2 Introduction

The purpose of this submission is to provide a response to the Backhaul Blackspots Initiative Stakeholder Consultation Paper. The information in this paper is for consideration by the Department of Broadband, Communications and the Digital Economy. The information includes:

a) The organisations' understanding of existing competitive high speed Telecommunication infrastructure in Queensland;
b) Description of the potential opportunity to augment existing investment by QR Network Pty Ltd (QRN) and Ergon Energy Corporation Limited (EECL) to deliver competitive telecommunication infrastructure to Backhaul Blackspots.
c) Telecommunication capability of QR Network Pty Ltd and Ergon Energy Corporation Limited.

It is anticipated that there is potential scope within QRN and EECL telecommunication investment programs to assist the Federal Government in reaching its goal of a National Broadband Network (NBN) particularly in providing access to Backhaul Blackspots in regional Queensland areas such as Mount Isa, Longreach and Charleville.

3 Backhaul Blackspots

Alternative telecommunication infrastructure, capable and available for delivering wholesale backhaul capacity, is generally available in the eastern part of Queensland. The available competitive infrastructure is typically limited to the area up to 200 km inland from the Coast. Optic fibre backhaul infrastructure in the coastal area includes networks owned by Telstra, Optus and Powerlink.

Figure 1 shows Queensland with the shaded section indicating the locations where multiple high capacity backhaul networks exist.

Beyond the shaded area shown in
Figure 1 there is limited infrastructure available for high capacity backhaul provision. It is QRN and EECL understanding that Telstra is the major telecommunications carrier in the region and owns the most significant portion of the telecommunications infrastructure. Other telecommunications carriers provide services but all are via the Telstra network.

