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1. EXECUTIVE SUMMARY

Ergon Energy is responsible (under its Distribution Authority) for electricity supply to the Mackay area in central Queensland. We have identified emerging limitations in the electricity distribution network supplying the Mackay northern beaches area. The loads on Ergon Energy's zone substation and 11kV networks in the Mackay northern beaches area have progressively increased such that augmentation is required if reliable supply is to be maintained.

The Mackay northern beaches area is presently supplied by the Planella zone substation. This substation is supplied by a 33kV radial line teed off a 33kV ring-feed which also supplies one transformer at North Mackay substation as well as Farleigh and Pleystowe substations. The Planella substation supplies approximately 4,780 customers.

The load on Planella zone substation is forecast to exceed 15MVA by summer 2011/12. Under Ergon Energy's Security of Supply criteria any load greater than 15MVA must be provided with N-1 line capacity. The load on Planella zone substation is forecast to exceed the firm substation capacity during summer 2013/14, after which any transformer contingency may result in customer load shedding. The load on the radial 33kV line supplying Planella zone substation is forecast to exceed the summer daytime normal rating of the line during summer 2014/15. This means that for any time period when the peak load coincides with high ambient temperature and low wind speed it is possible that the 33kV conductors may sag below statutory ground clearance and present a risk to public safety.

To meet the security of supply criteria for the Mackay northern beaches area Ergon Energy needs an additional minimum of 6MVA firm capacity at 11kV to be provided to this area. This size has been matched to expected load requirements within Ergon Energy's typical 10 year planning horizon.

In order to ensure that supply to customers in the Mackay northern beaches area complies with Ergon Energy's security of supply criteria, initial corrective action will be required to be completed prior to the summer of 2011/12. However it is not considered possible to deliver a network solution by that time, so a target deadline of November 2013 has been determined based on the ability to appropriately manage the risks associated with network contingencies. A decision about the selected option is required by June 2010 if any option involving significant construction is to be completed by November 2013.

Ergon Energy published a Request for Information relating to this emerging network constraint on 8 February 2010. No submissions were received by the closing date of 8 March 2010.

Four feasible solutions to the emerging network constraint have been identified:

- | | |
|----------|---|
| Option 1 | Build 8.5km Dual Circuit 66kV Overhead Line and Convert Planella Substation to 66/11kV with larger transformers in 2013 |
| Option 2 | Build 8.5km Dual Circuit 66kV Overhead Line Energised at 33kV and Augment Transformer Capacity at Planella Substation in 2013 |
| Option 3 | Build 9.0km Dual Circuit 66kV Underground Cable Line and Convert Planella Substation to 66/11kV with larger transformers in 2013 |
| Option 4 | Build 9.0km Dual Circuit 66kV Mixed Overhead and Underground Cable Line and Convert Planella Substation to 66/11kV with larger transformers in 2013 |

This is now a Consultation and Draft Recommendation where Ergon Energy provides both economic and technical information about possible solutions, and our recommended solution, being Option 1, to convert Planella Substation to 66/11kV by November 2013.

Submissions in writing (electronic preferably) are due by **29 April 2010** and should be lodged to:

Ergon Energy Corporation Limited
P O Box 15107
City East QLD 4002
Attention: Network Planning and 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

For further information, please contact:

Glenys Davies

Ph (07) 4931 2661

Email: Glenys.Davies@ergon.com.au

2. INTRODUCTION

Ergon Energy Corporation Limited (Ergon Energy) has identified emerging limitations in the electricity distribution network supplying the Mackay northern beaches area.

When a distribution network service provider proposes to establish a new large distribution network asset to address such limitations, it is required under the National Electricity Rules (the "Rules") clause 5.6.2(f) to consult with affected Rules Participants, AEMO and Interested Parties on possible options to address the limitations. These options may include but are not limited to demand side options, generation options, and market network service provider options.

Under clause 5.6.2(g) of the Rules the consultation must include an economic cost effectiveness analysis of possible options to identify options that satisfy the ACCC's Regulatory Test, while meeting the technical requirements of Schedule 5.1 of the Rules.

The Consultation and Draft Recommendation in this Paper is based on:

- the assessment that a reliable power supply is not able to be maintained in the Mackay northern beaches area.
- the Request for Information consultation undertaken by Ergon Energy to identify potential solutions to address the emerging distribution network limitations; and
- an analysis of feasible options in accordance with the ACCC's Regulatory Test.

