

DEMAND MANAGEMENT SCREENING TEST

Green Square Zone Substation

Current Supply Arrangements

Green Square zone substation was designed as a three transformer 132/11kV zone substation. It is currently equipped with two 50MVA transformers and is supplied by a transmission feeder between Haymarket BSP and Beaconsfield West BSP.

Based on its present arrangement with two transformers, this substation has a relevant capacity limit of 80.3MVA in summer and 84.1MVA in winter.

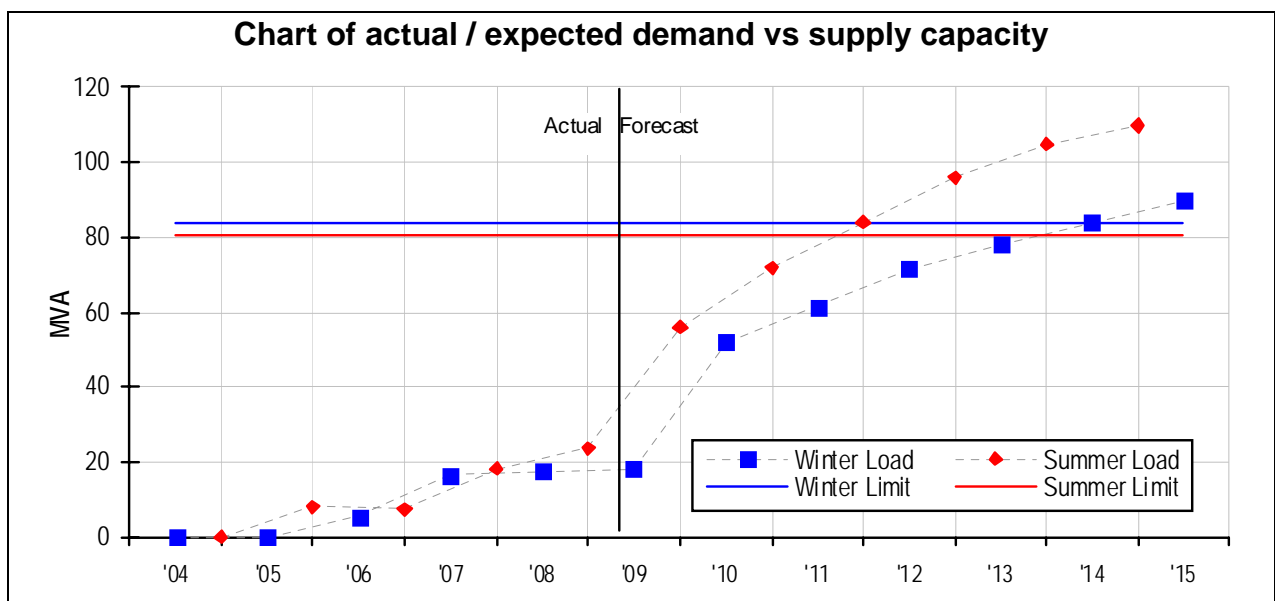
Green Square zone supplies the suburbs of Rosebery, Beaconsfield, Alexandria and Waterloo and includes the Green Square business and residential developments.

Supply Capacity and Demand Forecast

The load on Green Square zone is a mixture of residential and commercial. The Green Square area is part of an urban renewal initiative of the City of Sydney and is projected to house over 33,000 people and over 28,000 people are expected to work there.

In addition to the standard load on Green Square zone, there will be significant load transfer from Mascot zone while work is carried out for the replacement of aged assets. The completion date for the reconstruction of Mascot zone is planned to be December 2016.

The forecast peak demand for Green Square zone is shown on the chart below. In summer 2011/12, the peak load would be approximately 3.8MVA above the design planning limit. In summer 2012/13, the peak load would be approximately 15.7MVA above design planning limit. The forecast does not include the Mascot load transfer.



Supply Strategy Option

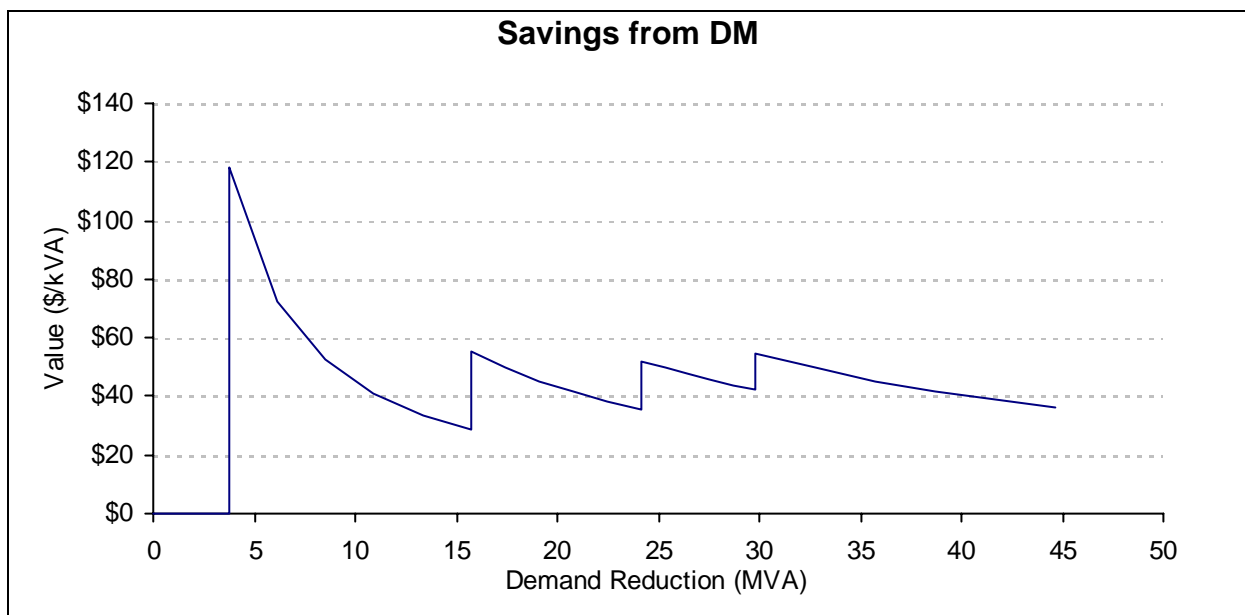
The preferred supply side option is to install an additional transformer at Green Square zone. This will increase the licence capacity at Green Square to 126MVA. The cost of this option is estimated at \$5.7M.

To meet the target commissioning date of October 2011, a decision on the investment must be made by February 2010.

Required Demand Management Characteristics

To achieve a one year deferral of the proposed investment, we would need to identify and implement a demand reduction of 3.8MVA for summer 2011/12. This represents 16% of the current load on Green Square zone which is moderate. The saving from a one year deferral would be \$450,000, or \$118/kVA which is low.

To achieve a two year deferral, we would need to identify and implement a demand reduction of 15.7MVA for summer 2012/13. The saving would be \$870,000, or \$55/kVA which is very low.



The decision for this investment needs to be made by February 2010

Given the low savings, the moderate demand reduction required and the additional circumstances of the reconstruction of Mascot zone, it is not considered likely that it would be cost effective to defer this augmentation by implementing demand management strategies.

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.