Our ref:
Enquiries: Troy Forward
Telephone: (08) 9254 4304
0434 605 358

Mr David Bones
Mid West Energy Project
Customer Service Centre
Western Power
GPO Box L921
PERTH WA 6842

Via email: midwest.submission@westernpower.com.au

Dear David

MID WEST ENERGY PROJECT (SOUTHERN SECTION)

Thank you for the opportunity to make a submission regarding the proposed development of additional transmission facilities to serve the Mid West Region (southern section).

The Independent Market Operator (IMO) is responsible for ensuring that the Wholesale Electricity Market (WEM) within the South West interconnected system can operate in accordance with the objectives set out in the Wholesale Electricity Market Rules. Key elements within the objectives are:

- The promotion of economically efficient and reliable electricity production;
- The encouragement of competition in both generation and supply; and
- Minimisation of long term costs to customers.

The IMO considers that the provision of adequate transmission capacity, developed in a timely manner, is one of the cornerstones for the ongoing successful operation of the WEM. If new generators are unable to be connected, and if new loads cannot select their supplier because of power transfer limitations, key market objectives will be unattainable.

The IMO has not analysed the various system upgrade options identified by Western Power. However, we wish to express strong support for the timely development of appropriate transmission enhancements in the Mid West Region that are necessary to:

- meet the future requirements of potential generators and loads; and
- continue to deliver reliable electricity to end users.

Finally, the IMO would like to thank Western Power for its thorough consultation process and we note our appreciation for the additional briefing on this project when we were unable to attend the Public Forum.

Yours sincerely

TROY FORWARD
GENERAL MANAGER DEVELOPMENT

4 August 2010

CONSERVATION COUNCIL
OF WESTERN AUSTRALIA INC.

Western Power
Mid-West Energy Project
By email:
midwest.submission@westernpower.com.au

Mid-West Energy Project

Please accept the following submission from the Conservation Council of WA – Western Australia's peak environment group.

CCWA supports the strengthening of the SWIS grid connection to the Mid-West as it will enable greater renewable and cleaner energy supply options to be connected to the grid, and meet the rapidly growing power needs of the Mid-West.

The EPA has projected that Western Australia's greenhouse emissions are expected to increase by 75% in the short-term, in part due to expansion in highly polluting coal energy production. CCWA is totally opposed to this, and therefore supports any grid infrastructure upgrades that allow increased clean and renewable energy potential to be brought on line as soon as possible to meet energy demands.

In this respect we submit that Stage 2 of the 330kva Mid West supply line should be constructed concurrently with stage 1, and that there should not be any delay in the construction of Stage 2. Stage 2 will allow connections for a number of wind farms in the Geraldton region, and would open up significantly greater opportunities for other renewable end clean energy power generators to connect to the grid, thereby reducing demand for new coal fired power stations.

Environmental impact considerations

CCWA is disappointed that the project documentation released for public comment makes no mention of the environmental impacts of the power line upgrade proposal. We note that the proposed route of the new power line intersects a number of areas of very high environmental significance, including potentially several nature reserves.

CCWA submits that Western Power must undertake every effort to minimize unnecessary environmental impacts *before* the final route for the power line is chosen. Environmental values must be considered in the initial design of the route to be taken, and any clearing or other impacts on conservation estate, including nature reserves, must be avoided through good planning. CCWA expects that Western Power will select a final route for the power line that does not contravene the native vegetation clearing principles established under the native vegetation clearing regulations in the *Environmental Protection Act* 1986.

CITY WEST LOTTERIES HOUSE, 2 DELHI STREET, WEST PERTH, WA 6005 PHONE (08) 9420 7266 FAX (08) 9420 7273
WEBSITE www.conservationwa.asn.au E-MAIL: conswa@conservationwa.asn.au
ABN 35 982 476 107

Thank you for the opportunity to provide these comments on behalf of the Conservation Council of WA.

Yours sincerely

Piers Verstegen
Director

CITY WEST LOTTERIES HOUSE, 2 DELHI STREET, WEST PERTH, WA 6005 PHONE (08) 9420 7266 FAX (08) 9420 7273
WEBSITE www.conservationwa.asn.au E-MAIL: conswa@conservationwa.asn.au
ABN 35 982 476 107

Email Submission (received 4 August 2010)

Lisa Edwards

"BRETT EDWARDS" <bandledwards@bigpond.com>

09/08/2010 02:16 PM

Please respond to
"BRETT EDWARDS" <bandledwards@bigpond.com>

Please accept my late submission.

Midwest Energy Project
Submission

RE LOT 101 BRAND HWY BOONANARING, GINGIN

Dear Sir/Madam

I am strongly opposed to a 330kv power line running through this already infrastructure burdened lot due to
the lot:

- being reduced in area for the Brand Highway 10 years ago
- having a gas pipeline corridor on it on the eastern boundary
- now also proposed for optic cable
- having a 123Kv power line on it with no legal easement

I request you find another alignment and will oppose this proposal to the last.

Please answer:

have you considered other options and if not why not?
Can the proposed power line follow the gas pipeline and if not why not?

Please provided responses to me in writing.

Regards Lisa Edwards
PO Box 44
GINGIN WA 6503

Government of Western Australia
Department of Mines and Petroleum

0 5 AUG 2010

Your ref: 7283345
Our ref:
Enquiries: Kim Iskra - Ph 9222 3041
Email: kim.iskra@dmp.wa.gov.au

Mr Mark de Laeter
General Manager Strategic Asset Management
Western Power
GPO Box L921
PERTH WA 6842

Dear Mr de Laeter

MID WEST ENERGY PROJECT - SOUTHERN SECTION (NEERABUP TO ENEABBA)

Thank you for the opportunity to provide input to the proposed Mid West Energy Project – Southern Section.

The Department of Mines and Petroleum (DMP) supports Western Power's proposal to construct a 330kV double circuit transmission line from Neerabup to Eneabba.

The 330kV option appears to be a cost efficient and long term solution to the power needs of the growing Mid West region. In terms of known mining activities in the region, the proposed upgrade would appear to be adequate in meeting future power needs.

DMP appreciates the opportunity to provide comment on proposed infrastructure that will benefit the continued development of mining and support viable regional communities.

Yours sincerely

Richard Sellers
Director General

4 August 2010

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Telephone +61 8 9222 3333 Facsimile +61 8 9222 3862
www.dmp.wa.gov.au
www.wa.gov.au
ABN 69 410 335 356

SCANNED

Giralia
RESOURCES NL

Level 2, 33 Ord St, West Perth, WA 6005
PO Box 1665, West Perth, Western Australia 6872
Tel: (+61 8) 9481 4440 Fax: (+61 8) 9321 0070
info@giralia.com.au www.giralia.com.au

Giralia Resources NL ABN 54 009 218 204

Mid West Energy Project
Customer Service Centre,
Western Power,
363 Wellington Street
PERTH
WA 6000

4TH August 2010

PUBLIC SUBMISSION

Dear Sir,
We enclose the attached submission for your project responding to the advertisement in Business Weekly of July 22nd 2010.

As we have noted in the submission Giralia has a project at Yerecoin north east of New Norcia that will be a major power user from your system, and it seems very appropriate that we provide information on the project for your consideration. The project in very recent days has achieved definition of sufficient resource to enable feasibility studies and commitments to progress.

We anticipate at the moment that the minimum operation will involve a mining operation for magnetite iron ore plus an upgrading plant that will require 30 MW of power on a continuous basis to produce an exportable product.
We are also studying the potential for smelting the ore to a pig iron product for export that would involve a further substantial base load power requirement of 30 MW.

We appreciate that your public submission process is primarily intended for matters concerning the construction of the line but wished to ensure that our demand requirements are properly registered with your study group.

If you have any further queries on the project please contact myself or Alan Tough our Projects Manager on atough@giralia.com.au or 08 9481 4440.

Yours sincerely

Mike Joyce
Managing Director

Giralia RESOURCES NL

YERECOIN IRON ORE PROJECT

SUBMISSION TO WESTERN POWER STUDY

OF

THE MIDWEST ENERGY PROJECT –

STAGE 1 (SOUTHERN SECTION).

August 2010-08-10

SUMMARY

Giralia Resources NL ("Giralia") has completed a Scoping Study for its Yerecoin Magnetite Project ("Project"), with Promet Engineers showing positive economic results for a Project targeting the production of magnetite concentrate to be mined from its Yerecoin tenements.

The tenements comprising the Project are located 10 km east of New Norcia, approximately 120 km NNE of Perth, Western Australia.

The Project has the advantage of access to existing infrastructure, e.g. within 1 km of existing rail access, 40 km from a 132 kV power line and an under-utilised bulk materials port at Kwinana only 209 km away by rail. These factors reduce the capital and operating costs for the new project.

The Study investigated a base case for the Project targeting the production of 2.5 Mt/y of Blast Furnace ("BF") grade pellet feed (i.e. magnetite concentrate), grading 68% Fe, <4.5% SiO_2 and 0.5% Al_2O_3 and with a P_{80} of 45 µm.

The main components of the Project are:

- Mine (Contract mining assumed)
- Process plant facilities including:
    - Crushing and screening
    - High Pressure Grinding Rolls (HPGR)
    - Milling
    - Magnetic separation
    - Filtering
- Product storage
- Train load out facilities
- Rail haulage by contract including any capital for rolling stock
- Port receival, storage and export facilities provided by the Fremantle Port Authority.