Submissions in writing (electronic preferably) are due by **29 April 2010** and should be lodged to:

Ergon Energy Corporation Limited
P O Box 15107
City East QLD 4002
Attention: Network Planning and 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

3. BACKGROUND & REASONS AUGMENTATION IS REQUIRED

3.1. 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 Mackay area (under its Distribution Authority) and has identified emerging limitations in the electricity distribution network supplying Mackay Northern Beaches. Augmentation to the electricity distribution network supplying this area is required if reliable supply is to be restored.

3.2. Purpose of this “Consultation and Draft Recommendation”

The purpose of this Consultation and Draft Recommendation is to:

- Provide information about the existing distribution network in the Mackay Northern Beaches 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 options identified and considered.
- Explain the process (including approach and assumptions) and the ACCC’s Regulatory Test used to evaluate alternative solutions, including distribution options.
- Recommend Ergon Energy’s preferred solution.

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.

4. EXISTING SUPPLY SYSTEM TO THE MACKAY NORTHERN BEACHES AREA

4.1. Geographic Region

The geographic region covered by this Consultation and Draft Recommendation is broadly described as the Mackay Northern Beaches area as shown on the map below.



4.2. Existing Supply System

The Mackay northern beaches area is supplied from the Planella zone substation, which has two 13MVA 33/11kV transformers. The 2008/09 peak load on Planella substation peak reached 13.2MVA, and the load growth rates for Planella substation are forecast to be 5.23% for the next five years and 4.14% for the following five year period.

The north Mackay area, including the northern beaches area, is supplied via a 33kV network fed from T38 Mackay 132/33kV substation. The summer peak load on T38 Mackay substation is well beyond its firm transformer capacity, so work is presently in progress to establish the new Glenella 66/33/11kV substation and associated lines. When commissioned in mid-2010 Glenella substation will supply North Mackay, Farleigh and Planella substations and so will reduce the load on T38 Mackay substation. This new network arrangement will eliminate the high load problem at T38 Mackay substation, and will also provide secure supply to North Mackay substation, but will not provide secure line and substation capacity to the Mackay northern beaches area.

The Glenella substation and the new network that it supplies are designed to facilitate conversion of the north Mackay subtransmission network from 33kV to 66kV. A demographic spatial load forecast study carried out in November 2008 indicated that within the next 30 years the electrical load in the north Mackay area may grow to 248MVA, including 101MVA in the northern beaches area. A 66kV supply network is considered to be the most feasible and economic way to distribute loads of that size.

The 11kV network fed from the Planella zone substation comprises four 11kV feeders. These feeders supply customers including shopping centres, schools, sporting clubs and the surrounding residential customers. The peak load on the 11kV Bucasia feeder is exceeding its 67% rating, and the load on the 11kV Blacks Beach feeder is approaching that limit. It is planned to develop a second 11kV feeder into Bucasia during 2010/11 to eliminate this problem.

Ergon Energy's planning criteria requires that distribution feeder peak loads should be at or below the feeder 67% rating to allow for '3 into 2' load transfer during feeder outages. Therefore additional 11kV feeders in the Mackay northern beaches area are required to comply with this criterion.

5. EMERGING NETWORK LIMITATIONS

A load forecast for Planella substation is shown in Table 1 below.

TABLE 1 – Mackay Northern Beaches Area – Supply Substations Load History & Forecast

| <u>Year</u> | 06/07 | 07/08 | 08/09 | 09/10 | 10/11 | 11/12 | 12/13 | 13/14 | 14/15 | | 18/19 |
|--|-------|-------|-------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|--|-----------------|
| Planella Substation Load (MVA) | 12.46 | 12.46 | 13.17 | <i>Forecast</i> | <i>Forecast</i> | <i>Forecast</i> | <i>Forecast</i> | <i>Forecast</i> | <i>Forecast</i> | | <i>Forecast</i> |
| Limitation @ N-1 Capacity is: 17.0MVA | | | | 13.9 | 14.7 | 15.5 | 16.3 | 17.0 | 17.8 | | 21.0 |

