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EXECUTIVE SUMMARY

Ergon Energy is responsible (under its Distribution Authority) for electricity supply to the Stanthorpe area in Southern Queensland. We have identified emerging limitations in the electricity distribution network supplying the township of Stanthorpe and its surrounds. The load on Ergon Energy's 110kV line supplying Stanthorpe has progressively increased such that augmentation to the network is required if reliable supply is to be maintained.

The Stanthorpe township and surrounds, comprising over 6000 customers, is currently supplied from Ergon Energy's T60 Stanthorpe 110/33kV 2 x 30MVA bulk supply substation which receives supply from a single 110kV line from T58 Warwick bulk supply substation. The Stanthorpe load is presently 16.2MVA and is forecast to grow at almost 3% per annum for the next 10 years. Approximately 7MVA of backup supply to Stanthorpe is available from the Pozieres 33kV feeder after manual field switching is undertaken.

To meet the planning criteria for the Stanthorpe situation, Ergon Energy needs an additional minimum of 25MVA of capacity to be provided to this area. This size has been matched to expected load requirements within Ergon Energy's typical planning horizon (being 15 years for transmission network).

In order to ensure that security of supply to customers in the Stanthorpe area complies with Ergon Energy's network security criteria, corrective action will be required to be completed as soon as feasible, but no later than December 2012. A decision about the selected option is required by June 2010 if any option involving significant construction is to be completed by December 2012.

This is a Request for Information where Ergon Energy is seeking information about possible solutions to the emerging limitations which may be able to be provided by parties other than Ergon Energy.

Submissions in writing (electronic preferably) are due by **9 April 2010** and should be lodged to:

Ergon Energy Corporation Limited
P O Box 15107
City East QLD 4002
Attention: System Development
Email: Glenys.Davies@ergon.com.au

Updated information will be provided on our web site:

http://www.ergon.com.au/network_info/consultations/default.asp

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1. INTRODUCTION

Ergon Energy Corporation Limited (Ergon Energy) has identified emerging limitations in the electricity distribution network supplying the southern Queensland township of Stanthorpe and its surrounds.

This is a Request for Information where Ergon Energy is seeking information about possible solutions to the emerging limitations which may be able to be provided by parties other than Ergon Energy.

Submissions in writing (electronic preferred) are due by **9 April 2010** and should be lodged to:

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A decision is required by June 2010 if any option involving significant construction is to be completed by December 2012.

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2. BACKGROUND & PURPOSE FOR THIS REQUEST FOR INFORMATION

2.1. Background

If technical limits of the distribution system will be exceeded and the rectification options are likely to exceed \$10M, Ergon Energy is required under the National Electricity Rules¹ to notify Rules Participants² and Interested Parties³ within the time required for corrective action and meet the following regulatory requirements:

- Consult with Rules Participants and Interested Parties regarding possible solutions that may include local generation, demand side management and market network service provider options⁴.
- Demonstrate proper consideration of various scenarios, including reasonable forecasts of electricity demand, efficient operating costs, avoidable costs, costs of ancillary services and the ability of alternative options to satisfy emerging network limitations under these scenarios.
- Ensure the recommended solution meets reliability requirements while minimising the present value of costs when compared to alternative solutions⁵.

Ergon Energy is responsible for electricity supply to the Stanthorpe area (under its Distribution Authority) and has identified emerging limitations in the electricity distribution network supplying the township of Stanthorpe. The load on Ergon Energy's 110kV line supplying Stanthorpe has progressively increased such that augmentation to the network is required if reliable supply is to be maintained.

2.2. Purpose of this “Request for Information”

The purpose of this Request for Information is to:

- Provide information about the existing distribution network to the Stanthorpe area.
- Provide information about emerging distribution network limitations and the expected time by which action must be taken to maintain the reliability of the distribution system.
- Provide information about the criteria that solutions to be provided by parties other than Ergon Energy must meet.
- Explain the process (including approach and assumptions) to be used to evaluate alternative solutions, including distribution options, which are currently being investigated by Ergon Energy.

¹ Section 5.6.2(f)

² As defined in the National Electricity Law and the National Electricity Rules and including AEMO.

³ As defined in the National Electricity Rules.