The concentrate from the mine site would be hauled over the existing rail network to the Fremantle Port Authority's Kwinana Bulk Terminal for export on up to 45,000 DWT bulk carriers or for possible sale to HIsmelt Corporation for use in its iron making facility. The HIsmelt facility is located adjacent to the Kwinana Bulk Terminal.

The implementation schedule for the Project indicates that a first shipment of concentrate by 3QTR13 if long lead equipment is ordered prior to Project approval.

INTRODUCTION

Giralia Resources NL ("Giralia") has retained ProMet Engineers Pty Ltd ("ProMet") to undertake a testwork program and prepare a Scoping Study for its Yerecoin Magnetite Project ("the Project"), a project targeting the production of magnetite concentrates to be mined from its Yerecoin tenements.

The tenements comprising the Project are located 10 km east of New Norcia, ~120 km NNE of Perth, Western Australia and within 1 km of existing rail access.

Refer Figure 1.1.

The Scoping Study report outlines the ore processing and its associated infrastructure as well as potentially suitable transport options; provides estimates of the capital expenditure and operating costs and the basic financial assessment of the Project's viability .

The Project's design basis is 2.5 Mt/y of Blast Furnace ("BF") grade concentrate (i.e. 68% Fe, 4.5% SiO_2 and nominally P_{80} of 45 μm) for export and/or possible sale to the HIsmelt Corporation ("HIsmelt").

The main components of the Project are:

- Mine (contract mining assumed)
- Process plant facilities including:
    - Crushing and screening
    - High Pressure Grinding Rolls (HPGR)
    - Milling
    - Magnetic separation
    - Filtering
    - Product storage
- Train load out facilities
- Rail haulage by contract
- Port receival, storage and export facilities
- HIsmelt transfer facilities.

INTRODUCTION

Giralia Resources NL ("Giralia") has retained ProMet Engineers Pty Ltd ("ProMet") to undertake a testwork program and prepare a Scoping Study for its Yerecoin Magnetite Project ("the Project"), a project targeting the production of magnetite concentrate to be mined from its Yerecoin tenements.

The tenements comprising the Project are located 10 km east of New Norcia, ~120 km NNE of Perth, Western Australia and within 1 km of existing rail access. (Refer Figure 1.1.below).

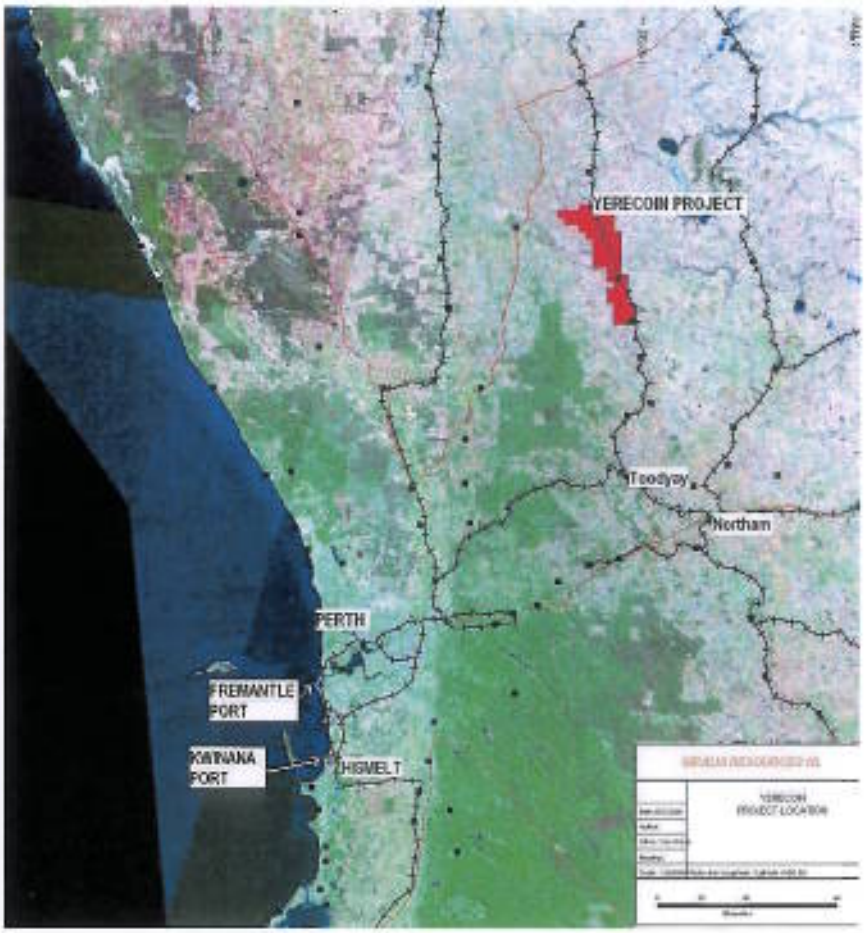


Figure 1.1: Yerecoin Location

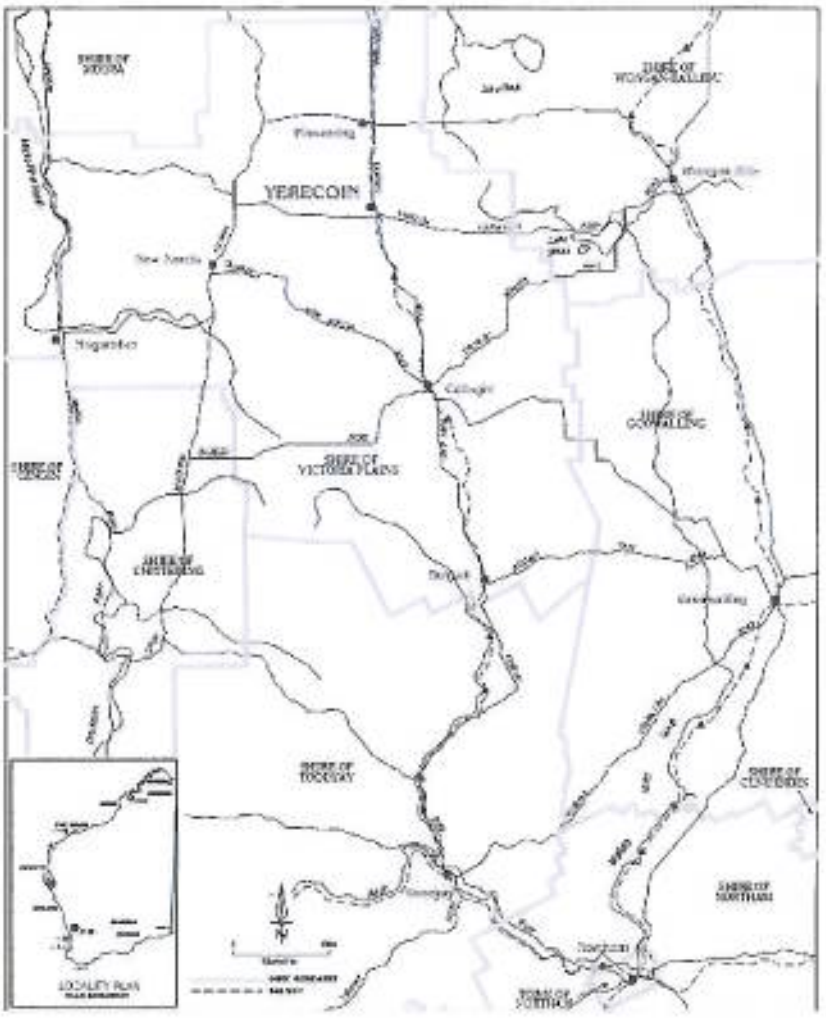
The Project's design basis is 2.5 Mt/y of Blast Furnace ("BF") grade concentrate (i.e. 68% Fe, 4.5% SiO_2 and nominally P_{80} of 45 μm) for export and/or possible sale to the HIsmelt Corporation ("HIsmelt"). An option exists for the output to increase to 5 Mt/y.

LOCATION - BACKGROUND

The Yerecoin deposit is located at approximately 30°57'S and 116°24'E and is ~250 m above sea level.

The deposit is located ~3 km south of the town of Yerecoin, which is 155 km north of Perth and 18 km east of New Norcia on the Bindi Bindi –Toodyay Road. Road access to the deposit is via Bindi Bindi - Toodyay Road. This sealed road joins the Great Eastern Highway 85 km to the south. Access from Perth is shorter via the Great Northern Highway and turning east north of New Norcia, a distance of 167 km. Refer Figure 2.1.

Figure 2.1: Regional Location Map



The Project area's terrain is "fairly" flat with undulations, rocky outcrops and occasional hills. The area is existing farmland, predominantly broadacre cropping and grazing. Vegetation is almost non-existent as most of the area is cleared for farming; however, native vegetation has been retained along some drainages and where massive laterite or basement rock outcrops.

Existing Infrastructure:

Transport

Access to the State's rail freight network, currently operated by WestNet Rail ("WestNet"), is accessible either:

- locally via the adjacent 16 t axle load 'narrow' gauge (i.e. 1,067 mm) rail line called the Miling Line, or
- 85 km to the south near Toodyay via 24 t axle load 'standard' gauge (@ 1,435 mm) main east west rail line.