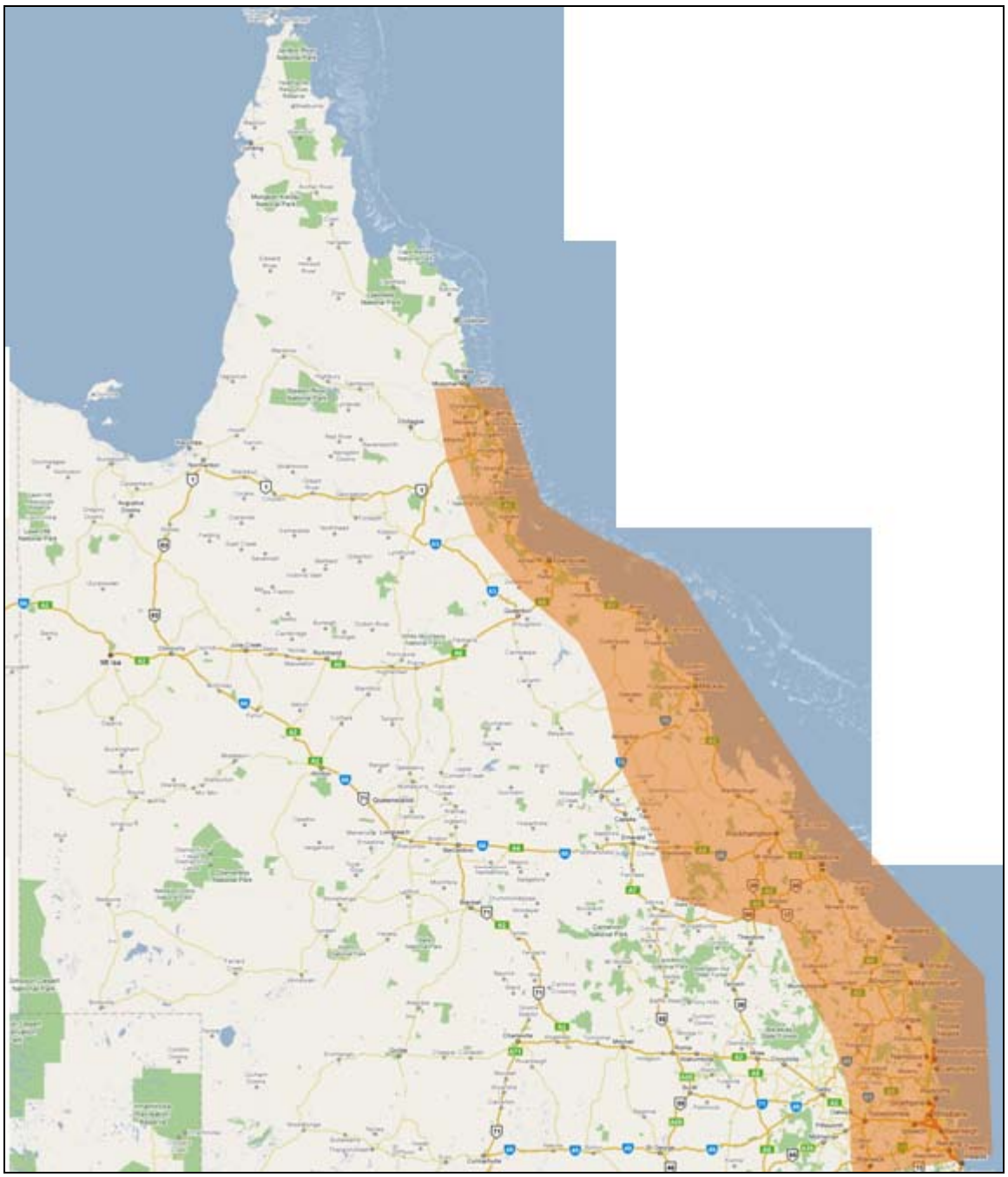

Figure 1 - Competitive High Capacity Backhaul Coverage in Queensland

There are a number of small and medium size communities in the area beyond the current competitive backhaul infrastructure that would benefit from the enabling of alternative backhaul infrastructure. Some of the larger communities in the area include:

- Barcaldine
- Charleville
- Cloncurry
- Emerald
- Hughenden
- Julia Creek
- Longreach
- Mitchell
- Mount Isa
- Richmond
- Roma

4 QRN and EECL Infrastructure

QRN and EECL own and operate railway and electricity infrastructure in Queensland. As part of their core business they each operate and maintain large telecommunications networks in Queensland and provide a large range and diversity of telecommunications services primarily that support their business and operational telecommunications needs as well as the safety and business critical aspects of their respective operations.

The QRN and EECL networks comprise a diverse range of telecommunications infrastructure including fibre optic, microwave radio and copper-based technologies. These assets are at varying stages in their life cycle and some assets have reached their economic life. New technologies now exist and are being used to progressively renew the assets.

Powerlink and Energex also own and operate extensive telecommunication networks but the majority of their existing telecommunication infrastructure is not in the identified backhaul Blackspots areas.

4.1 Ergon Energy Corporation Limited

Electricity network businesses face a number of significant challenges including aging network assets, increasing demand and greater customer service level expectations. Any electricity network enterprise that wishes to operate at best practice levels must recognize these challenges and implement strategies and plans to address them in a proactive manner.

The requirement to meet short term challenges is immediate and will need to be continuously grown and evolved over time to meet the medium and long term challenges as they arrive.

To that end EECL has identified the need for an advanced digital communications system to primarily serve its electricity transmission and distribution system. Electricity network operator requirements include network monitoring and control functions along with provision of capacity for staff management and communications. Requirements such as links between high voltage circuit breakers cannot be adequately provided by carriers therefore operator owned infrastructure is required. Accordingly, to satisfy current and potential telecommunication requirements, EECL has developed the Ubiquitous Telecommunications Network (UbiNet) project.

The UbiNet project is a staged extension of EECL's existing high speed network between, and within, the coastal population centres of Queensland. The proposed network has been developed to capitalise on EECL's current infrastructure. The capacity and architecture has been developed to delivery the most economical solution whilst providing current and future demand for EECL.