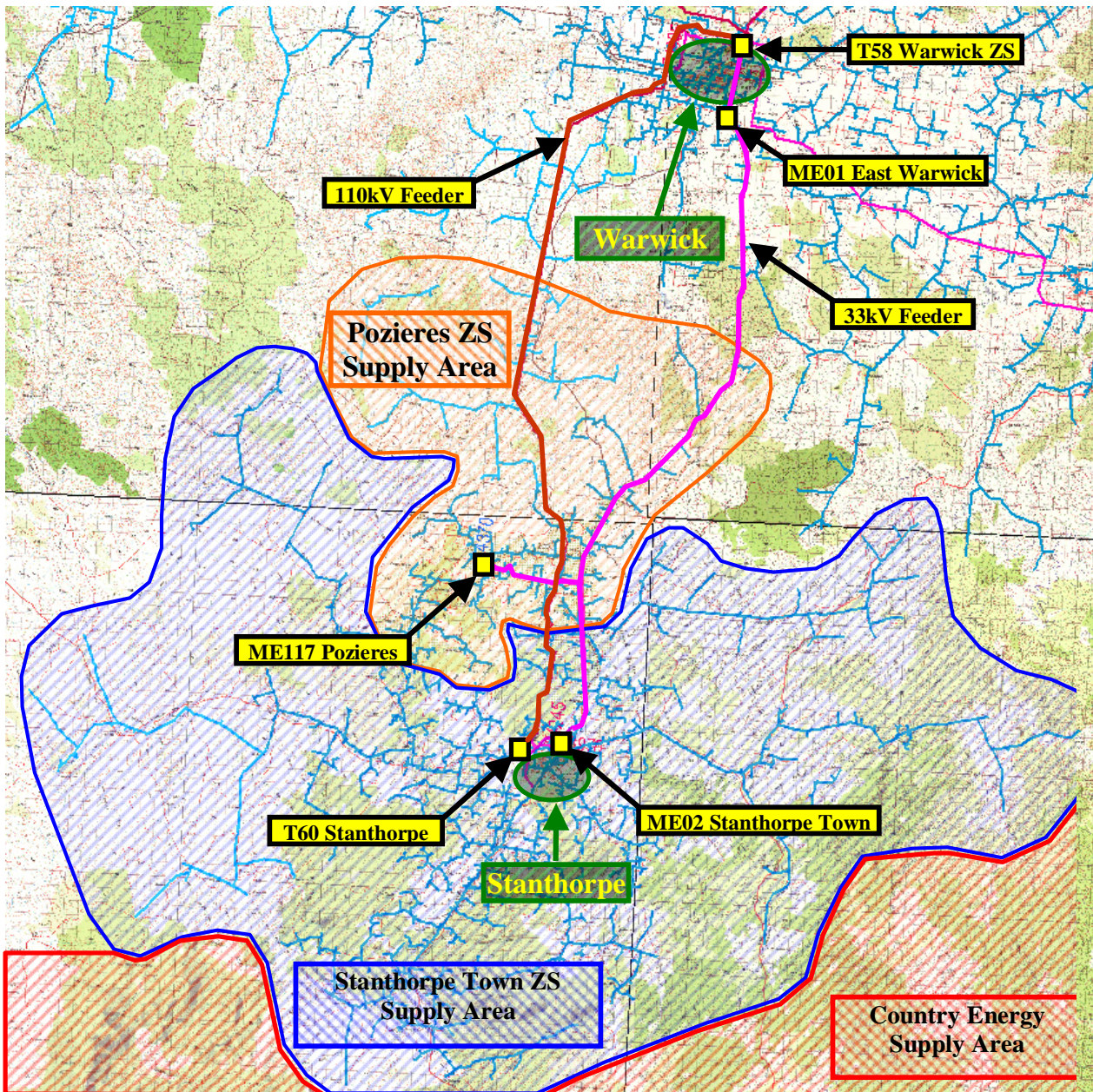
⁴ National Electricity Rules section 5.6.2(f)

⁵ In accordance with the ACCC's Regulatory Test Version 2.

3. EXISTING SUPPLY SYSTEM TO STANTHORPE

3.1. Geographic Region

The geographic region covered by this Request for Information is the Stanthorpe township and its surrounds. The township of Stanthorpe is located on the southern Darling Downs approximately 120km south of Toowoomba in southern Queensland. The map portion below shows the Stanthorpe township and the subtransmission infra-structure in the vicinity.