There is a sealed all weather access road from the deposit to the town of Toodyay suitable for trucking of the product, if required.

Thus the Project is situated ~210 km by rail or road and rail from the Fremantle Port Authority's Kwinana Bulk Terminal ("KBT").

The Miling line is currently handling ~250,000 t/a of grain and its track speeds have been advised as:

- 50 km/h loaded + 60 km/h empty (Toodyay West to Bolgart)
- 40 km/h loaded + 50 km/h empty (Bolgart to Yerecoin).

A government-sponsored Strategic Grain Network Committee Review Study is currently under way and would potentially affect the narrow gauge option described above. The review panel comprises representatives from the Government, WestNet, QR Freight (the above rail operator) and grain suppliers. ProMet has been advised that the expected outcome for the Miling line would be either de-commissioned or alternatively be retained (the

WestNet recommendation) and re-sleepered from Yerecoin to the main line junction by the Government in ~2016. Re-sleepering means changing out the timber sleepers (currently at a steel to timber sleeper ratio of 1:2) and replacing them with either timber, steel or concrete sleepers.

Several rail freight organisations operate within Western Australia, mainly on the main line from Perth to the Eastern States and these include SouthSpur, Pacific National and QR Freight's subsidiary Australian Rail Group. The Miling line grain shipments service is provided by QR Freight.

2.3.2 Power

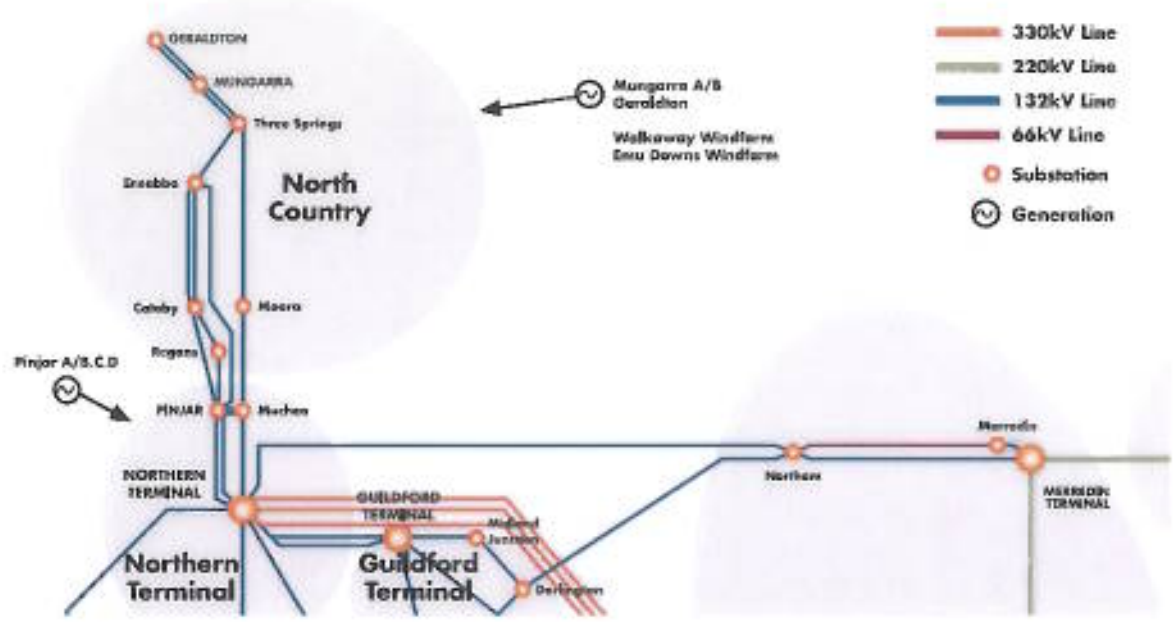
Western Power is the network provider of grid power in the Project area and the electricity is purchased separately from a number of possible providers including Alinta Sales Pty Ltd, Griffin Energy Sales Pty Ltd, Synergy, etc. The WA power grid has a high peak demand requirement and there are significant cost saving opportunities for "off peak" power consumption (i.e. nights and weekends).

HV power is available to the Project from the South West Interconnected Grid north of Perth which is a 132 kV grid with the nearest existing 132 kV substation located at Moora. Refer Figure 2.2. The 132 kV line is a single circuit line running from Muchea through Moora to Three Springs and forms a 132 kV ringmain at Three Springs to provide security of power supply to the Midwest Region including Geraldton.

Power consumption for the separation and upgrading plant as described here is 30 MW continuous power.

In the event that a pig iron plant is established a further 30 MW continuous power will be required.

Figure 3: Simplified SWIS single line diagram.



The North Country Region ("NCR") is currently at capacity and suffers reliability and load capacity problems, especially during peak demand summer, and winter loads and reliability problems during thunderstorms and high wind events.

Western Power is currently planning to install a new 330 kV overhead line from Perth to Three Springs to resolve the peak demand power and system reliability problems. This grid augmentation will reduce the dependency of the existing Muchea to Moora 132 kV line, allowing capacity on this line to be utilised by the Project. This line is located ~40 km to the west of the Project.

The inherent reliability problems of the Muchea to Moora 132 kV line remain as this power line is of the 'cricket wicket' construction type, refer Figure 2.3.

This would impact on plant design to allow for rapid restart upon power restoration. The 132 kV power line is a "Cricket Wicket" wood pole construction without any form of overhead lightning protection and low height conductors.

Figure 2.3: Cricket Wicket Wood Pole Power Line

2.3.3 Water

Water supply in the Project area is unknown and anecdotal evidence only is available to date.

It is known that the township of Yerecoin has a 25 km_2 groundwater catchment area to the east of Yerecoin with a sustainable extraction of 100 ML/a (ex Australian Water Resource website). The area is gently undulating and the Yerecoin bore field is near the drainage divides of the Mortlock and Moore Rivers. The town water supply is from a series of interconnected wells and the long term records of water salinity from the reticulation system have ranged between 150 and 300 mg/L.

A local farmer whose land lies within the tenements has advised Giralia that the ground water supply is saline, i.e. suitable for sheep drinking water, that his stock bores/wells have never dried up and water is 'close' to the surface.

PUBLIC CONSULTATION AND SUBMISSION RESPONSES

Western Power responses to submissions received
MID WEST ENERGY PROJECT – SOUTHERN SECTION

NEERABUP TO ENEABBA

DATE:

September 2010

DOCUMENT PREPARED BY:

Western Power
GPO Box L921, Perth WA 6842
ABN 18 540 492 861

safe reliable efficient

List of Responses to submissions from Public Consultation

	Received Submissions	Date
1	Mr Mark Babidge **Eneabba Gas Limited**	14 July 2010 4 August 2010
2	Mr K. C. Wan **Edith Cowan University (ECU)**	16 July 2010
3	Mr Robert A. Stein **South Perth, WA**	21 July 2010
4	Mr Gavin Treasure **Shire of Morawa**	22 July 2010
5	Mr Stan Scott **Shire of Perenjori**	22 July 2010
6	Mr David W. Lantzke **Ardross Estates Pty Ltd**	23 July 2010
7	Mr Russell Hayes **Fire and Emergency Services Authority (FESA)**	26 July 2010
8	Ky Cao **Perth Energy**	26 July 2010
9	Mr Mike Teague **Email Submission**	28 July 2010
10	Mr Rob Rohrlach **Energy Response Pty Ltd**	28 July 2010
11	Mr Matt Duxbury **Extension Hill Pty Ltd**	28 July 2010
12	Mr Shane Cremin **Griffin Energy**	30 July 2010
13	Mr GF Stevens **City Beach, WA**	2 August 2010
14	Brett Edwards **Landowner, Gingin**	2 August 2010
15	Mr Robert Tana **Noranda (Perth Metro Area)**	2 August 2010
16	Steve Douglas **Mid West Development Commission**	3 August 2010
17	Mr Luca Castelli **Advanced Energy Resources**	3 August 2010
18	Mr Rob Jefferies **Geraldton Iron Ore Alliance**	3 August 2010

	Received Submissions	Date
19	Submission **Confidential**	3 August 2010
20	Hon Wilson Tuckey MP **Parliament of Australia House of Representatives**	3 August 2010
21	Ms Suzanne Ward **Mid West Regional Council**	4 August 2010
22	Submission **Confidential**	4 August 2010
23	Simon Middleton **Synergy**	4 August 2010
24	Tim Koehler **Private Consumer**	4 August 2010
25	John Kerwan **Department of Defence**	4 August 2010
26	Tony Brun **City of Geraldton-Greenough**	4 August 2010
27	Tony Petersen **ERM Power**	4 August 2010
28	Bill Bowyer **RPV Developments Pty Ltd**	4 August 2010
29	David Griffin **Infigen Energy Ltd**	4 August 2010
30	Dajian Li **Xian Continental Power Engineering Corp.**	4 August 2010
31	Troy Forward **Independent Market Operator (IMO)**	4 August 2010
32	Piers Verstegen **Conservation Council of Western Australia Inc.**	4 August 2010
33	Lisa Edwards **Landowner, Gingin**	4 August 2010
34	Richard Sellers **Department of Mines and Petroleum**	4 August 2010
35	Mr Mike Joyce **Giralia Resources NL**	10 August 2010

westernpower

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GPO Box L921 Perth WA 6842
T: (08) 9326 4911 F: (08) 9326 4500
www.westernpower.com.au
Electricity Networks Corporation ABN 18 540 492 861

Our ref: 7397669
Contact: Douglas Thomson
(08) 9326 6174

10th September 2010

Mark Babidge
Managing Director
Eneabba Gas Limited
PO Box 772
West Perth WA 6872

Dear Mr Babidge,

Mid West Energy Project – Southern Section

Thank you for your letter and submission in response to Western Power's request for submissions regarding the proposed Mid West Energy Project Stage 1 (Southern Section) between Neerabup and Eneabba. Your interest in this project and support for augmentation of the transmission network is appreciated.