It is clear from the load data in Table 1 that:-

- The load on Planella substation and its 33kV supply line is expected to exceed 15MVA during summer 2011/12. Ergon Energy's Security of Supply criteria require that any load greater than 15MVA must have N-1 network capacity. In the case of Planella substation N-1 network capacity could be provided by installing a second line to supply the substation.
- The load on Planella substation is expected to exceed its N-1 transformer capacity during and after summer 2013/14. The N-1 transformer capacity of the Planella substation is 17MVA, as determined by the long term emergency cyclic rating of its transformers.
- The load on Planella substation and its 33kV supply line is expected to exceed the summer daytime normal rating of the supply line during summer 2014/15. The capacity of an overhead powerline is dependant upon the surrounding ambient temperature and wind speed, and therefore worst case line capacities occur during summer daytime. The summer daytime normal rating of 33kV radial line to Planella substation is 17.6MVA. The daytime peak load on Planella substation is forecast to exceed the summer daytime normal line rating during summer 2014/15. Therefore, during and after summer 2014/15, for any time period when the peak load coincides with high ambient temperature and low wind speed there will be risk of the 33kV line conductors breaching statutory ground clearance. This situation does not comply with Queensland Electrical Safety Regulations and must be prevented from occurring.

5.1. Timeframes for Taking Corrective Action

In order to ensure that security of supply to customers in the Mackay northern beaches area complies with Ergon Energy's planning and security criteria, corrective action should be completed before summer 2011/12. However the earliest achievable completion date for the first stage of major network augmentation programme is November 2013.

A decision about the selected option is required by June 2010 if any option involving significant construction is to be completed by November 2013.

5.2. 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 Mackay northern beaches area that could relieve the emerging network limitations described in section 5.0 above.

6. OPTIONS CONSIDERED

6.1. Consultation Summary

During its planning process, Ergon Energy identified that action would be required to address an anticipated distribution network limitation related to supply to the Mackay northern beaches area.

On 8 February 2010 Ergon Energy released a Request for Information providing details on the emerging network limitations in the Mackay northern beaches area. That paper sought information from Rules Participants, AEMO and Interested Parties regarding potential solutions to address the anticipated limitations.

Ergon Energy did not receive any submissions by 8 March 2010, being the closing date for submissions to the Request for Information paper.

6.2. Non-Distribution Options Identified

No non-distribution options have been identified.

6.3. Distribution Options Identified

In addition to the consultation process to identify possible non-network solutions, Ergon Energy carried out studies to determine the most appropriate distribution network solutions. It was considered that a “do nothing” approach was unacceptable. Four feasible corrective solutions were identified, details of which are contained in the following Section 7.

7. FEASIBLE SOLUTIONS

This section provides an overview of the feasible solutions identified, with full details of the financial analysis contained in Section 8.

7.1. Option 1 – Build 8.5km Dual Circuit 66kV Overhead Line and Convert Planella Substation to 66/11kV with Larger Transformers in 2013

| Option 1 – Build 8.5km Dual Circuit 66kV Line and Convert Planella Substation to 66/11kV | | |
|--|---|---------------------|
| <i>Date Req'd</i> | <i>Augmentation</i> | <i>Capital Cost</i> |
| 2013 | Glenella Substation – Install two 66kV feeder bays | \$2.40M |
| 2013 | Build 8.5km dual circuit 66kV Glenella-Planella overhead line (including acquisition of line route easements) | \$22.20M |
| 2013 | Convert Planella substation to 66/11kV with larger transformers | \$5.13M |

This option involves the following work in 2013:-

- Installation of two new 66kV feeder bays at Glenella substation.
- Construction of approximately 8.5km of dual circuit 66kV overhead line from Glenella substation to Planella substation. The overhead line will generally avoid existing and future residential development areas, except for the final 800m into Planella substation which will be 66kV underground cable line along existing road easements.
- Conversion of the 33/11kV Planella substation to 66/11kV by replacement of the transformers and other substation plant.

The Option 1 programme of works as proposed will have the following benefits:

- This option will provide N-1 line capacity to Planella substation which supplies the Mackay northern beaches area for at least the next 20 years.
- This option will provide new transformer capacity and 11kV feeder capacity to supply the loads in the Mackay northern beaches area for at least the next 12 years.
- This option will provide a high reliability, high quality supply to Mackay northern beaches customers.
- This option will reduce the load on the Glenella 66/33kV transformers and defer work to augment those transformers.
- This option will provide increased network operational capability.
- This option will reduce network losses.