The UbiNet project provides an opportunity to develop a telecommunication infrastructure platform as a key enabler to meet the growing electricity needs and expectations of Queenslanders, now and into the future. Due to the vast nature of the EECL network, the UbiNet project will be delivered in a staged approach. The delivery of each individual stage will provide a fully operational link to the telecommunications platform, resulting in immediate benefits to the corresponding region.

4.2 Queensland Rail Network Pty Ltd

As a railway manager QRN requires efficient telecommunication systems to operate, monitor and safely manage their operations and core business. These systems include train control and operational systems, without which trains can not operate.

Parts of the existing QRN telecommunication network are at the end of their operational life and need to be replaced in order to reliably continue providing services. Along with expansion and replacement of existing systems carrier services which were used on some areas are now no longer provided or are unsuitable for the requirements of QRN.

Enhancements to QRN's current train control and operational systems improve the security, reliability and capacity of train operations. Much of the telecommunications network in the non-coastal part of Queensland will require upgrades in the future to ensure that the railway maintains a robust, telecommunications distributed network available at key locations.

A major focus for QRN over the next 5 to 10 years is the replacement of the near life expire optical fibre cables in the central Queensland coal field's area. Train operations in these areas is significant and a robust telecommunications network based on optical fibre is necessary to safely and efficiently operate the train network.

4.3 Technology Options

The key requirements for telecommunication network services within EECL and QRN are dictated by reliability, geographic coverage and technical performance rather than high capacity. For example key technical requirements include the ability to provide time division multiplexing capacity with strict latency performance, along with internet protocol solutions. Typical requirements dictate capacity that can be accommodated through the provision of carrier grade microwave systems for backhaul capacity.

Although an optic fibre backhaul solution would meet all the technical requirements for the operation of both the electricity network and rail operations, this option is typically two times the cost of a microwave backhaul solution. A microwave backhaul system often satisfies the combined performance and capacity requirements of EECL and QRN in regional areas.

4.4 Asset Management

Both EECL and QRN manage and operate very large infrastructure assets being the electricity distribution network for Queensland beyond the South East corner and the states rail network. EECL's electricity network has an approximate value of $7B and QRN's assets equate to approximately $6B.

Both organisations continue to develop infrastructure with extensive ongoing capital investment programs. Along with the large investment programs both EECL and QRN have systems and structures in place to ensure effective procurement and project management is implemented. Due to the existing geographic coverage, both organisations are also capable of maintaining and operating infrastructure for the long term with staff located throughout the state.

4.5 Telecommunication Experience

QRN and EECL have substantial in-house knowledge and experience which has been gained over the past 75 years of engineering and operating of their respective telecommunications infrastructure. This experience spans the complete asset life cycle and includes construction, operations and maintenance of their respective telecommunications infrastructure.

Based on current valuations, the QRN network has a replacement cost of around $150 million and after the UbiNet project, EECL's will be approximately $200 million.

5 Wholesale Telecommunications

QRN and EECL also provide a range of services to the telecommunications industry, including access to the rail corridor and electricity infrastructure, managed data services and dark fibre. In reflection of the legislated requirement for Queensland Government Owned Corporations to act commercially, these services are provided to licensed telecommunications carriers on commercial terms and conditions.

In 2004, EECL established Nexium Telecommunications to make available to the market telecommunication capacity which was in excess to operational requirements. This capacity is made available to Carriers and Service Providers throughout Queensland. Although a registered telecommunications Carrier, Nexium only provides wholesale telecommunication services with no retail services provided.

Nexium typically provides services which are a combination of EECL infrastructure and other providers' infrastructure including QRN and Powerlink. The Nexium business model is to provide open and equitable access with the same charge applied to any Carrier for the same service.

This approach has enabled high speed services to be provided by competitors to Telstra in regional locations within Queensland. Some of the Carriers using capacity provided by Nexium include Orange and UeComm.

Areas which have benefited from the increased options and competition have included the Bowen Basin coal mining areas and regional centres such as Rockhampton and Townsville.