Western Power recognises that Eneabba Gas Limited has a potential generation project from the Centauri 1 power station and this will be identified in the revised options paper.

Your submission enumerates various issues, which I have addressed below.

1. Objectives of the Option Paper:

(a) Part of consultative process and benefits test

Under the Electricity Network Access Code 2004, Western Power has carried out preliminary Regulatory Test and NFIT assessments, which demonstrated that both tests are satisfied. As part of the Code requirements, Western Power has also carried out public consultations on the preferred option and is currently assessing formal responses received. Upon completion of this process, Western Power will make a Regulatory Test submission to the ERA. The ERA will determine the NFIT and conduct their own consultation.

(b) In support of the Geraldton region

Ensuring that the Mid West and Geraldton have adequate power is a priority for Western Power.

The key drivers for Stage 2 (Northern Section) relate to the need to meet electricity demand for:

- Load growth in the Geraldton region from existing customers.
- Growth from major new loads including the proposed new port and industrial estate developments at Oakajee, north of Geraldton and expansion to the Geraldton port including the associated Extension Hill and Karara loads.
- New generation seeking connection to the grid (over 500 MW of wind and gas generation have made enquiries between Eneabba and Geraldton)

Printed on recycled paper.

In December 2009 Western Power applied for Infrastructure Australia funding from the Australian Government to build Stage 2, based on a new 160 km double circuit 330 kV line from Eneabba to Moonyoonooka. Western Power continues to engage with Infrastructure Australia to progress this application. Infrastructure Australia published a report 'Getting the Fundamentals Right for Australia's Infrastructure Priorities' at the end of June 2010, in which the Mid West Energy Project Stage 2 was identified as a project of priority under the National Electricity Grid theme. The project has been identified as having real potential and has been shortlisted by Infrastructure Australia.

A number of options to meet future requirements have opened up and, over the next 12 months, Western Power will conduct a detailed planning assessment in consultation with key regional and industry stakeholders to determine the best method and timing for meeting future requirements. These options may include alternatives to network enhancements that will enable Western Power to provide the required network security.

Western Power must operate within a regulatory environment. Stage 2 will be subject to a separate business case to Government and submission to Economic Regulation Authority.

The milestones for Stage 2 are:

1. Development of a preferred supply option including timing for the Geraldton area.
2. Outcome of Western Power's Infrastructure Australia funding application.
3. Initiate the government and regulatory approvals process.

2. Support skewed towards wind power:

There are a number of drivers which have influenced Western Power's recommended option:

- Major new mining operations; Karara Mining Limited being the foundation customer.
- Load growth from the new port and industrial area at Oakajee.
- New wind, solar and other generation sources seeking to connect to the network.
- Underlying natural load growth.

Western Power has considered both generation and major loads in its planning studies. It should be noted that the majority of new generation in the Mid West, who have made application to connect to the grid, are wind generators. Nevertheless, the region also has thermal and solar generators which may also be connected. Western Power has no preference for any particular generation project.

3. Simultaneous development of Stage 2:

Originally, the proposal was to build a double-circuit line from Pinjar to Moonyoonooka (Geraldton). In 2009 the State Government and Western Power reviewed the drivers and cost of this project, in light of revised demand projections following the Global Financial Crisis.

This review recommended the project be split into two stages, as follows:

- Stage 1 – Neerabup to Eneabba (required by March 2013)
- Stage 2 – Eneabba to Moonyoonooka (Geraldton). Connecting Stage 1 through to Geraldton.

4. Alignment with network requirements:

Western Power is directly involved in the reform of the WA electricity market. You may be interested in our submission to the State Government's "Energy2030: Strategic Energy Initiative" This is available at the following address:

http://www.energy.wa.gov.au/0/3312/3312/energy2030.pm

The development of the proposed network needs to support the generation and load requirements, as outlined in the IMO statement of opportunity. The Mid West project will facilitate the connection of additional generation (both thermal and renewable) and load, to support the secure energy future for Western Australia, while also supporting the IMO long term roadmap.

The expansion of the network is required to allow connection of additional generation and promote competition, which is a key theme in the IMO long term roadmap.

5. Reliability of capital cost estimates:

Western Power has undertaken a robust estimating strategy to ensure that its capital cost estimates are accurate and reliable. For our recommended option, detailed estimates have been prepared internally, and in addition key aspects such as the Transmission line construction component have also been externally estimated.

Key aspects of the project such as terminal station and transmission line construction have also been independently benchmarked by Parson's Brinckerhoff, Maunsell and Powerlink. These benchmarks and estimates show our estimates to be accurate and reasonable.

Estimates for the non-preferred options have been prepared in much the same way as those for the preferred option, and on the same basis. In several cases this is achieved by re-using and adjusting the base option to take account of the relative differences (e.g. the 275 kV & 220 kV options have reduced line tower costs, but 330:275 kV or 330:220 kV transformers added). For this reason the relative ranking of the options is particularly robust and is unlikely to be significantly affected by overall accuracy of the estimate. The relative ranking also does not change for any expected foreign exchange and commodity price variances.

Western Power will manage its exposures to foreign exchange and commodity variations upon project approval via normal forward foreign exchange mechanisms and commodity hedging where appropriate.

Prior to approval the project will be subject to the global conditions in this regard.

The impact of foreign exchange and commodity prices on the project have been considered carefully. Obviously, Western Power has no ability to control foreign exchange rates and commodity prices, however the impact of these rates and prices have been modelled (by KPMG)

and this information will be included in Western Power's final business case and NFIT submission.

6. Other concerns:

The Mid West Energy Project is a new project, with key drivers for Stage 1 (Neerabup to Eneabba) which include a number of new mining projects actively being pursued in the area. Western Power has conducted a detailed process to determine the most appropriate solution in negotiation with Karara Mining Limited as the foundation customer.

As a utility which provides major infrastructure in the State for essential services, Western Power must operate within a regulatory environment. Since the Mid West Energy Project is considered to be a major augmentation, regulatory obligations must be followed.

On behalf of Western Power I would like to thank you for your submission. If you have any queries please do not hesitate to contact Douglas Thomson on (08) 9326 6174 or via email to douglas.thomson@westernpower.com.au.

Yours sincerely,

D Bones

David Bones
Manager Networks Planning and Development

The table attached to this letter responds to the issues raised in the attachment to your submission.

ATTACHMENT

Eneabba Gas Limited
Submission Response Table

No.	Item	Response
1	Objectives of the Options Paper	(a) The existing transmission network in the Mid West region does not have the capacity to meet the forecast electricity needs of existing and prospective customers. The system is presently operating close to its capacity limit and studies show that major augmentation is required. In the Options paper, Western Power presents a recommended power solution for the Mid West. The Mid West Energy Project is based upon detailed planning studies and input from a variety of stakeholders. It also details alternative options considered by Western Power for the reinforcement and demonstrates how the decision making process was undertaken. During the recent consultation process, Western Power sought and welcomed comments on its recommended option. Stakeholders and the community were encouraged to recommend alternative options, to ensure that the most appropriate and robust option has been identified. Submitted suggestions and alternatives are currently being considered by Western Power. Responses to all received submissions will be available on the Western Power web site in due course and sent to the ERA as part of the regulatory process. Customers seeking further information, or who wish to comment further on the Options paper, are encouraged to contact the project team via the contact details on the Western Power website. (b) Ensuring that the Mid West and Geraldton have adequate power is a priority for Western Power. Infrastructure Australia published a report 'Getting the Fundamentals Right for Australia's Infrastructure Priorities' at the end of June 2010, where the Mid West Energy Project Stage 2 was identified as a project of priority under the National Electricity Grid theme. The project has been identified as having real potential and has been shortlisted by Infrastructure Australia. Further engagement with Infrastructure Australia is proposed to clarify what supporting information is required to progress this project. Funding is being sought for the Northern Section double-circuit 330 kV line from Eneabba to Moonyoonooka. Regarding contingency planning if funding is not approved for Stage 2, I would make the following comments. In parallel with developing options and progressing detailed planning studies, Western Power will continue to engage with Infrastructure Australia in an attempt to secure funding for Stage 2 of the project. Under current forecast projections there is enough spare capacity on the existing 132 kV line to supply electricity to Geraldton until 2015/16, under the natural underlying growth scenario.