Disadvantages of this option are:

- Nil

7.2. Option 2 – Build 8.5km Dual Circuit 66kV Overhead Line Energised at 33kV and Augment Transformer Capacity at Planella Substation in 2013

| Option 2 – Build 8.5km Dual Circuit 66kV Line Energised at 33kV and Augment Transformer Capacity at Planella Substation in 2013 | | |
|---|---|---------------------|
| <i>Date Req'd</i> | <i>Augmentation</i> | <i>Capital Cost</i> |
| 2013 | Glenella Substation – Install two 33kV feeder bays | \$0.70M |
| 2013 | Build 8.5km dual circuit 66kV Glenella-Planella overhead line initially energised at 33kV (including acquisition of line route easements) | \$22.20M |
| 2013 | Augment transformer capacity at Planella substation | \$3.78M |
| 2023 | Glenella Substation – Install two 66kV feeder bays | \$2.40M |
| 2023 | Re-energise Glenella-Planella circuits to 66kV | \$2.66M |
| 2023 | Convert Planella substation to 66/11kV | \$5.13M |

This option involves the following work:-

In 2013

- Installation of two new 33kV feeder bays at Glenella substation.
- Construction of approximately 8.5km of dual circuit 66kV line from Glenella substation to Planella substation initially energised at 33kV. The overhead line will generally avoid existing and future residential development areas, except for the final 800m into Planella substation which will be 66kV underground cable line (energised at 33kV) along existing road easements.
- Replacement of the 33/11kV transformers Planella substation with larger 33/11kV transformers.

In 2023

- Installation of two new 66kV feeder bays at Glenella substation.
- Re-energisation of the Glenella-Planella circuits to 66kV.
- Conversion of the 33/11kV Planella substation to 66kV by replacement of the transformers and other substation plant.

The Option 2 programme of works as proposed will have the following benefits:

- This option will provide N-1 line capacity to Planella substation which supplies the Mackay northern beaches area for at least the next 20 years.
- This option will provide new transformer capacity and 11kV feeder capacity to supply the present and future loads in the Mackay northern beaches area for the next 10 years.
- This option will provide a high reliability, high quality supply to Mackay northern beaches customers.
- This option will provide increased network operational capability.
- This option will reduce network losses.

Disadvantages of this option are:

- This option will not reduce network losses as much as Option 1.
- This option will not reduce the load on the Glenella 66/33kV transformers and may advance work to augment these transformers.
- This option does not reach a final stage of development for Planella substation as Options 1, 3 and 4 do.

- This option has risk of having redundant 33/11kV transformers and 33kV plant when Planella substation is finally converted to 66/11kV.
- The Nett Present Value cost for this option (as detailed in section 8.2.2) is greater than that for Option 1.

7.3. Option 3 – Build 9.0km Dual Circuit 66kV Underground Line and Convert Planella Substation to 66/11kV with Larger Transformers in 2013

| Option 1 – Build 9.0km Dual Circuit 66kV Line and Convert Planella Substation to 66/11kV | | |
|---|--|---------------------|
| <i>Date Req'd</i> | <i>Augmentation</i> | <i>Capital Cost</i> |
| 2013 | Glenella Substation – Install two 66kV feeder bays | \$2.40M |
| 2013 | Build 9.0km dual circuit 66kV Glenella-Planella underground cable line (generally following existing road easements) | \$35.5M |
| 2013 | Convert Planella substation to 66/11kV with larger transformers | \$5.13M |

This option involves the following work in 2013:-

- Installation of two new 66kV feeder bays at Glenella substation.
- Construction of approximately 9.0km of dual circuit 66kV underground cable line from Glenella substation to Planella substation, generally following existing road easements.
- Conversion of the 33/11kV Planella substation to 66/11kV by replacement of the transformers and other substation plant.

The Option 1 programme of works as proposed will have the following benefits:

- This option will provide N-1 line capacity to Planella substation which supplies the Mackay northern beaches area for at least the next 20 years.
- This option will provide new transformer capacity and 11kV feeder capacity to supply the loads in the Mackay northern beaches area for at least the next 12 years.
- This option will provide a high reliability, high quality supply to Mackay northern beaches customers.
- This option will reduce the load on the Glenella 66/33kV transformers and defer work to augment those transformers.
- This option will provide increased network operational capability.
- This option will reduce network losses.

Disadvantages of this option are:

- This option costs significantly more than Options 1, 2 and 3.
- The Nett Present Value cost (as detailed in section 8.2.2) for this option is significantly greater than those for Options 1, 2 and 4.

