

DEMAND MANAGEMENT SCREENING TEST

Homebush STS – Third 132/33kV Transformer

Current Supply Arrangements

Homebush 132/33kV Subtransmission Substation (STS) is presently equipped with three 60MVA transformers and is supplied by three 132kV feeders from Mason Park STS. There is a committed project to replace Homebush STS with a two 120MVA transformer substation by 2010/11.

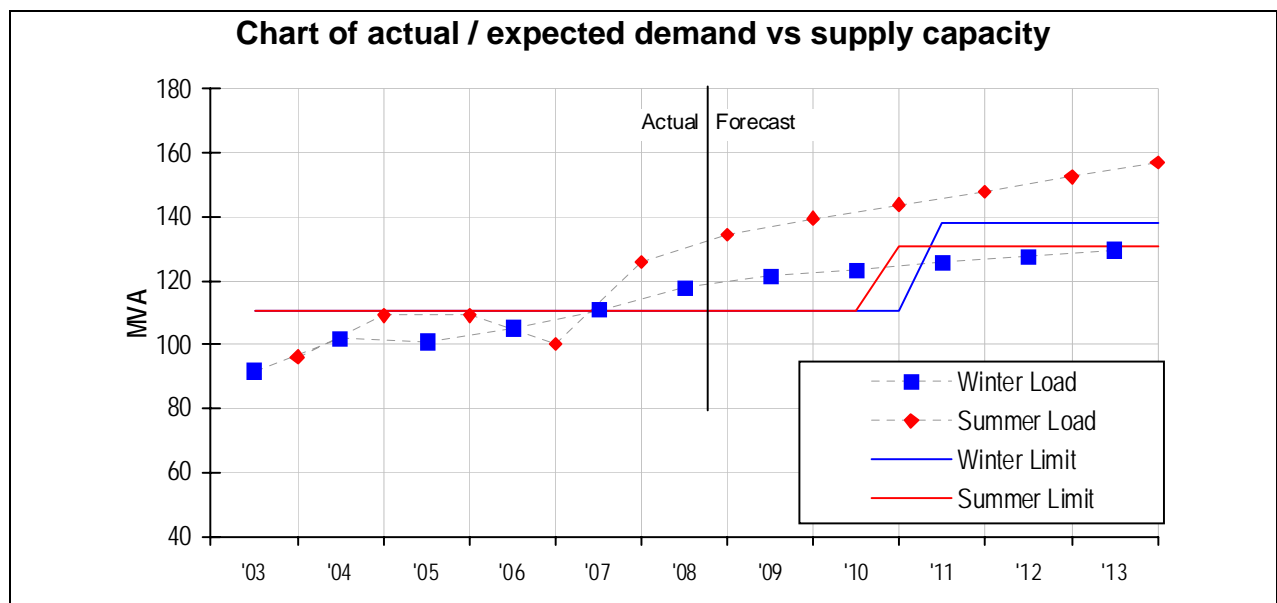
Homebush STS supplies Lidcombe, Concord, Five Dock & Auburn Zone Substations.

Supply Capacity and Demand Forecast

Summer is the critical season for Homebush STS. The load consists of a mix of residential, commercial and some industrial customers.

The relevant capacity limit at Homebush STS is 110.8MVA in both summer and winter. This will be increased to 131MVA in summer and 138MVA in winter upon completion of the committed upgrade project planned for summer 2010/11.

Even after the expansion is completed in summer 2010/11, we forecast that demand would exceed the new capacity by 12.7MVA, rising to 26.0MVA by summer 2013/14. After the expansion is completed there will be sufficient capacity in winter for the foreseeable future.



Supply Strategy Option

The proposed investment is the installation of a third 132/33kV 120MVA transformer at Homebush STS along with a new 132kV feeder from Mason Park STS. The estimated cost of the project is \$7.6m.

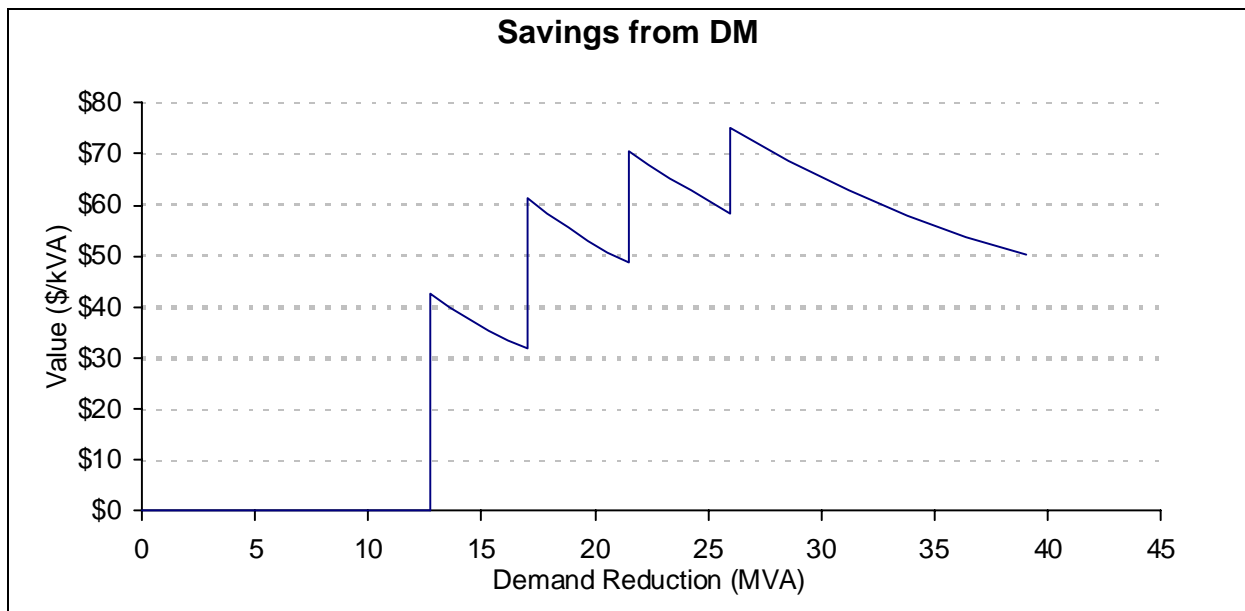
Commissioning is proposed for January 2011, and a decision on the investment must be made by March 2009.

Required Demand Management Characteristics

If demand could be reduced by 12.7MVA before summer 2010/11, then the project could be deferred by 1 year. This reduction is 9% of the total demand on Homebush STS. The cost saving from this deferral is \$540,000, or \$43/kVA, which is low.

If demand could be reduced by 17.0MVA before summer 2011/12, then the project could be deferred by 2 years. The cost saving from this deferral is \$1.04m, or \$61/kVA, which is also low.

If demand could be reduced by 21.5MVA before summer 2012/13, then the project could be deferred by 3 years. The cost saving from this deferral is \$1.5m, or \$71/kVA, which is also low.



The demand reduction requirement is large both in absolute and relative terms, and the deferral value is low. Whilst there is sufficient time to conduct a full investigation, it is not considered reasonable to expect that DM could cost effectively defer the proposed transformer upgrade.

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.