3.2. Existing Supply System

The 6120 residential, rural, commercial and industrial customers in the Stanthorpe township and surrounds are supplied from the two zone substations ME002 Stanthorpe Town and ME117 Pozieres. These two zone substations are supplied on the 33kV network that emanates from T60 Stanthorpe Bulk Supply Substation (BSS). T60 Stanthorpe BSS in turn is supplied from T58 Warwick BSS over a single 110kV feeder (790). The geographic diagram above displays the extent of the Stanthorpe network.

There is also a 33kV line between T58 Warwick BSS and ME002 Stanthorpe Town zone substation (via ME001 East Warwick). This feeder has a capacity that is limited by the length and construction type. It is able to supply about 7MVA into the Stanthorpe area after manual field switching is carried out following an outage to the Warwick-Stanthorpe 110kV line.

The 110kV feeder supplying T60 Stanthorpe from T58 Warwick was built in 1971 and has no overhead earth wire. The performance of this feeder is generally poor resulting in poor reliability of supply to Stanthorpe.

Ergon Energy's planning criteria requires that subtransmission feeder loads in excess of 15MVA should be supplied at an N-1 security level (i.e. loss of a single line should not cause network outages). Therefore an additional incoming feeder is required to Stanthorpe to comply with this criterion.

- Nothing can be done with the existing Warwick-Stanthorpe 33kV line to allow it to supply all the Stanthorpe maximum demand loads by itself.
- It is difficult to remove the 110kV line between Warwick and Stanthorpe from service as the 33kV network can supply less than half of the load in the area. This means limited works can be carried out on the 110kV line to improve its performance, and hence the reliability of supply to Stanthorpe.

4. DISTRIBUTION NETWORK LIMITATIONS

The 2009-10 peak load at Stanthorpe has been 16.2MVA, and the N-1 feeder capacity of the supply to Stanthorpe is 7MVA. The Stanthorpe maximum demand load is forecast to increase at 3.25% per annum over the next 5 years and 2.55% per annum after this.

A load forecast is shown in Table 1 below.

TABLE 1 – Stanthorpe Area – Load History & Forecast

Name	Maximum Annual Demand (MVA)									
	Actual Load			Forecast Load						
	07/08	08/09	09/10	10/11	11/12	12/13	13/14	14/15	18/19	25/26
T60 Stanthorpe BS Sub	14.3	15.2	16.2	16.2	16.4	16.9	17.4	17.9	19.8	23.6

It is clear from the load data in Table 1 that the demand of T60 Stanthorpe substation has exceeded 15MVA which is the level above which it requires N-1 feeder input capacity. As the N-1 feeder capacity to Stanthorpe is presently 7MVA then the Stanthorpe demand is well above the level of N-1 capacity provided by the existing network

4.1. Timeframes for Taking Corrective Action

In order to ensure that security of supply to customers in the Stanthorpe area complies with Ergon Energy's planning criteria, corrective action will be required to be completed as soon as feasible, but preferably prior to the summer of 2012-13.

A decision about the selected option is required by June 2010 if any option involving significant construction is to be completed by December 2012.

4.2. Known Future Network and Generation Development

(i.e. projects that have been approved and are firm to proceed)

Ergon Energy is not aware of any other network augmentations or generation developments in the Stanthorpe area that could relieve the network limitations described in sections 3 and 4 above.

5. INFORMATION ABOUT CRITERIA THAT SOLUTIONS MUST MEET

It is essential that corrective action be taken prior to December 2012 to maintain a reliable electricity supply to the Stanthorpe area. This may involve network augmentation or the implementation of local generation or demand side management options which reduce, delay or remove the need for new network investment.

This Request for Information, and subsequent consultation, provides an opportunity for alternative solutions to be submitted for consideration. The information provided in this document is intended to enable Rules Participants and Interested Parties to formulate and propose feasible local generation and demand side management solutions.

Ergon Energy has identified the following criteria, to assist solution providers understand the technical and other requirements. These criteria must be satisfied if solutions are to compensate or rectify the emerging technical limitations of the distribution network.

As a distribution network service provider (DNSP), Ergon Energy must comply with technical standards in the National Electricity Rules. In particular, requirements relating to reliability and system security contained in Schedule 5.1 of the Rules are relevant to planning for future electricity needs.