6 QRN and EECL Relationship

Where possible, to avoid the unnecessary duplication of state's telecommunications infrastructure, EECL and QRN intend to work with other Queensland Government Owned Corporations (GOC's) on ways to jointly construct and operating telecommunications infrastructure. Fittingly EECL and QRN have identified a common need for greater telecommunications capability between Townsville and Mt Isa. Other potential areas of common need include Toowoomba to Charleville and Blackwater to Longreach.

7 Opportunity

As described above QRN and EECL have been exploring the shared development of telecommunications infrastructure to reduce the operational costs and initial expenditure where common areas of demand exist.

The same principal can be applied to the extension of high capacity backhaul to regional areas of Queensland. Rather than considering the investment in backhaul capacity in isolation to existing infrastructure requirements there is an opportunity to provide additional investment into existing projects and plans with the resulting infrastructure capable of providing all participants' requirements.

By sharing the cost of investment across multiple participants the cost of satisfying each organisation's requirements is substantially reduced.

For example the provision of telecommunication capacity along the main transport corridors from the coastal areas to inland Queensland is a common requirement for:

1. EECL – Part of the UbiNet project to provide network management communication
2. QRN – Replacement and renewal of telecommunication systems for train operations
3. Backhaul – alternative infrastructure as each of the areas is only serviced by Telstra

Each of the three requirements above could be serviced in the construction of separate telecommunication assets to satisfy the requirements of each.

A model to deliver high capacity backhaul could see the combination of the investment and requirements of EECL and QRN with an additional injection of funds to enable the delivery of infrastructure (optic fibre rather than microwave) which satisfies the operating requirements of all parties.

In addition to the significant reduction in cost which will be achieved to delivery high capacity backhaul to the Blackspots along the potential routes there are a number of additional advantages to combining the investment with rail and electricity network operators including:

1) Significant experience in the construction of large assets
2) Proven experience in the development and operation of telecommunication networks
3) Existing investment plans in place which can quickly be modified to allow rapid expansion
4) Regionally based staff in situ available to maintain any assets developed
5) Established Network Operations Centres
6) Existing telecommunication business model in place to provide wholesale capacity to retail carriers.

Figure 2 shows examples of the areas where existing telecommunication network development plans could be aligned with the extension of high capacity backhaul. The initial opportunities which follow the transport corridors include:

a) Townsville to Mt Isa
b) Blackwater to Longreach
c) Toowoomba to Charleville
    i) And potential extension to Cunnamulla

Note: Communities can also be serviced along the proposed routes.