No.	Item	Response
2	Options Paper does not favour Gas Turbine-based proposals	The Mid West region has thermal, solar and wind generators which may be connected to the network. The expected diversity of load and generation types likely to be interested in connecting to the network requires that the transmission development does not favour any particular project. The proposed Mid West development will accommodate a diverse range of loads and generators, including gas-turbine generators.
3	Simultaneous development of Stage 2	Originally, the proposal was to build a double-circuit line from Pinjar to Moonyoonooka (Geraldton). In 2009 the State Government and Western Power reviewed the drivers and cost of this project, in light of revised demand projections following the Global Financial Crisis. This review recommended the project be split into two stages, as follows: • Stage 1 – Neerabup to Eneabba (required by March 2013) • Stage 2 – Eneabba to Moonyoonooka (Geraldton). Connecting Stage 1 through to Geraldton. Staging the project recognises the different drivers for each project and allows selection of the appropriate solution to meet these drivers. The key drivers for Stage 2 relate to the need to meet the electricity demands of: • Underlying natural load growth in the Geraldton region • Growth from major new loads including the proposed new port and industrial estate developments at Oakajee, north of Geraldton and expansion to the Geraldton port, and • New generation seeking connection to the grid. In December 2009 Western Power applied for Infrastructure Australia funding from the Australian Government to build Stage 2, based on a new 160 km double circuit 330 kV line from Eneabba to Moonyoonooka. Western Power continues to engage with Infrastructure Australia to progress this application. However, a number of options to meet future requirements have opened up and, over the next 12 months, Western Power will conduct a more detailed planning assessment in consultation with key regional and industry stakeholders to determine the best method and timing for meeting future requirements. For example, the size of these prospective new loads suggests a 132 kV reinforcement option may be sufficient. However, substantial new wind (and other) generation projects seeking to connect to the network along the coastal region near Geraldton may eventually trigger the need for a 330 kV solution. The public consultation mentioned above related solely to Stage 1 of the project. Western Power will progress with public consultation on Stage 2 of the project when appropriate. milestones have been met.

No.	Item	Response
4	Alignment with network requirements	Western Power is directly involved in the reform of the WA electricity market. You may be interested in our submission to the State Government's "Energy2030: Strategic Energy Initiative". This is available at the following address: http://www.energy.wa.gov.au/0/3312/3312/energy2030.pm The development of the network needs to support the generation and load requirements which are outlined in the IMO statement of opportunity. The Mid West project will facilitate the connection of additional generation (both thermal and renewable) and load, to support the secure energy future for Western Australia, while also supporting the IMO long term roadmap. The expansion of the network is required to allow connection of additional generation and promote competition, which is a key theme in the IMO long term roadmap. Karara Mining Limited is a foundation customer for the MWEP southern section, upon which the project depends.
5	Reliability of Capital Cost estimates	Western Power has undertaken a robust estimating strategy to ensure that its capital cost estimates are accurate and reliable. For our recommended option, detailed estimates have been prepared internally, and in addition key aspects such as the Transmission line construction component have also been externally estimated. Key aspects of the project such as terminal station and transmission line construction have also been independently benchmarked by Parson's Brinckerhoff, Maunsell and Powerlink. These benchmarks and estimates show our estimates to be accurate and reasonable. Estimates for the non-preferred options have been prepared in much the same way as those for the preferred option, and on the same basis. In several cases this is achieved by re-using and adjusting the base option to take account of the relative differences (e.g. the 275 kV & 220 kV options have reduced line tower costs, but 330:275 kV or 330:220 kV transformers added). For this reason the relative ranking of the options is particularly robust and is unlikely to be significantly affected by overall accuracy of the estimate. The relative ranking also does not change for any expected foreign exchange and commodity price variances. Western Power will manage its exposures to foreign exchange and commodity variations upon project approval via normal forward foreign exchange mechanisms and commodity hedging where appropriate. Prior to approval the project will be subject to the global conditions in this regard. The impact of foreign exchange and commodity prices on the project have been considered carefully. Western Power has no ability to control foreign exchange rates and commodity prices, however the impact of these rates and prices have been modelled (by KPMG) and this information will be included in Western Power's final business case and NFIT submission.

No.	Item	Response
6	Upgrading of Three Springs substation	Upgrading of Three Springs Terminal is subject to the NFIT analysis under the submission made to the ERA. Financial arrangements with Karara Mining Limited are confidential.
7	Cost of Efficiency Loss in the proposed option	The timing of uprating the operating voltage of the second circuit from 132 kV to 330 kV will primarily be driven by the projected load forecast. However, the effect on losses will, in addition to the load requirements, be used for the timing. The effect of losses has been used to determine the conductor sizing used for the particular project. Western Power identified and evaluated a number of options to increase the power transmission capacity in the Mid West region to meet the forecast increased electricity demand, together with a forecast increase in electricity generation in the region. All viable options have been assessed as similar in terms of benefit delivery (i.e. meet forecast need). Western Power has compared the Net Present Cost (NPC) of alternative transmission options, including the works required to meet both the 'central' case and 'high' case load forecasts. The preferred option maximises net benefits as it: • Has a NPC that is comparable with other options capable of supplying the 'central' case load forecast. • Offers a significantly lower cost option for supplying the 'high' case load forecast. • Delivers additional non-economic benefits compared to the other options. • Delivers similar benefits to those who generate, transport and consume electricity in the SWIS as other alternatives.
8	Confirmed customers	Enquiries from potential customers and details of agreements are confidential.

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(08) 9326 6174

10th September 2010

K. C. Wan
48 Tilton Terrace
City Beach
WA 6015

Dear Mr Wan,

Mid West Energy Project – Southern Section

Thank you for your response to Western Power's request for submissions regarding the proposed Mid West Energy Project Stage 1 (Southern Section) between Neerabup and Eneabba. Western Power appreciates your support and interest in this project.

Your email questions statements made on page 22 (paragraphs 2 and 4) of the Options document. I have addressed these below.

- Western Power has responsibility for constructing and maintaining a network to transmit and distribute electricity, and also to facilitate the connection of power generation sources to its network. Western Power does not have responsibility for generating power. This is the responsibility of generation companies, who are also responsible for obtaining their own environmental approvals.
- The area north of Perth is highly prospective for wind generation. The majority of generation projects that have already applied to Western Power for access to the transmission network are wind based and these can be connected relatively quickly. Since the transmission network is currently operating close to its capacity limits, the connection of any new generation would of necessity be delayed until Stage 1 of the augmentation project is commissioned. Western Power would then need to construct a transmission line to connect the power station to the network. This would require a lengthy environmental approval process, which could take up to 2 or 3 years to complete.

On behalf of Western Power I would like to thank you for your support. If you have any queries regarding the project please do not hesitate to contact Douglas Thomson on (08) 9326 6174 or via email to douglas.thomson@westernpower.com.au.

Yours sincerely,

David Bones
Manager Networks Planning and Development

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10th September 2010

Robert A. Stein
P.O. Box 178
South Perth
WA 6951

Dear Mr Stein,

Mid West Energy Project – Southern Section

Thank you for your response to Western Power's request for submissions regarding the proposed Mid West Energy Project Stage 1 (Southern Section) between Neerabup and Eneabba. Western Power appreciates your support and interest in this project.

The Mid West Energy Project is one of the most important infrastructure projects in Western Australia. It will provide the capacity to meet increasing demand for electricity and facilitate the connection of power generation sources to the network within the region. This means that the capacity, reliability and security of the South West Interconnected System will be greatly enhanced.

It is Western Power's intention to keep all stakeholders informed of approvals, construction and commissioning progress. This information will be made available on the Western Power web site as we move forward.

Should you have any specific questions regarding the project, please do not hesitate to contact Douglas Thomson on (08) 9326 6174 or via email to douglas.thomson@westernpower.com.au.

Yours sincerely,

David Bones
Manager Networks Planning and Development

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10th September 2010

Gavin Treasure
Chief Executive Officer MCom MBA CPA FPNA
Shire of Morawa
P.O. Box 14
Morawa
WA 6623

Dear Mr Treasure,

Mid West Energy Project – Southern Section

Thank you for your response to Western Power's request for submissions regarding the proposed Mid West Energy Project Stage 1 (Southern Section) between Neerabup and Eneabba. Western Power appreciates your interest in this project.

Your letter raises a number of issues, which I have addressed below.

Reliability:

It is acknowledged that the power supply reliability to the Shire of Morawa is poor, relative to the rest of the SWIS. The area is in an 'edge of grid' location, supplied via a long overhead rural feeder (the Morawa Feeder) from the Three Springs substation.

The main challenges in transporting electricity to 'edge of grid' communities, which can be up to 200 km long, are long powerlines, which can result in long and frequent outages. Long powerlines are more susceptible to damage caused by vegetation, weather, animals and traffic and create other power delivery challenges, such as maintaining voltage.

In 2006/7 this feeder was listed among the 40 worst performing feeders on the network. Work was carried out to address weaknesses on the feeder with the result that there was a significant improvement in the feeder's performance between May 2008 and about October 2009. Since then its performance has fallen again with a high number of lightning strikes causing outages during December 2009 and February 2010.

Western Power acknowledges that reliability on the Morawa Feeder is not at an acceptable level. Over the 12 month period from July 2009 the total number of outage minutes per annum for the average customer has risen from 300 to 3600 minutes.