Amongst other things, Schedule 5.1 requires that:

- the frequency variations are within the limits described in S5.1.3;
- voltage fluctuations do not exceed limits set out in S5.1.5;
- voltage harmonic & notching distortion do not exceed limits set out in S5.1.6;
- voltage unbalance does not exceed limits set out in S5.1.7;
- the power system can operate in a stable state as defined in S5.1.8;
- faults can be cleared in times specified in S5.1.9;
- load control is in place in accordance with S5.1.10;
- automatic reclosure requirements are met, S5.1.11; and
- AEMO be advised of current ratings as required in S5.1.12. AEMO has a related obligation (4.3.1 (f)) to operate the power system within all plant capabilities.

Schedule 5.1 also includes details of credible contingencies and levels of redundancy to be considered in planning and operating the distribution network, such as:

- 'System Normal': the absolute minimum level of reliability required. Defined as the ability to supply all load with all elements of the electricity system intact (ie – loss of supply would occur during a single fault or contingency),
- 'N-1': able to meet peak load with the worst *single* credible fault or contingency,
- 'N-2': able to supply all peak load during a *double* contingency.

Ergon Energy has certain obligations to comply with technical standards under the National Electricity Rules and its Distribution Authority (and subsidiary instruments). These obligations must be taken into consideration when choosing a suitable solution for the Stanthorpe area technical limitations discussed in this Request for Information.

5.1. Size

To meet the planning criteria for the Stanthorpe situation, Ergon Energy needs an additional source with a minimum of 25MVA of capacity to be provided to this area. This size has been matched to expected load requirements within Ergon Energy's typical planning horizon (being 15 years for the transmission network).

5.2. Timing

Commissioning needs to be completed by December 2012.

5.3. Location

Additional capacity is to be delivered to the T60 Stanthorpe bulk supply substation located near Stanthorpe, with capability to extend out to other locations (if necessary).

5.4. Quality

Proposed solutions must comply with the relevant standards in the National Electricity Rules and furthermore, must not inhibit Ergon Energy's ability to meet its obligations under the Rules and other statutory instruments.

5.5. Reliability

The National Electricity Rules' Schedule 5.1 includes details of credible contingencies and levels of redundancy to be considered in planning and operating the distribution network, such as:

- 'System Normal': the absolute minimum level of reliability required. Defined as the ability to supply all load with all elements of the electricity system intact (ie – loss of supply would occur during a single fault or contingency),
- 'N-1': able to meet peak load with the worst single credible fault or contingency
- 'N-2': able to supply all peak load during a double contingency.

Ergon Energy's planning criteria requires that for a load of the Stanthorpe size, N-1 security is required at the 110kV busbar. This level of security implies the parallel operation of critical elements (eg. transformers, lines, generators) under normal circumstances such that there will be no loss of supply (even momentary) during a single contingency event.

5.6. Certainty

Options must use proven technology and have funding and project management to deliver a commissioned project by December 2012. It is not considered appropriate to rely on uncommitted developments that may or may not proceed.

5.7. Longevity

Options must be capable of providing solutions to the projected limitation in the Stanthorpe area for a period of at least 10 years. Alternatively solutions must be able to defer additional network investment for a number of years.

6. EVALUATION PROCESS

6.1. Evaluation Criteria

The Australian Competition and Consumer Commission's Regulatory Test⁶ and Chapter 5⁷ of the National Electricity Rules mandates the evaluation criteria and requires Ergon Energy to consider demand side management, generation and market network service provider options on an equal footing. The Regulatory Test also specifies the assessment methodology to be used:

"An option satisfies the regulatory test if:

In the event the option is necessitated solely by the inability to meet the minimum network performance requirements set out in Schedule 5.1 of the Rules or in relevant legislation, regulations or any statutory instrument of a participating jurisdiction – **the option minimises the present value of costs, compared with a number of alternative options in a majority of reasonable scenarios.**"⁸

An augmentation proposed to meet minimum network performance requirements of Schedule 5.1 of the Rules, or other statutory requirements including the Queensland requirements described in Ergon Energy's Network Management Plan⁹, is referred to as 'reliability augmentation'.

This means that the assessment of solutions will be based on minimising the present value of costs while meeting minimum network performance requirements.

A public process is required which includes disclosure of project costs and comparison of alternatives. It is important that all feasible options proposed are considered in the process.

If a non-network option satisfies technical requirements, is committed, and can be implemented for a lower cost than a distribution augmentation, it will be necessary for Ergon Energy to enter into a network support agreement with the proponents of the alternative project to ensure supply quality and reliability can be maintained.

Since regulated funding (collected via Ergon Energy's network charges) will be required, it is necessary that network support arrangements satisfy the Regulatory Test in terms of both economics and disclosure of relevant costs to the market.

