

**Demand Management
Options for Epping Area**

July 2010

**Responses request by
16 August 2010**

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1 Introduction

EnergyAustralia invites submissions from interested companies, organisations and individuals regarding opportunities and ideas to reduce the peak electrical demand in the Epping supply area.

Growth in electricity demand in this area means that peak demands are forecast to approach the capacity of the local electricity supply network. EnergyAustralia is investigating initiatives to reduce this peak demand ("demand management" or DM) as part of a solution that will maintain reliability and levels of service more cost effectively than installing additional network infrastructure alone.

EnergyAustralia has completed a DM Screening Test and is of the opinion that cost effective DM options might be found, if explored further. On this basis it is conducting an investigation to identify and evaluate the available options.

In the context of this investigation, "Demand Management" includes measures to alter the magnitude or timing of customers' peak demand such as:

- Installation of energy efficient equipment in energy users' premises that permanently reduces peak demand
- "Fuel switching" from electricity to another fuel, such as gas
- Installation of equipment such as energy and thermal storage
- Agreements with energy users to interrupt or reduce certain loads when called upon to do so
- Agreements with energy users to run standby generators when called upon to do so
- Installation of generation or cogeneration equipment

EnergyAustralia will assess options identified through this process and then consider them alongside traditional network supply expansion options to determine the most cost effective combined strategy for implementation.

This document provides information about the nature of the demand profile in the area and the reasons we are seeking solutions.

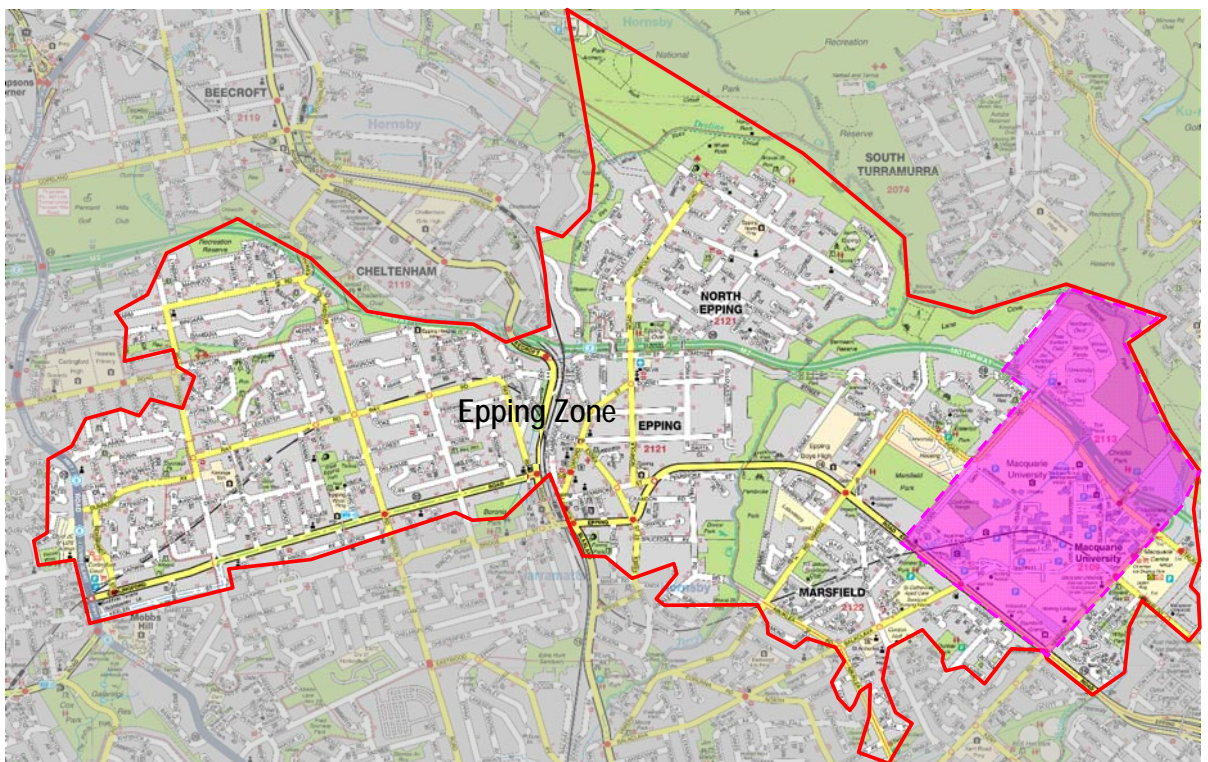
2 Current Supply Arrangements

Epping zone substation has three 33kV transformers which supply parts of Macquarie University, Epping and West Pymble. The supply area is shown in Map 1.