As Western Power is aware of the feeder's poor performance, we will continue to address issues through maintenance and other reinforcement programs. However this is a long rural feeder with

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a relatively small customer base compared with other areas (519 customers). Options to achieve significant further reliability improvements include:

- An 'edge-of-grid' solution, similar to those implemented in Bremer Bay and Ravensthorpe.
- The establishment of a new 132 / 33 kV zone substation in the area.

Both of these options carry significant costs and would require funding outside that allowed by the Economic Regulation Authority in our current Access Arrangement.

Western Power's Smart Grid and Planning departments have been working to develop appropriate solutions for edge-of-grid towns. Denmark, Walpole, Ravensthorpe and Bremer Bay have benefited from Government funding for non-network solutions. These comprise a hybrid power station – either stand-alone or capable of interchanging with a grid connection, and demand management measures. Western Power aims to seek funding in our next Access Arrangement to allow further development and wider deployment of 'edge of grid' solutions to other areas, including Morawa and Perenjori. Information on 'edge of grid' and the 'Green Town' initiative can be found on the Western Power web site at:

http://www.westernpower.com.au/networkprojects/smartGrid/Edge_of_grid.html

We will examine the relative net benefits of network solutions (such as a new substation) and the non-network solutions to determine the optimal approach.

In the meantime, Western Power will continue to implement its on-going maintenance program and replace assets as necessary, in efforts to improve the reliability and quality of supply as much as possible for the Morawa community.

Capacity:

No capacity constraints are anticipated (over the next few years) on the feeder which supplies Morawa and Perenjori. The next reinforcement project will involve the installation of a new voltage regulator. However this is a customer driven project and depends upon the customer proceeding with the project.

Other future reinforcement options include peak lopping generation, the construction of a second feeder to Morawa or the installation of a static synchronous compensator (StatCom).

The capacity reinforcement component of a new, discrete customer load is covered by the Distribution Headworks Charge. This charge is now refunded in full by the State Government.

Request to include Morawa in Mid West upgrade:

The Mid West Energy Project – Southern Section is specifically concerned with the upgrading of the Neerabup – Eneabba transmission line to 330 kV. It also involves extending the supply from Eneabba to the Karara mine site via Three Springs. The Eneabba to Karara mine section is to be funded by Karara Mining Limited.

As acknowledged above, including reinforcement of the local distribution system by constructing a new zone substation in the Morawa / Perenjori area would improve reliability and we are taking this option into account in our planning to improve the supply to these communities.

On behalf of Western Power I would like to thank you for your submission. If you have any further queries please do not hesitate to contact Douglas Thomson on (08) 9326 6174 or via email to douglas.thomson@westernpower.com.au.

Yours sincerely,

David Bones
Manager Networks Planning and Development

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10th September 2010

Stan Scott
Chief Executive Officer
Shire of Perenjori
PO Box 22
Perenjori WA

Dear Mr Scott,

Mid West Energy Project – Southern Section

Thank you for your response to Western Power's request for submissions regarding the proposed Mid West Energy Project Stage 1 (Southern Section) between Neerabup and Eneabba. Western Power appreciates your interest and comments in support of the need to carry out the proposed reinforcement.

A key driver for stage 1 of the project is to supply a number of new mining operations that are being actively pursued in the area (notably Karara), which will have significant impacts on the total demand for electricity.

Your letter raises some issues, which I have addressed below.

Local power Generation seems to concentrate on wind farms:

Western Power has responsibility for constructing and maintaining a network to transmit and distribute electricity and to facilitate the connection of power generation sources to its network. Western Power does not have responsibility for generating power.

The proposal document often makes reference to wind farms. This is because the region north of Perth has high potential for wind generation. However, Western Power recognises that there are also major solar and other generation sources in the area that could be connected. The revised Options paper indicates that in addition to wind farms there is also prospective large scale renewable solar thermal generation sources due to available land and sunshine hours. Since the existing 132 kV network is operating close to its capacity limits, additional generation cannot be accommodated at present. Augmentation of the network to operate at 330 kV will enable additional generation to be connected from any source within the region.

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Construction of new substation between Morawa and Perenjori

The Mid West Energy Project – Southern Section is specifically concerned with the upgrading of the Neerabup – Eneabba transmission line to 330kV. It also involves extending the supply from Eneabba to Karara mine site via Three Springs, which is funded by Karara Mining Limited and will be leased by Western Power. We acknowledge that including reinforcement of the local distribution system by constructing a new zone substation in the Morawa/Perenjori area would improve reliability, and we are taking this option into account in our planning to improve supply to these communities.

It is true that including reinforcement of the local distribution system by constructing a new zone substation in the Morawa / Perenjori area would improve reliability. However, it is important to understand that Western Power must operate within a regulatory environment. At the present time there are not enough drivers to justify the considerable expenditure that would be required to construct a substation. Also, any upgrade of the Morawa / Perenjori distribution system is outside the scope of the current project.

Reliability

Western Power acknowledges that power supply reliability to the Shire of Perenjori is poor, relative to the rest of the SWIS. The area is in an 'edge of grid' location, supplied via a long overhead rural feeder (the Morowa Feeder) from the Three Springs substation.

The main challenges in transporting electricity to 'edge of grid' communities, which can be up to 200 kM long, are long powerlines, which can result in long and frequent outages. Long powerlines are more susceptible to damage caused by vegetation, weather, animals and traffic and create other power delivery challenges, such as maintaining voltage.

In 2006/7 this feeder was listed among the 40 worst performing feeders on the network. Work was carried out to address weaknesses on the feeder with the result that there was a significant improvement in the feeder's performance between May 2008 and about October 2009. Since then its performance has fallen again with a high number of lightning strikes causing outages during December 2009 and February 2010.

Western Power acknowledges that reliability on the Morawa Feeder is not at an acceptable level. Over the 12 month period from July 2009 the total number of outage minutes per annum for the average customer has risen from 300 to 3600 minutes.

As Western Power is aware of the feeder's poor performance, we will continue to address issues through maintenance and other reinforcement programs. However this is a long rural feeder with a relatively small customer base compared with other areas (519 customers). Options to achieve significant further reliability improvements include:

- An 'edge-of-grid' solution, similar to those implemented in Bremer Bay and Ravensthorpe.
- The establishment of a new 132 / 33 kV zone substation in the area.

Both of these options carry significant costs and would require funding outside that allowed by the Economic Regulation Authority in our current Access Arrangement.

Western Power's Smart Grid and Planning departments have been working to develop appropriate solutions for edge-of-grid towns. Denmark, Walpole, Ravensthorpe and Bremer Bay have benefited from Government funding for non-network solutions. These comprise a hybrid power station – either stand-alone or capable of interchanging with a grid connection, and demand management measures. Western Power aims to seek funding in our next Access Arrangement to allow further development and wider deployment of 'edge of grid' solutions to other areas, including Morawa and Perenjori. Information on 'edge of grid' and the 'Green Town' initiative can be found on the Western Power web site at:

http://www.westernpower.com.au/networkprojects/smartGrid/Edge_of_grid.html

We will examine the relative net benefits of network solutions (such as a new substation) and the non-network solutions to determine the optimal approach.

In the meantime, Western Power will continue to implement its on-going maintenance program and replace assets as necessary, in efforts to improve the reliability and quality of supply as much as possible for the Perenjori community.

Capacity:

No capacity constraints are anticipated (over the next few years) on the feeder which supplies Morawa and Perenjori. The next reinforcement project will involve the installation of a new voltage regulator. However this is a customer driven project and depends upon the customer proceeding with the project.

Other future reinforcement options include peak lopping generation, the construction of a second feeder to Morawa or the installation of a static synchronous compensator (StatCom).

The capacity reinforcement component of a new, discrete customer load is covered by the Distribution Headworks Charge. This charge is now refunded in full by the State Government.

Western Power will continue to implement its on-going maintenance program and replace assets as necessary, in efforts to improve the reliability and quality of supply as much as possible for the Perenjori community.

Western Power will also continue to monitor growth and subsequent demand for electrical power in the area. Once an upgrade of the network can be justified, Western Power will pursue the required regulatory process for an augmentation project.

Western Power would like to thank you for your support of this project and if you have any queries please do not hesitate to contact Douglas Thomson on (08) 9326 6174 or via email to douglas.thomson@westernpower.com.au.

Yours sincerely,

David Bones
Manager Networks Planning and Development

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10th September 2010

David W Lantzke
Chief Executive Officer
Ardross Estates Pty Ltd
P.O. Box 7019
Cloisters Square
Perth WA 6850

Dear Mr Lantzke,

Mid West Energy Project – Southern Section

Thank you for your response to Western Power's request for submissions regarding the proposed Mid West Energy Project Stage 1 (Southern Section) between Neerabup and Eneabba. Western Power appreciates your support and interest in this project.

In addition we provide the following information regarding supply to Jurian Bay.

Eneabba – Jurien Bay transmission line:

The existing feeder line between Eneabba and Jurien Bay has adequate capacity to satisfy energy requirements for both current consumers and estimated future developments in the Jurien Bay area. However, the issue experienced at Jurien Bay is one of voltage, which is typical for a 'fringe of grid' location. Therefore, to improve voltage regulation, Western Power intends to install voltage regulation equipment in the near future.

