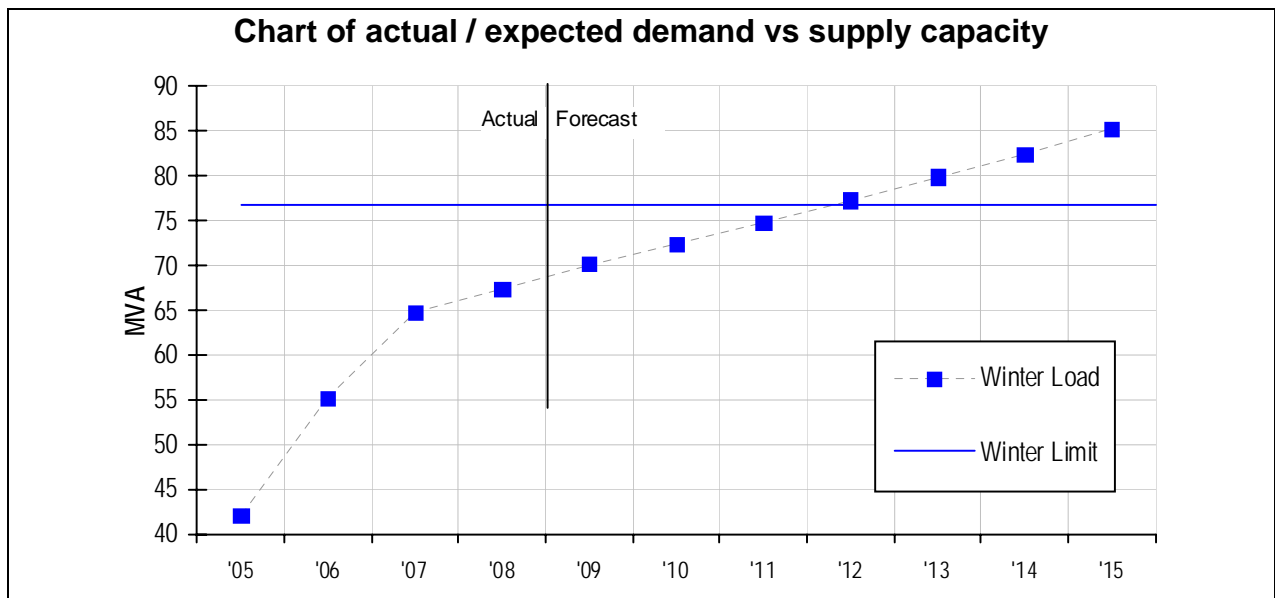
Caringbah Zone Substation is equipped with two 33MVA transformers and is supplied by 33kV feeder 745 from Kurnell STS with backup 33kV feeder supply from Port Hacking STS.

Cronulla and Caringbah Zone Substations are interconnected at 11kV feeder level. These substations are in the Sutherland supply area and supply parts of Cronulla, North Cronulla, Woolooware, Burraneer, Dolans Bay, Port Hacking, Lilli Pilli, Maianbar, Yenabilli, Bundeena, Caringbah, Miranda, Sylvania Waters and Yowie Bay.

#### Supply Capacity and Demand Forecast

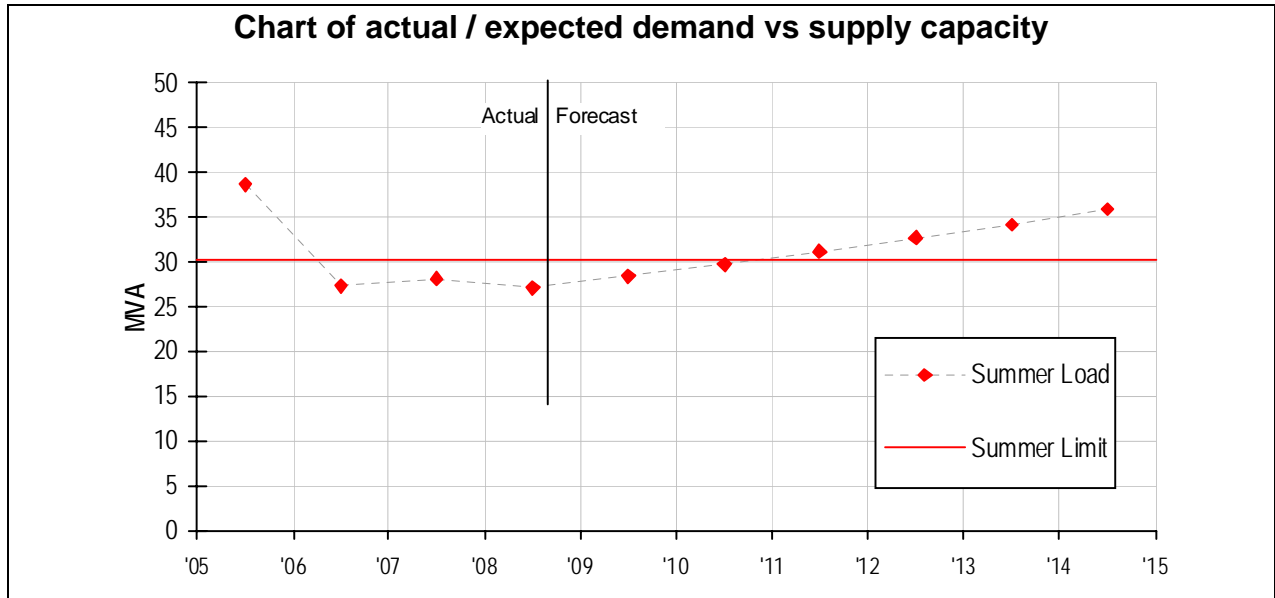
Winter is the critical season for Cronulla Zone Substation. It supplies a mix of residential and commercial customers.