7.4. Option 4 – Build 9.0km Dual Circuit 66kV Mixed Overhead and Underground Cable Line and Convert Planella Substation to 66/11kV with Larger Transformers in 2013

| Option 1 – Build 9.0km Dual Circuit 66kV Line and Convert Planella Substation to 66/11kV | | |
|---|---|---------------------|
| <i>Date Req'd</i> | <i>Augmentation</i> | <i>Capital Cost</i> |
| 2013 | Glenella Substation – Install two 66kV feeder bays | \$2.40M |
| 2013 | Build 9.0km dual circuit 66kV Glenella-Planella mixed overhead and underground cable line | \$23.0M |
| 2013 | Convert Planella substation to 66/11kV with larger transformers | \$5.13M |

This option involves the following work in 2013:-

- Installation of two new 66kV feeder bays at Glenella substation.
- Construction of approximately 9.0km of dual circuit 66kV mixed overhead and underground cable line from Glenella substation to Planella substation. Overhead line will be constructed on sections of the line route that have no existing and future residential development, and underground cable will be installed in road easement through existing and future residential development.
- Conversion of the 33/11kV Planella substation to 66/11kV by replacement of the transformers and other substation plant.

The Option 1 programme of works as proposed will have the following benefits:

- This option will provide N-1 line capacity to Planella substation which supplies the Mackay northern beaches area for at least the next 20 years.
- This option will provide new transformer capacity and 11kV feeder capacity to supply the loads in the Mackay northern beaches area for at least the next 12 years.
- This option will provide a high reliability, high quality supply to Mackay northern beaches customers.
- This option will reduce the load on the Glenella 66/33kV transformers and defer work to augment those transformers.
- This option will provide increased network operational capability.
- This option will reduce network losses.

Disadvantages of this option are:

- This option costs marginally more than Option 1.
- The Nett Present Value cost (as detailed in section 8.2.2) for this option is greater than those for Options 1 and 2.

8. FINANCIAL ANALYSIS & RESULTS

8.1. Format and Inputs to Analysis

8.1.1 Regulatory Test Requirements

The requirements for the comparison of options to address an identified network limitation are contained in the Regulatory Test prescribed by the Australian Competition and Consumer Commission (ACCC).

The Regulatory Test requires that, for reliability augmentations, the recommended option be the one that **“minimises the present value of costs, compared with a number of alternative options in a majority of reasonable scenarios”**. To satisfy the Regulatory Test, the proposed augmentation must achieve the lowest cost in the majority (but not necessarily all) credible scenarios.

The Regulatory Test contains guidelines for the methodology to be used to identify the lowest cost option. Information to be considered includes construction, operating and maintenance costs and the costs of complying with existing and anticipated laws and regulations. The Regulatory Test specifically excludes indirect costs and costs that cannot be measured in terms of financial transactions in the electricity market.

8.1.2 Inputs to Analysis

A solution to address the future supply requirements for the Mackay northern beaches area as outlined in this document is required to satisfy reliability requirements linked to Schedule 5.1 of the National Electricity Rules and the requirements of the Queensland *Electricity Act 1994*.

According to the ACCC Regulatory Test, this means that the costs of all options must be compared, and the least cost solution is considered to satisfy the Regulatory Test. The results of this evaluation, carried out using a discounted cash flow model to determine the present value costs of the various options, are shown in section 8.2.2.

The cost to implement the network augmentations outlined in section 7 has been estimated by Ergon Energy. Sensitivity studies have been carried out using variations in capital cost estimates of plus or minus 20%. The operating and maintenance costs have been derived as a fixed proportion of capital cost. As a result, a variation in capital costs would be equivalent to separately varying the operating and maintenance cost.

The financial analysis considers all foreseeable cost impacts of the proposed network augmentations to market participants as defined by the regulatory process. Estimated savings in the cost of network losses have been excluded from the analysis because they were not found to differ significantly between the two feasible options over the 15 year study period.

8.2. Financial Analysis

The economic analysis undertaken considered the present value of cost of alternative options over the 15 year period from 2010 to 2024.

8.2.1 Present Value Analysis

Financial analysis was carried out to calculate and compare the Present Value (PV) of the costs of each option under the range of assumed scenarios.

A 15 year analysis period was selected as an appropriate period for financial analysis. A discount rate of 10% was selected as a relevant commercial discount rate.

The Base Case (Scenario A) was developed to represent the most likely market scenario.

Market scenarios B - G were formulated to test the robustness of the analysis to variations in load forecast, capital costs and the discount rate. As required by the Regulatory Test, the lower boundary of the sensitivity testing was the regulated cost of capital.

Under the Regulatory Test, it is the ranking of options which is important, rather than the actual present value results. This is because the Regulatory Test requires the recommended option to have the lowest present value cost compared with alternative projects.