Western Power operates within a regulated environment. At the present time there are not sufficient drivers to justify the considerable expenditure that would be required to upgrade the existing feeder line from Eneabba to Jurien Bay.

Western Power will continue to monitor growth and subsequent demand for electrical power in the Jurien Bay area. Once an upgrade of the network at Jurien Bay can be justified, Western Power will pursue the required regulatory process for a network augmentation project.

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On behalf of Western Power I would like to thank you for your support of the project. If you have any queries please do not hesitate to contact Douglas Thomson on (08) 9326 6174 or via email to douglas.thomson@westernpower.com.au.

Yours sincerely,

David Bones
Manager Networks Planning and Development

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10th September 2010

Russell Hayes
FESA Operations
Mid West Gasgoyne Region, WA

Dear Mr Hayes,

Mid West Energy Project – Southern Section

Thank you for your response to Western Power's request for submissions regarding the proposed Mid West Energy Project Stage 1 (Southern Section) between Neerabup and Eneabba, and your recent attendance at our public forums. I trust that you found the forums to be useful and informative. We greatly appreciate your interest in this project and in particular your desire to work closely with Western Power as the project progresses.

Western Power actively engages with key stakeholders, including FESA, throughout the planning, design and construction phases of projects. Please be assured that Western Power takes seriously the necessity of following FESA Standing Operating Instructions and engaging with FESA. I understand that the key items you would like to discuss include firefighter safety, construction timing (particularly during bushfire season) and the associated safety considerations and the maintenance of bushfire fuels under power lines. We will continue to work closely with you on these matters. To this end, our Project Officer Neil Reedy will continue to liaise with FESA to discuss the matters you have raised and any other items as they arise. Neil can be contacted on (08)3264108.

Please note that the new 330 kV transmission line will replace the existing 132 kV wood pole line predominately on the same alignment between Pinjar and Cataby. However between Cataby and Eneabba there is a need to avoid several line crossover locations. To facilitate this, we have realligned the new 330 kV line on the east side of the existing double circuit 132 kV line. Easements for the 330 kV line will be negotiated with landowners along the line route.

Western Power is also most appreciative of FESA's offer to assist in liaising with Local Governments and brigades.

On behalf of Western Power I would like to thank you for your support of the project. If you have any queries please do not hesitate to contact Douglas Thomson on (08) 9326 6174 or via email to douglas.thomson@westernpower.com.au.

Yours sincerely,

David Bones
Manager Networks Planning and Development

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10th September 2010

Ky Cao
Managing Director
Perth Energy
Level 4, 165 Adelaide Terrace
East Perth
WA 6004

Dear Mr Cao,

Mid West Energy Project – Southern Section

Thank you for your response to Western Power's request for submissions regarding the proposed Mid West Energy Project Stage 1 (Southern Section) between Neerabup and Eneabba. Your support and interest in this project is greatly appreciated by Western Power.

Requirement for major reinforcement of the existing transmission system in the Mid West has been identified by Western Power. The existing transmission network does not have the capacity to meet the forecast electricity needs of existing and prospective customers.

Load forecast:

In accessing the network's capability to meet demand, Western Power has considered three load forecast scenarios – 'low', 'central' and 'high'. The proposed solution however concentrates on the 'central' and 'high' load growth.

The load forecast has been broken down into two distinct components – underlying (natural) growth of the existing customer base and block load growth relating to the development of major new loads in the region (notably mining). The 'central' scenario includes committed block loads and a small number of the most likely prospective block loads. The 'high' forecast expands on the 'central' view by assuming more aggressive underlying demand growth and an additional number of highly prospective block loads.

By commissioning the new double-circuit transmission line with one circuit at 330 kV and the other at 132 kV, sufficient power will be available for the 'central' demand scenario. This can be reinforced at minimum cost, to operate both circuits at 330 kV when required to meet the 'high' scenario demand.

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Southern Section- Stage 1:

The proposed Mid West Energy Project (Southern Section) is intended to provide a viable solution to meet, in particular:

- Major new mining operations in the region.
- Load growth from the new port development and industrial estate at Oakajee.
- New wind, solar and other generation sources seeking to connect to the network.
- Underlying natural load growth in the Geraldton region.

Provided all the necessary approvals are received, work is scheduled to start on the Southern Section by January 2011, with a target completion date of March 2013.

Northern Section – Stage 2:

The Northern Section (Stage 2) will be subject to a separate business case to Government and submission to economic regulation authority.

The milestones for Stage 2 are:

1. Scope of Stage 2 works will be reviewed by engagement with key stakeholders and ongoing planning studies leading to the selection of a preferred option.
2. Outcome of Western Power's Infrastructure Australia funding application.
3. Development of a preferred supply option for the Geraldton area.

Western Power will continue to work closely with industry, State Government, other stakeholders and community to optimise the development.

Generation opportunities:

The region north of Perth is highly prospective for wind generation. There is also solar and some gas and diesel generation in the area. However, the majority of new generators who have applied for connection to the grid are wind generators, capable of contributing 1,400 MW. Enabling locally generated renewable power sources to connect to the network will greatly assist Western Australia to meet its Renewable Energy Target (RET) obligations.

On behalf of Western Power I would like to thank you for your support of this project. If you have any queries please do not hesitate to contact Douglas Thomson on (08) 9326 6174 or via email to douglas.thomson@westernpower.com.au.

Yours sincerely,

David Bones
Manager Networks Planning and Development

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10th September 2010

Mike Teague
No address given

Dear Mr Teague,

Mid West Energy Project – Southern Section

Thank you for your response to Western Power's request for submissions regarding the proposed Mid West Energy Project Stage 1 (Southern Section) between Neerabup and Eneabba. Western Power appreciates your interest in this project.

The Mid West region of Western Australia is an area experiencing major economic growth, particularly in mining, which has a significant impact on the demand for electricity. The region is currently supplied by a 132 kV transmission system which does not have the capacity to meet the forecast electricity needs of existing and prospective customers. Without the Mid West reinforcement, there would be insufficient capacity to connect future generation, e.g. gas, wind and others. It should be noted however, that Western Power has responsibility for constructing and maintaining a network to transmit and distribute electricity and to facilitate the connection of power generation sources to its network. Western Power does not have responsibility for generating power. Electricity generation is the responsibility of generation companies.

It is true that the present system is supported by local generation, e.g. gas, diesel and wind fuelled sources. Nevertheless, the existing transmission system is operating close to its capacity limits and the ability to connect anymore load or generation is constrained. Studies show that failure to carry out the proposed reinforcement will seriously impede development within the Mid West. Reinforcement of the transmission system is therefore necessary to enable new generation and loads to be connected.

The region north of Perth is highly prospective for wind generation. There are also major solar generation sources in the area. Without the proposed augmentation these generation sources cannot be connected and this will make it difficult for Western Australia to meet its Renewable Energy Target (RET) obligations.

The proposed Mid West Energy Project is one of the most important infrastructure projects in Western Australia. By providing the capacity to meet increasing electricity demand and facilitating the connection of power generation sources within the region, the reliability and security of the South West Interconnected System will be ensured.

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If you have any further queries regarding the project, please do not hesitate to contact Douglas Thomson on (08) 9326 6174 or via email to douglas.thomson@westernpower.com.au.

Yours sincerely,

David Bones
Manager Networks Planning and Development

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10th September 2010

Rob Rohrlach
Manager Western Australia
Energy Response Pty Ltd
P.O. Box 406
Cottesloe
WA 6911

Dear Mr Rohrlach,

Mid West Energy Project – Southern Section

Thank you for your response to Western Power's request for submissions regarding the proposed Mid West Energy Project Stage 1 (Southern Section) between Neerabup and Eneabba. Your interest in this project is greatly appreciated by Western Power.

The electricity network is built to accommodate peak demand. Managing peak demand is important to efficiently expand the network and keep electricity prices reasonable. Western Power has carried out a Demand Management feasibility study and, although not a viable option for the Southern Section because of the need to connect large mining block loads, can make a significant contribution in the Geraldton area. This could be utilised in the meantime while Western Power consider the options / solutions for supply to the Geraldton area.

Western Power embraces Demand Side Management, which complements our role as an energy solutions business. We are also obliged, under the regulations which govern the way we supply electricity, to consider alternatives to Supply Side network capacity investment such as Demand Side Management, where this leads to lower overall costs.

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On behalf of Western Power I would like to thank you for your support of this project. If you have any queries please do not hesitate to contact Douglas Thomson on (08) 9326 6174 or via email to douglas.thomson@westernpower.com.au.

Yours sincerely,

David Bones
Manager Networks Planning and Development

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10th September 2010

Matt Duxbury
Extension Hill Pty Ltd
PO Box 82
West Perth WA 6872

Dear Mr Duxbury,

Mid West Energy Project – Southern Section

Thank you for your response to Western Power's request for submissions regarding the proposed Mid West Energy Project Stage 1 (Southern Section) between Neerabup and Eneabba. Your interest in this project is greatly appreciated by Western Power.

Your submission raises some issues, which I have addressed below.

Regulatory Test and New Facilities Investment Test not comprehensive:

Under the Electricity Network Access Code 2004, Western Power has carried out preliminary Regulatory Test and NFIT assessments, which demonstrated that both tests are satisfied. As part of the Code requirements, Western Power has also carried out public consultations on the preferred option and is currently assessing formal responses received.