The relevant capacity limit at Cronulla Zone Substation is 76.8MVA in winter. Peak demand was 67.3MVA in winter 2008, and we forecast it would exceed relevant limits by 0.5MVA in winter 2012 rising to 8.4MVA in winter 2015.



Summer is the critical season for Caringbah Zone Substation. It supplies a mix of residential and commercial customers.

The relevant capacity limit at Caringbah Zone Substation is 30.3MVA in summer. Peak demand was 28.1MVA in summer 2007/08, and we forecast it would exceed relevant limits by 2.4MVA in summer 2012/13 rising to 5.6MVA in summer 2014/15.



### Supply Strategy Option

The preferred supply side option is to install a third 50MVA 132/11kV transformer and associated switchgear at Cronulla Zone Substation. This will allow load to be transferred from Caringbah to Cronulla Zone.

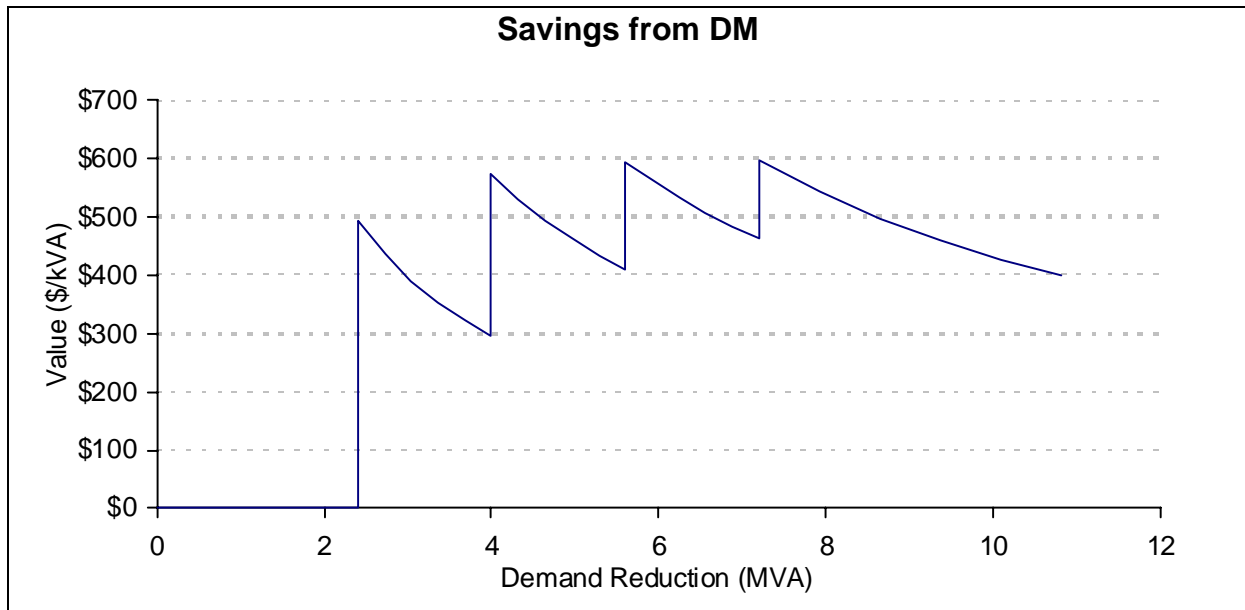
The estimated cost of this project is \$16.7m. Commissioning is proposed before winter 2012, with an investment decision date of August 2009.

### Required Demand Management Characteristics

If demand could be reduced by 0.5MVA before winter 2012 and 2.4MVA before summer 2012/13, then the proposed investment could be deferred by one year. This represents 3% of total demand on the two zone substations. The savings from this deferral is \$1.2m or \$494/kVA, which is high.

If demand could be reduced by 3.1MVA by winter 2013 and 4.0MVA by summer 2013/14, then the investment could be deferred by two years. The savings from this deferral is \$2.3m or \$574/kVA, which is also high.

If demand could be reduced by 5.7MVA by winter 2014 and 5.6MVA by summer 2014/15, then the investment could be deferred by three years. The savings from this deferral is \$3.3m or \$595/kVA, which is also high.



The Demand Management and Planning Project (DMPP) has identified demand reduction opportunities at over 1000 sites across the Sydney metropolitan area. A search of the DMPP databases has revealed potential demand reductions of 1.88MVA at Caringbah Zone Substation and 273kVA at Cronulla Zone Substation at a subsidy cost of \$600/kVA or less.

The demand reduction requirement is moderate in absolute and relative terms, and the deferral value is high. The timeframe before an investment decision must be made is sufficient to fully investigate demand reduction opportunities in the relevant supply area. DMPP databases indicate that over 2MVA of cost effective demand reductions opportunities have been identified in the Cronulla and Caringbah zone areas.

We conclude that it is reasonable to expect that the proposed investment could be deferred via demand reduction options.

### **Recommendation**

Based on this analysis it is considered reasonable to expect that it may be cost-effective to postpone the proposed supply-side solution by implementing demand management strategies. A demand management investigation will be undertaken involving a full investigation including public consultation and field investigation.