The following table is a summary of the economic analysis. It shows the present value cost of each alternative and identifies the best ranked option, for the range of scenarios considered.

The summary shows that **Option 1 (Build 8.5km Dual Circuit 66kV Line and Convert Planella Substation to 66/11kV) has the lowest present value under all scenarios except Scenario D.**

8.2.2 Summary of Economic Analysis

| | | Option 1 | Option 2 | Option 3 | Option 4 |
|--|----------|----------|----------|----------|----------|
| Scenario A Base Case | PV (\$M) | \$23.75 | \$23.97 | \$32.58 | \$24.60 |
| | Rank | 1 | 2 | 4 | 3 |
| Scenario B Low Load Growth | PV (\$M) | \$21.42 | \$21.55 | \$30.80 | \$22.11 |
| | Rank | 1 | 2 | 4 | 3 |
| Scenario C High Load Growth | PV (\$M) | \$26.32 | \$26.60 | \$36.09 | \$27.29 |
| | Rank | 1 | 2 | 4 | 3 |
| Scenario D Discount Rate = 12% | PV (\$M) | \$21.85 | \$21.66 | \$29.98 | \$22.23 |
| | Rank | 2 | 1 | 4 | 3 |
| Scenario E Discount Rate = 8.5% | PV (\$M) | \$25.34 | \$25.98 | \$34.74 | \$26.64 |
| | Rank | 1 | 2 | 4 | 3 |
| Scenario F Increased Capital Costs | PV (\$M) | \$24.44 | \$24.59 | \$33.49 | \$25.23 |
| | Rank | 1 | 2 | 4 | 3 |
| Scenario G Decreased Capital Costs | PV (\$M) | \$23.06 | \$23.36 | \$31.66 | \$23.97 |
| | Rank | 1 | 2 | 4 | 3 |

8.3. Discussion of Results

The following conclusions have been drawn from the analysis presented in this report:

- There is no acceptable 'do nothing' option. If the emerging network constraints are not addressed by summer 2013, Ergon Energy may not be able to meet its security criteria in the event of a fault of the 33kV feeder supplying Planella substation, or a transformer failure at Planella substation, resulting in likely loss of supply to network users.
- Economic analysis carried out in accordance with the Regulatory Test has identified that proposed augmentation described in Option 1 (Build 8.5km Dual Circuit 66kV Line and Convert Planella Substation to 66/11kV in 2013), is the least cost solution over the 15 year period of analysis in all scenarios considered except Scenario D.
- Sensitivity testing showed that the analysis is robust to variations in capital costs and the selected discount rate.
- As Option 1 is the lowest cost option in all scenarios except Scenario D, it is considered to satisfy the ACCC Regulatory Test.

9. DRAFT RECOMMENDATION

Based on the conclusions drawn from the analysis in sections 7 and 8 above, it is recommended that Ergon Energy proceeds with Option 1 to:-

- **Build 8.5km Dual Circuit 66kV Line and Convert Planella Substation to 66/11kV by November 2013.**

Technical details relevant to the proposed new large distribution asset are contained in section 7.1.

10. CONSULTATION

In accordance with the Rules provisions⁶, Ergon Energy invites submissions from affected Rules Participants, AEMO and Interested Parties on this Consultation Paper and Draft Recommendation.

10.1. Timetable for Submissions

Submissions in writing (electronic preferably) are due by **29 April 2010** and should be lodged to:

Ergon Energy Corporation Limited

P O Box 15107

City East QLD 4002

Attention: Network Planning and Development

Email: Glenys.Davies@ergon.com.au

10.2. 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 - Complete. | Date Released: 8 February 2010 |
| Step 2 | Submissions in response to the Request for Information - Complete. | Due Date: 8 March 2010 |
| Step 3 | Review and analysis by Ergon Energy - Complete. This is likely to involve further consultation with proponents and additional data may be requested. | Anticipated to be completed by: 15 March 2010 |
| Step 4 | Release of Ergon Energy's Consultation Paper and Draft Recommendation of solution which satisfies the Regulatory Test - This document. | Anticipated to be released by: 15 April 2010 |
| Step 5 | Submissions in response to the Consultation Paper & Draft Recommendation. | Due Date: 29 April 2010 |
| Step 6 | Release of Final Recommendation (including summary of submissions received). | Anticipated to be released by: 10 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 November 2013.

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.

⁶ National Electricity Rules section 5.6.2(f)