

Grid Connection of Standby Diesel Generator

Project Title: Preliminary Feasibility Study of Grid Connection of Standby Diesel Generator

Energy Type: DSM

Client: Department of Infrastructure, Planning and Natural Resources (DIPNR)

Location: Sydney, Australia

Project Size: n/a

Project Scope: As part of a project covering reinforcement alternatives for Sydney CBD, Senergy Econnect has been engaged by the Demand Management Project, a joint venture between the Department of Infrastructure, Planning and Natural Resources (DIPNR), Transgrid and Energy Australia, to perform a preliminary investigation into the feasibility of connecting a new diesel generator set to the low voltage (LV) distribution system in a Sydney high rise building. The customer installation is located in the Sydney CBD area.

The diesel generator is to provide parallel operation with the grid as well as standby capability to three of the six supplies fed from the Energy Australia distribution substation.

Information on the maximum demand of these supplies is limited and it is recommended that load monitoring be undertaken to establish the maximum demand. However it is likely that to supply the peak summer load will require a generator at least 1500kVA in size.

Key Achievements: The principal conclusions are:

Significant cost is involved to address the fault level issue at the Energy Australia substation. As a minimum, a fault limiting device is required on the generator at an estimated cost of \$350,000. This is a short-term measure until the longer-term issue of fault levels throughout Sydney CBD substations is addressed.

Shutdown of all customer supplies for a period of several hours will be required in order to carry out the generator connection. This may present planning difficulties.

The report also makes recommendations in regard to load monitoring, inspection of customer switchboards to clarify fault rating, determination of method for remote generator dispatch, and the long-term issue of fault levels in the Sydney CBD.

Completion Date: 2005

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