Two 11kV feeders (19 and 9) in Epping zone are approaching their capacity limitation under normal system condition. The feeder system has been designed in such a way that if any one feeder experiences an outage, the loads on that feeder can be picked up by either of the two adjacent interconnected feeders. In this case, feeders 2 and 14 are two adjacent interconnected feeders. These feeders supply electricity to the pink area.

Any summer peak load reduction in the pink area can improve load conditions on feeders 19 and 9.

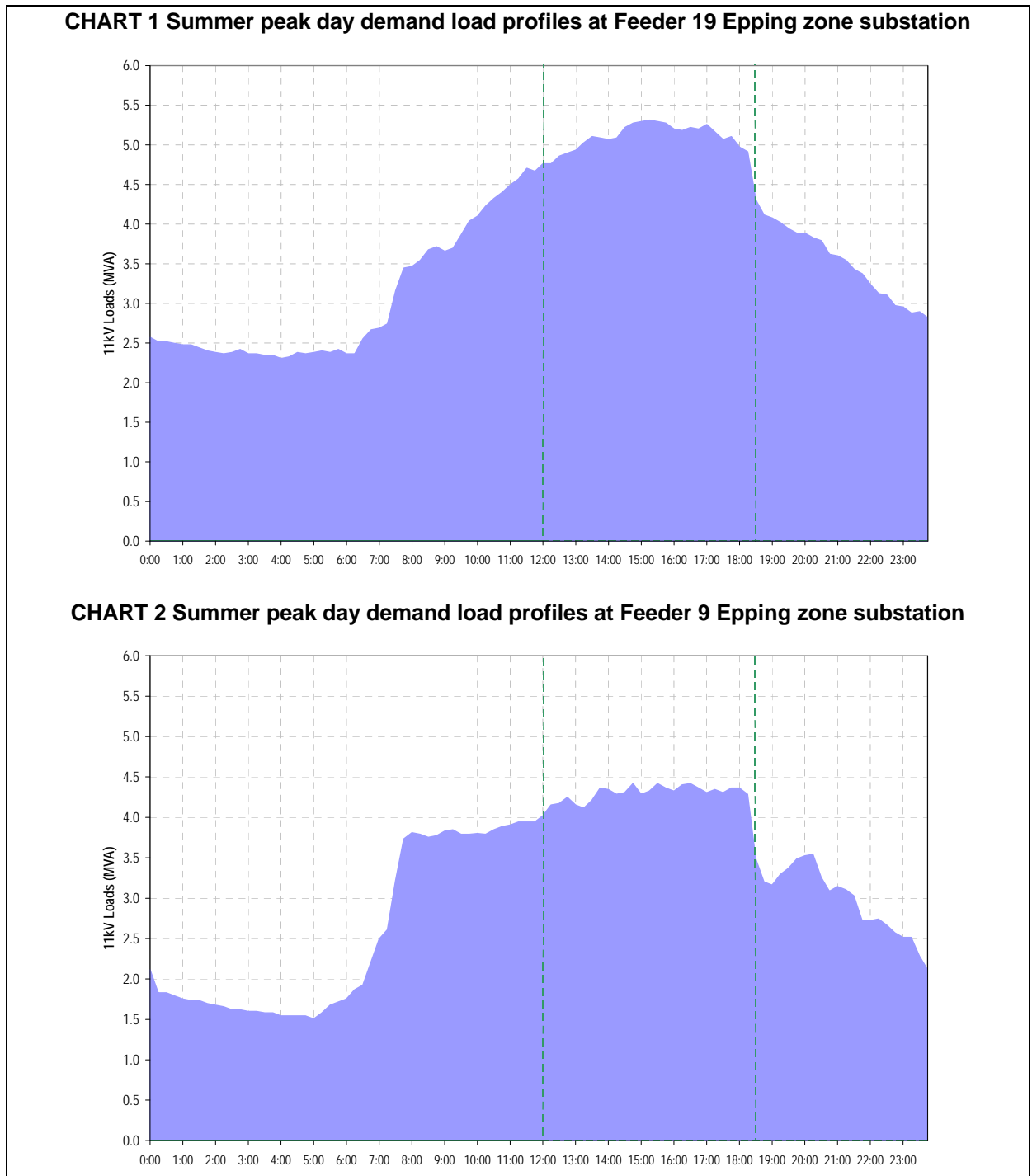
Map 1: Epping zone supply area



3 Typical Load Profiles

The targeted area supplied by substation has residential, retail, university and commercial customers. The period of peak demand occurs during summer afternoon.