6.2. Submissions from Solution Providers

This is not a tender process. Submissions are requested so that Ergon Energy can meet its regulatory obligations to compare the present value cost of alternatives against options of augmenting a distribution supply system to maintain reliability of supply.

Ergon Energy will not be legally bound in any way or otherwise obligated to any person who may receive this Request for Information or to any person who may submit a proposal. At no time will Ergon Energy be liable for any costs incurred by a proponent in the assessment of this Request for Information, any site visits, obtainment of further information from Ergon Energy or the preparation by a proponent of a proposal to this Request for Information.

Ergon Energy may seek clarification of details from the proponent of a proposed option provided this does not materially alter the proposal.

If you propose a solution, it should contain the following information:

- Details of the party making the submission (or proposing the solution);
- Details of the party responsible for the providing the solution (if different to the proponent);
- An explanation of the relevance of the proposal and/or options presented;

⁶ ACCC's Regulatory Test Version 2 was released in its Decision of 11 August 2004.

⁷ Sections 5.6.2 (f) and (g)

⁸ Emphasis added by Ergon Energy.

⁹ Ergon Energy's Network Management plan is available on its website - http://www.ergon.com.au/network_info/consultations/default.asp

- Technical details of the project (capacity, reliability, availability, proposed connection point if relevant etc) to allow an assessment of the likely impact on supply capability;
- If applicable to the solution being offered:
 - 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 installed or utilised if required;
 - the type and location of action or technology proposed to reduce peak demand/provide electricity system support;
- Sufficient information to allow the costs of the solution to be incorporated in a cost effectiveness comparison in accordance with ACCC's Regulatory Test;
- Information about the impact on the proposal if electricity demand were to be + / - 25% above/below Ergon Energy's forecasts.
- An assessment of the ability of the proposed solution to meet the technical requirements of the National Electricity Rules;
- Timing for availability of the option, and whether it is a committed project¹⁰;
- The level of payment required to fund the proposal (initial payment, availability payment, dispatch payment etc) in both \$s and/or \$/kVA;
- Other material that would be relevant in the assessment of the proposed solution.

Submissions to this "Request for Information" will need to be described in the consultation process and will be made public. As such, any commercially sensitive material, or material that the party making the submission does not want to be made public, should be clearly identified.

It should be noted that Ergon Energy is required to publish the outcomes of the Regulatory Test analysis. If solution providers elect not to provide specific project cost data for commercial-in-confidence reasons, Ergon Energy may rely on cost estimates from independent specialist sources.

6.3. Timetable for Submissions

Submissions in writing (electronic preferably) are due by **9 April 2010** and should be lodged to:

Ergon Energy Corporation Limited
 P O Box 15107
 City East QLD 4002
 Attention: System Development
 Email: Glenys.Davies@ergon.com.au

¹⁰ As defined in the ACCC's Regulatory Test.

6.4. Assessment and Decision Timetable

Ergon Energy intends to carry out the following process to assess what action should be taken to address the identified distribution network limitations:

Step 1	Request for (initial) Information (ie. this Request for Information).	Date Released: 12 March 2010
Step 2	Submissions in response to the Request for Information.	Due Date: 9 April 2010
Step 3	Review and analysis by Ergon Energy. This is likely to involve further consultation with proponents and additional data may be requested.	Anticipated to be completed by: 16 April 2010
Step 4	Release of Ergon Energy's Consultation Paper and Draft Recommendation of solution which satisfies the Regulatory Test.	Anticipated to be released by: 23 April 2010
Step 5	Submissions in response to the Consultation Paper & Draft Recommendation.	Due Date: 7 May 2010
Step 6	Release of Final Recommendation (including summary of submissions received).	Anticipated to be released by: 18 June 2010
Ergon Energy reserves the right to revise this timetable at any time. The revised timetable will be made available on the Ergon Energy website (http://www.ergon.com.au/network_info/consultations/default.asp).		

Ergon Energy will use its reasonable endeavours to maintain the consultation program listed above. However this program may alter due to changing power system conditions or other circumstances beyond the control of Ergon Energy. Updated information will be made available on our website: http://www.ergon.com.au/network_info/consultations/default.asp.

The consultation timetable is driven by the need to make a decision by June 2010 if any option involving significant construction is to be in place by December 2012.

At the conclusion of the decision process, Ergon Energy intends to take immediate steps to implement the recommended solution to ensure system reliability is maintained.