Upon completion of this process, Western Power will make a Regulatory Test submission to the ERA. The NFIT assessment will also be submitted to the ERA, which considers anticipated Incremental Revenue and Net Benefits for generation and load brought about by the proposed MWEP Southern Section project.

Three load scenarios inappropriate:

The load forecast analysis carried out by Western Power has been broken down into two distinct components – underlying (natural) growth of the existing customer base and block load growth relating to the development of major new loads in the region (notably mining). The 'central' scenario includes committed block loads and a small number of the most likely prospective block loads. The 'high' forecast expands on the 'central' view by assuming more aggressive underlying demand growth and an additional number of highly prospective block loads.

Based upon this load forecast analysis, the current project is designed to meet the 'central' load forecast scenario. However, as block load consumers make firm commitments to progress with projects, the network can be reinforced at minimum cost to meet the 'high' load scenario.

Extension Hill is shown to be in the 'high' load forecast in Table 4 in the revised Options paper.

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Insufficient reference to and fit with State Planning:

Western Power maintains regular communication with key stakeholders, including State Planning (DSD Planning, State Development) and Landcorp.

Lack of generation information and no generation capacity:

Western Power must respect the confidentiality of generation companies. Therefore, no individual generator has been mentioned in the Options Paper.

Design criteria appears to be an N-0, not N-1:

The foundation customer Karara requested an N-0 supply. This is why a 330 kV single circuit line is being constructed between Three Springs (Golden Grove tee off point) and the Karara mine site.

Three Springs substation will be built to an N-1 standard.

Options paper fails to refer to N-1-1 provisions of the Technical Rules:

The Technical Rules currently specify that a 330kV network should be designed to the N-1-1 criterion. Western Power intend to apply for a derogation to that clause for the initial configuration of the stage 1 of the MWEP (southern section) on the basis that the N-1-1 criteria is not required to be met to deliver the reliability of supply sought by the foundation customer.

Northern Section must be considered as part of Mid West Project:

Originally, the proposal was to build a double-circuit line from Pinjar to Moonyoonooka (Geraldton). In 2009 the State Government reviewed the drivers and cost of this project, in light of revised demand projections following the Global Financial Crisis.

This review recommended the project be split into two stages, as follows:

Stage 1 – Neerabup to Eneabba, with the timing dependent on securing a foundation customer

Stage 2 – Eneabba to Geraldton (or possibly Three Springs)

Mid West Energy Project Stage 1 (Southern Section)

The preferred option for the Mid West Energy Project (Southern Section) is a 330 kV double circuit transmission line from Neerabup to Eneabba, initially with one circuit energised at 132 kV and the other at 330 kV. Western Power has had discussions with key stakeholders in the region, including Extension Hill and has carried out a detailed analysis of existing and projected future electricity needs in the region, which include:

- Major new mining operations.
- Load growth from the new port development and industrial estate at Oakajee.
- New wind, solar and other generation sources seeking to connect to the network.
- Load growth in the Geraldton region form existing customers.

In accessing the network's capability to meet the forecast electricity demand, Western Power has considered three load forecast scenarios – 'low', 'central' and 'high'. The proposed transmission line is sufficient to meet the 'central' load forecast. However, the second circuit can be upgraded to 330 kV at low cost over a relatively short time frame to meet the 'high' load forecast when required. Extension Hill has been considered in the 'high' forecast, as presented in the Mid West Energy Project (Southern Section) Options paper.

The coastal location between Pinjar and Geraldton provides a very prospective wind resource with wind load factors in excess of 40% (compared to 30-40% in most locations nationally) and relatively straight forward access to land. Western Power currently has enquiries from proponents seeking to develop over 1300 MW of wind generation in this locality. At present, the ability to develop wind farms along the Mid West coastal region is constrained by the weak nature of the existing network north of Pinjar. Augmentation of the Mid West transmission network would create significantly enhanced opportunities for large scale renewable generation projects to access the transmission network along the route length.

Mid West Energy Project Stage 2 (Northern Section) – Supply to Geraldton

The key drivers for Stage 2 relate to the need to meet electricity demand for:

- Load growth in the Geraldton region from existing customers
- Growth from major new loads including the proposed new port and industrial estate developments at Oakajee, north of Geraldton and expansion to the Geraldton port including the associated Extension Hill and Karara loads
- New generation seeking connection to the grid (over 500 MW of wind and gas generation have made enquiries between Eneabba and Geraldton)

In December 2009 Western Power applied for Infrastructure Australia funding from the Australian Government to build Stage 2, based on a new 160 km double circuit 330 kV line from Eneabba to Moonyoonooka. Western Power continues to engage with Infrastructure Australia to progress this application. Infrastructure Australia published a report 'Getting the Fundamentals Right for Australia's Infrastructure Priorities' at the end of June 2010, in which the Mid West Energy Project Stage 2 was identified as a project of priority under the National Electricity Grid theme. The project has been identified as having real potential and shortlisted by Infrastructure Australia.

A number of options to meet future requirements have opened up and, over the next 12 months, Western Power will conduct a detailed planning assessment in consultation with key regional and industry stakeholders to determine the best method and timing for meeting future requirements. These options may include alternatives to network enhancements that will enable Western Power to provide the required network security.

Western Power must operate within a regulatory environment. Stage 2 will be subject to a separate business case to Government and submission to Economic Regulation Authority.

The milestones for Stage 2 are:

1. Development of a preferred supply option including timing for the Geraldton area.
2. Outcome of Western Power's Infrastructure Australia funding application.
3. Initiate the government and regulatory approvals process.

Insufficient weight given to maximising use of existing line routes:

Western Power is using the existing line route between Neerabup and Eneabba; Neerabup – Regans – Cataby –Eneabba. The MWEP stage 2 planning process will include consideration of how best to utilise the existing line routes.

Eneabba – Three Springs should not be stand-alone:

This section of the transmission network augmentation is not a stand-alone project. Upon advice, Western Power will extend the Regulatory Test to include all assets to the Karara mine site.

The assets between Eneabba and Three springs will be leased by Western Power, who will conduct network service provider functions under an agreed regulatory framework. Western Power will have full operational autonomy over the leased assets, and operate and maintain the assets as it does any other part of the SWIS.

The ownership arrangement will not impede the connection of nor add additional costs to the delivery of covered services to all other SWIS users.

Alternative option – Neerabup-Moora-Three Springs route:

It is proposed that the new transmission line will be constructed along the majority of the existing route. By replacing an existing line rather than seeking an entirely new corridor, Western Power has been able to minimise the environmental impact of this important piece of infrastructure. Nevertheless, Western Power is still required to seek environmental approvals for the new line and the associated clearing and works. Western Power has already sought most of these approvals, and will continue to liaise with environmental stakeholders such as Department of Environment, Water and Heritage (Federal) and the Department of Environment and Conservation (State) throughout the duration of the project. As part of the environmental approval process, Western Power is required to provide offsets for the clearing of native vegetation.

The eastern route through Moora would require new environmental approvals, which could take 2 to 3 years to complete. This is likely to result in unacceptable delays to the progress of major mining projects in the Mid West.

Other issues:

Renewable energy

Your submission states that Western Power does not give enough emphasis in the Proposal for the accommodation of wind, solar, thermal and PV generation.

Western Power points out that the region is ideal for renewable sources of generation. The reinforced network will facilitate the connection of new generation. The revised Options paper has been updated to reflect your comments.

Supply reliability in Geraldton after Southern Section Enhancement

The loss of a single 132 kV line north of Three Springs is not expected to lead to voltage collapse and trigger the need for load tripping north of Three Springs, based on the current network configuration and load. The addition of a 330 kV line to Three Springs Terminal, together with a 330 / 132 kV transformer, will support the underlying load growth in the Geraldton area for some years.

However, based upon current project timing, the addition of block loads in the Geraldton area could result in voltage stability and line thermal loading issues by the end of 2014, under a 1:10 year peak summer load condition for a fault and loss of a 132 kV line north of Three Springs. Although the likelihood of such a scenario occurring is slim, it is prudent that Western Power plans to ensure the integrity of our network in the area, and have factored such a scenario into our planning.

This will require some level of reinforcement or the use of Network Control Services (NCS) until such time as suitable reinforcement can be constructed in the area. Essentially until the network is reinforced to Geraldton, new block loads connecting to the network will be required to fund any required NCS and may help provide those services by providing interruptible loads or a localised generation solution. Western Power will also investigate securing network control services from existing customers in the Geraldton region. It is envisaged that NCS will be enabled during the high risk periods (e.g. peak demand during summer). Even then, the NCS will only be enacted to maintain system security in events such as a fault on a 132kV line to Geraldton. Western Power is currently engaging with potential major block loads to investigate options and ensure an acceptable solution can be reached. This would only be utilised under a network control services contract, and there would be substantial notice given to the customer prior to Western Power using it. A scheme similar to this is already in place in the Eastern Goldfields region.

On behalf of Western Power I would like to thank you for your support. If you have any queries please do not hesitate to contact Douglas Thomson on (08) 9326 6174 or via email to douglas.thomson@westernpower.com.au.

Yours sincerely,

D Bones

David Bones
Manager Networks Planning and Development