DEMAND MANAGEMENT REVIEW

Argenton 132/33/11kV Substation Third 132kV Feeder

Current Supply Arrangements

Argenton Subtransmission Substation (STS) was commissioned in May 2009. It provides supply to four existing zone substations. Argenton Zone Substation, which is combined with the STS, provides 11kV supply to the area north west of Lake Macquarie.

Argenton STS is supplied by two feeders via a teed connection to feeders 960 and 961. These two feeders are supported by dual circuit steel towers between Newcastle BSP and Argenton STS. A contingency event involving loss of the dual circuit, such as a tower failure or bushfire, will result in the loss of supply to Argenton STS and five zone substations.

To improve reliability of supply in the event of this contingency event, it is proposed to build a third feeder to Argenton STS on a separate tower line.

Supply Strategy Option

The proposed supply solution is to construct a third 132kV feeder from Newcastle BSP to Argenton 132/33/11kV substation primarily along the existing route of feeder 950 at a cost of $9.92m. The project is expected to be complete prior to the 2011/12 summer.

Consideration of Demand Management Alternatives

The driver for this project is to improve the reliability of supply to Argenton STS. This is due to a change in EnergyAustralia planning policy, which now requires consideration of a single event at a dual feeder tower resulting in outages of both feeders.

Argenton STS is supplied by two 132kV feeders, but they share the same tower structure for some sections. Under the new planning policy requirement, a third feeder supply on a separate tower line is necessary to provide n-1 supply security to Argenton STS.

A reduction in demand at Argenton STS would not enable a change to the timing of this project, or enable a lower cost solution.

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.