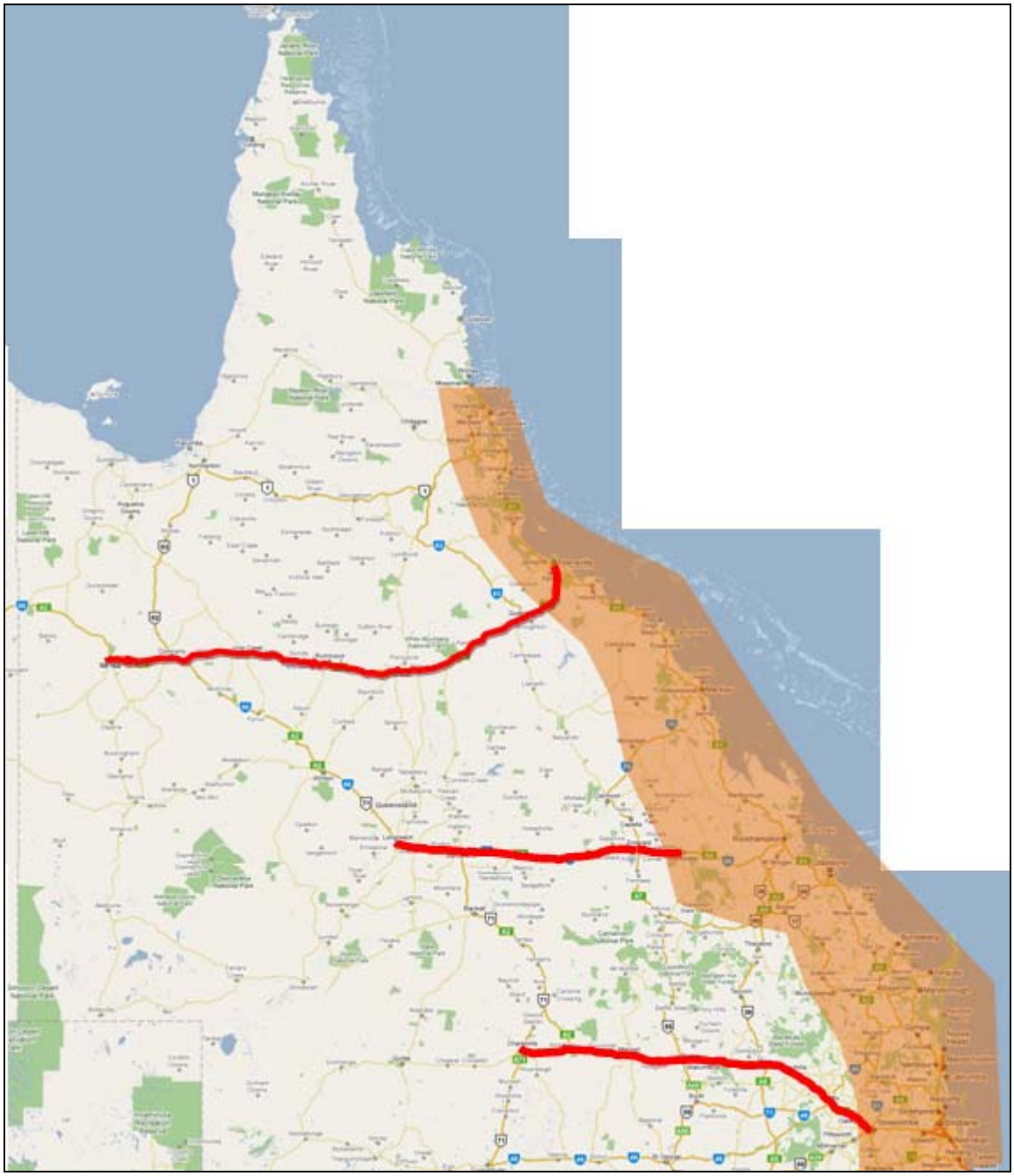

Figure 2 - Existing EECL and QRN planned telecommunication infrastructure development routes.

8 Basis of QRN and EECL'S Proposal

QRN and EECL would be interested in constructing full fibre networks that benefited the Australian Government, QRN and EECL, if additional funding is available to make construction, ownership and management of the network viable.

Subject to clarifying the Government's desire for the construction of new telecommunications infrastructure in the Blackspots regions, QRN and EECL would seek to enter into negotiations with once the Australian Governments requirements are known.

9 Summary

QRN and EECL believe this proposal offers the following benefits for the Australian Government and would welcome an opportunity to discuss it further:

- Minimal incremental investment for substantial usage available to Australian Government;
- Provision of new competitive broadband service in a noted regional Blackspots;
- Support for improved services to mining industry in NW Queensland, and the flow on economic benefits this can bring;
- Improved rail infrastructure to support rail over road in the region;
- Positive media reaction to early action; and
- Opportunity for shared coverage with Queensland Government

There is an opportunity for the extension of optic fibre infrastructure to current telecommunication backhaul Blackspots via the existing major infrastructure owners within Queensland. By contributing to the development of telecommunication infrastructure which satisfies both existing asset owner and the national broadband requirements QRN, EECL and the Federal Government can implement high capacity infrastructure at a lower cost to each party than would be incurred if networks were implemented in isolation.

The extension of high capacity backhaul to the identified regional Blackspots can be achieved through an incremental cost, rather than the full network development cost, by upgrading the currently proposed networks.