Charts 1 & 2 show the electrical load profiles of Feeder 19 and 9 on a typical peak day in summer 2009/10. The summer peak demand typically occurs between 12:00 and 18:30.



4 Network Infrastructure Solution

The supply strategy option involves reconfiguring the feeder ties between feeder 19, 9 and 14 to provide a further pickup option to feeder 19 and a better pickup option for feeder 9. A change of open point is also required to reduce the load on feeder 19. The estimated cost of this project is \$1.9m.

5 Required Demand Management

For a one year deferral the following demand reduction by summer 2011/12 is required in the pink area shown in Map 1:

- 0.3 MVA on feeder 19 and 0.12 MVA on feeders 19 or 2
- 0.32 MVA on feeders 9 or 14.

Due to the low summer growth rate, any subsequent deferral after the first year would require an additional 90kVA of demand reduction per year. For a six year deferral, 1.11MVA would be required in summer 2017/18.

6 Public Consultation and Submissions

6.1 CONSULTATION

The intended timetable for this public consultation and investigation is:

Options Paper published:	05 July 2010
Closing date for submissions:	16 August 2010
Completion of Investigation Report:	31 August 2010

EnergyAustralia will examine a range of options including those identified in submissions and those resulting from its own research and investigations. Each identified option will be evaluated in terms of the amount of demand reduction it could deliver and the net cost to EnergyAustralia, and ranked by cost-effectiveness. EnergyAustralia will compare this list to the economic value of deferring the most favourable supply expansion option and determine whether enough cost effective options exist to make DM a feasible option. The results of this analysis will be published.

If DM is determined to be feasible, EnergyAustralia will proceed to develop the most favourable options, together with the relevant proponents or customers where applicable, so that a final decision to proceed can be made.

Respondents to this consultation paper will be kept informed about the progress of the project at key stages and may be contacted for further information if their ideas/suggestions are going to be taken to the next step of project development.

6.2 FORM OF SUBMISSIONS

EnergyAustralia is seeking written submissions in order to identify the broadest possible range of "demand management" opportunities to reduce peak electrical loads or increase supply from alternative sources. It will investigate whether proposed demand management options are practical, deliverable and cost effective.

Submissions should be in writing and fall into one of the following broad categories:

- Details of specific demand management opportunities that EnergyAustralia can investigate (for example, a customer may have a large electrical load that could be interrupted or that could be reduced through energy efficiency or fuel substitution).
- Proposals for demand management from parties able to implement demand reduction measures themselves. The proposal should include details of the magnitude of the demand reduction that can be achieved, how these demand reductions will be achieved, and the estimated cost to EnergyAustralia. These proposals are non-binding and will be considered along with demand management opportunities identified and investigated by EnergyAustralia.
- General views and opinions, including probable costs, as to what are the best options for EnergyAustralia to cost effectively meet the future electricity requirements of the area.

Submissions should include as much of the following information as is available:

- The name, address and contact details of the company or person making the submission.
- The name, address and contact details of the company or person responsible for the load or alternate supply (if different to above).
- The size, type and location of load(s) that can be reduced, shifted, substituted or interrupted.
- The size, type and location of generators that can be utilised if required.
- The type of action or technology proposed to reduce peak demand / provide alternate supplies.
- The time required to implement these measures and any period of notice required before loads can be interrupted or generators started.
- The approximate total cost to implement these measures and any cost savings that would accrue to the owners / operators of the equipment.
- The approximate cost of any contribution / assistance that EnergyAustralia may be required to make in order to make use of this measure for demand management.
- Other additional information to assist EnergyAustralia in investigating and evaluating demand management options.

As EnergyAustralia may be required to publish information about submissions, any commercially sensitive material and other material that the respondent making the submission does not want to be made public should be clearly identified.

Submissions should be addressed to:

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Sydney 2001

Or email to demandmanagement@energy.com.au