

## **DEMAND MANAGEMENT SCREENING TEST**

### **Oxford St Low Voltage Development**

#### **Current Supply Arrangements**

The area of interest is Oxford St, between Queen St and Ormond St. The area is supplied via three distribution centres, S.292 Elizabeth St, S.4194 Elizabeth Stewart, and S.5277 OTC Gordon St, which are fed from Paddington Zone Substation.

This project is to replace and reconfigure aged, small cross sectional area cable along Oxford St Paddington.

The cable sections in question are parts of distributors 2, 3, 5, 6, 8 and 10 on S.292 Elizabeth St, distributor 1 of S.4194 Elizabeth Stewart and distributors 1 and 4 on S.5277 OTC Gordon St.

The design standard for low voltage (LV) distributors requires that they are not loaded above 300 amps.

#### **Supply Capacity and Demand Forecast**

CONSAC cable is a type of low voltage cable which is prone to failure and is being systematically replaced throughout the network. The CONSAC cable in the area of interest is scheduled to be replaced by summer 2010/11.

Distributors 2, 3, 5 and 6 of S.292 Elizabeth St, distributor 1 of S.4194 Elizabeth Stewart and distributors 1 and 4 of S.5277 OTC Gordon St all have sections of CONSAC cable in them.

The remaining sections of the distributors are made up of other types of cables that have lower ratings than the current standard low voltage cable that will be used to replace the CONSAC sections.

This work will take place in the retail area of Oxford St, which is a difficult area to work in both due to the sensitivity to business needs, council permission to do the work and the expense of the reinstatement.

The customers supplied by this substation include commercial and residential customers.

The design standards for LV distributors requires that they are not loaded above 300 amps, and distributor 5 of S.292 Elizabeth St is currently loaded above 300 amps at times of peak load.

This work is being done in conjunction with two other projects in the area, the establishment of two new distribution centres and the replacement of the parts of the distributors which are CONSAC cable. Both of these projects are already approved and assumed to be going ahead.

## **Supply Strategy Option**

The preferred supply side strategy is to replace and rearrange the distributors from S.292 Elizabeth St on the south side of Oxford St, S.5277 OTC Gordon St and S.4194 Elizabeth Stewart on the Northern side of Oxford St.

The estimated cost of this project is \$2.2m, and it is planned to be completed by summer 2010/11. A decision is required by September 2010.

## **Required Demand Management Characteristics**

While there is the potential to defer the cable augmentation component of the works through demand reductions, all other components of the project must be completed prior to summer 2010/11 regardless of demand levels. Therefore any deferral of the cable augmentation will require duplication of the trenching and reinstatement works in Oxford St. As well as the difficulties in obtaining council approval for this and the disruption to local businesses, this would incur additional costs of approximately \$2m.

The savings from deferral of the project for one year is only \$140,000. Taking into consideration the additional cost of \$2m to trench and reinstate the works area twice, the net increase in the project cost would be \$1.86m.

The project would need to be deferred by 10 years to at least 2020 to make deferral a lower cost option.

The cost benefits of completing all three projects at the same time - and avoiding the need to duplicate trenching and reinstatement works - are so large it is not considered reasonable that demand management could be a cost effective option for this project.

## **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.