## **XX** Downer

9 March 2012

Queensland Competition Authority GPO Box 2257 Brisbane QLD 4001

By email: rail@qca.org.au

Dear Sir/Madam,

RE: Submission in relation to QR Network's 16 December 2011 Draft Amending Access Undertaking for Sustainable Electric Traction Pricing ("Proposed Amendments")

Downer Rail has reviewed the QR Network's Proposed Amendments submitted to the Queensland Competition Authority ("QCA") and we have a number of comments we would like to feed into QCA's considerations of the Proposed Amendments.

Whilst we have not had access to the underlying modelling and analysis undertaken by QR Network in developing their Proposed Amendments, there are high level assumptions and conclusions that we would suggest need further consideration and justification.

#### **Electric versus Diesel locomotives**

#### Efficiency

An underlying assumption supporting the Proposed Amendments is that electric locomotives are more efficient than diesel locomotives. Without seeing the analysis behind this assumption we cannot comment in detail, but would assume that the comparison of electric and diesel is based on the product and technology currently in production. However, there are next generation diesel locomotives which are currently being developed. The next generation locomotives will provide improved efficiency, higher power and increased speed. These improvements could significantly change QR Network's analysis and conclusions.

Downer Rail and other locomotive producers are in the process of developing next generation diesel locomotives, hence the improvements that are available through updated technology will be realised in the near future.

In addition, the efficiency of the power source providing the electricity needs to be considered. Downer has data showing that coal powered electricity used to power electric locomotives

produces 50% more CO2 than the equivalent amount of CO2 produced by operating diesel locomotives.

#### Cycle time

Downer Rail has undertaken some analysis on reference trips to consider the cycle times for electric versus diesel. Our results show that there is a small advantage in cycle time for electric over diesel, but this is only a matter of minutes. We believe the significant number of variables, including loading, unloading, passing loops and other bottle necks, make it difficult to definitively support a case that greater use of electric locomotives will improve cycle time.

#### Moving the investment goalposts

We understand an underlying objective of the access regime is to provide visibility and certainty to those that use the system and invest in rolling stock to fulfil their operational requirements. Since the regime was introduced, multi-million dollar investment decisions have been made in relation to rolling stock, based on the access pricing regime at the time. Changes to the access pricing regime will lead to a level of uncertainty on future operating costs that will reduce investment, leading to less rolling stock being added to the networks, and hence higher access charges on those that are operating.

We believe the negative impact on future investment and therefore overall economic impact needs to be considered.

#### Free competition will drive the most efficient outcome

If electric locomotives are the most efficient power choice for Queensland, the operators will choose to acquire and operate electric over diesel. In deciding this they will need to consider, among other things:

- Acquisition cost;
- Operating costs;
- The flexibility required in their fleets and potential future usage; and
- Redundancy in fleet to cope with electric infrastructure outages.

As stated above, we have not sighted the model used by QR Network and hence cannot comment in detail on specific assumptions. However, the market will decide, based on cost and operational factors, whether electric or diesel is the most efficient and effective for their needs.



We trust that the QCA consider the issues and concerns raised above in their review of the Proposed Amendments.

### Regards,



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10 May 2012

Queensland Competition Authority GPO Box 2257 Brisbane QLD 4001

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Dear Sir/Madam,

RE: Submission in relation to QR Network's 16 December 2011 Draft Amending Access Undertaking for Sustainable Electric Traction Pricing ("Proposed Amendments")

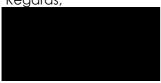
Further to our letter dated 9 March 2012, Downer Rail makes the additional comments below in relation to cycle time.

#### **Cycle time**

The electric locomotive consist has approximately 50% more power than the diesel consist so some improvement in running time should be expected. Downer's computer simulation analysis for the Blackwater System shows that while the electric locomotives provide a shorter cycle time, the difference in overall running time is actually quite small. We simulated three electric locomotives with 102 wagons and four diesel locomotives with 100 wagons. We found that the difference in actual running time from the mine to the port and return was only 5 minutes.

Concerning the time to service the locomotives, the diesel locomotives would be refuelled once per trip. The locomotives have 9000 litre fuel tanks. Our simulations show that the round trip would require 3500 litres per locomotive. We believe that the refuelling time would be significantly less than 1.3 hours. With a fill rate of 800 l/min a locomotives could be refuelled in just over 4 minutes. All other servicing including sand, toilets and cab amenities would be required for both the diesel and electric locomotives. Therefore, we do not believe that there should be a difference in service time of 1.3 hours between diesel and electric locomotives.

Regards,



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