No 11, Huayuan Street, Xicheng District, Beijing, P.R.C 100032
Tel: 86 10 51898268 Fax: 86 10 51898264

25 September 2012

John Hall
Chief Executive Officer
Queensland Competition Authority
GPO Box 2257
Brisbane Q 4001

Dear Mr. Hall,

Sustainable Electric Traction Pricing – Draft Amending Access Undertaking (DAAU)

China Railway Materials Company Ltd (CRM) has reviewed the Queensland Competition Authority ("QCA") draft decision on QR Network's DAAU and would like to provide the following comments for QCA's consideration as part of the public consultation process.

1. China Railway Materials Company Ltd (CRM)

As a large State Owned Enterprise, CRM is now the largest integrated service provider for Chinese railway systems, responsible for the safety of railway construction and operation. Over the last 60 years, CRM has been involved in all major railway construction projects in China, contributing to the fast growth of the Chinese railway industry.

In July 2012,Fortune published the "2011 Fortune Global 500 companies". CRM's operating income was 206.8 billion yuan (31.99 billion U.S. dollars) in 2011, ranked 349th among the global 500 companies, achieving a quantum leap over 2010's 430th.

2. The development of Electric Traction in Chinese Railways

2.1. Overview

On 15 June 1968, China started the construction of its first electric railway line. After the development of over 50 years, China now has over 30,000 km electric railway in operation, both fast speed passenger railway and heavy haul railway, accounting for 45% of its total railway system.

According to "The 12th five year plan of Chinese railway", electrified railways will account for 60% of the entire railway system of about 60,000 km by 2015. In addition, according to "The medium and long term development plan of Chinese railway network", during 2015-2020, all new major constructed railway lines will be electrified railways.

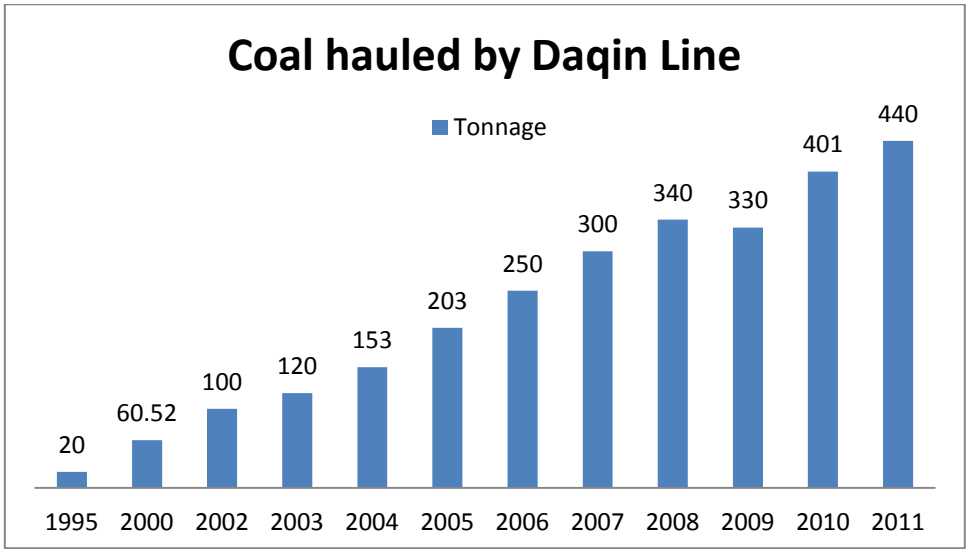
For your information, please find the attached maps which are the plans of Chinese railway

No 11, Huayuan Street, Xicheng District, Beijing, P.R.C 100032
Tel: 86 10 51898268 Fax: 86 10 51898264

network. The first map is the whole plan of the network, the second is the plan of fast speed passenger network, the third one is the heavy traction railway network for coal haulage. Both the passenger and the coal network are electrified railway lines.

2.2. Daqin Line

The operation of Daqin Line is the milestone of Chinese electrified heavy haul transportation. On 28 December 1988, stage one of Daqin Line was completed. In December 1992, stage two started transportation. Now, Daqin Line is the most important coal transportation corridor in China, with the total haulage distance of 1640 km and throughput of over 450 Mtpa.



Daqin Line is the most successful coal transportation operation in the world. It has set world records in efficiency, economics and environment protection in heavy haul railways.

Daqin Line has the following characteristics:

- **Energy savings**

The electric energy is a secondary energy. There are several kinds of converting methods which could be obtained comprehensively, for example from water power, nuclear energy and natural gas energy. Even from heat power plant, we can also use inferior coal or heavy oil.

From the point of loss of electric transmission and hydraulic transmission, the average thermal efficiency of diesel locomotive is only 26% and the electric locomotive is 28%. If the solar energy or nuclear is used, this efficiency would be higher.

No 11, Huayuan Street, Xicheng District, Beijing, P.R.C 100032
Tel: 86 10 51898268 Fax: 86 10 51898264

More specifically, there are lots of power plants near the coal harbor, which is just the start point of Daqin Line's operation. So the energy supply is more reliable for electric traction than the diesel traction.

Compared with traditional mechanical brake, regenerative brake technology, used on electric locomotives and electric multiple units, has the advantages of energy reuse, less braking noise and better energy saving and environment protection.

With the regenerative braking technology, during braking, the traction motors work as generators to feed the electric power back to railway power system through the overhead line or the third rail, so that electric power regenerated could be used by other electric locomotives. In respect of energy efficiency, the regenerative braking is much better than air brake usually adopted by diesel locomotives.

- **Environmental benefits**

The exhausted gas emitted by diesel locomotives could harmfully affect the ecological environment, human body, plant, animal and climate. According to statistics, the noxious gas emitted by combustion of 1 ton diesel requires 1.34x104 m^3 fresh air for dilution to meet the air quality standards, if a diesel locomotive is replaced with an electric locomotive, it equals to reducing exhausted gas of 4,000 cars.

The electric locomotives collect the clean power from the overhead line. They do not generate any noxious gas, so they will not cause any pollution to the environment. Moreover they greatly improve the working conditions of attendants on the train.

- **Technology advantages - efficiency**

Compared with diesel locomotives, electric locomotives have higher power, better overload capacity and greater haulage effort. Another merit of electric locomotive is that it could run on the electrified line unrestrictedly without stop due to empty fuel (except breakdown time).

To achieve a greater power of a diesel locomotive, the power of diesel engine and generator need to be increased， meanwhile the fuel tank need to be enlarged. With the tank increasing, the fuel efficiency decreases badly, and the tank also has volume limit. However, it is easier to increase the power of electric locomotives.

For example, the Daqin Line currently uses just 2 AC electric locomotives for one train to haul 20,000 tons of coal by 4 drivers. There is one train every 7 minutes. It is not possible if Daqin Line wants to use diesel locomotives to do so.

- **Other advantages**

Besides the advantages above mentioned, the electric locomotive still has other superiority such

No 11, Huayuan Street, Xicheng District, Beijing, P.R.C 100032
Tel: 86 10 51898268 Fax: 86 10 51898264

as higher speed, higher efficiency of service work, less maintenance, less operation cost, more easily realize locomotive couple, etc.

The operational speed and carrying capacity can be easily increased and the transportation capacity and pass ability can also be greatly boosted by using electric locomotive to drag train. The electric locomotive has high start acceleration, strong climbing ability and is less influenced by ambient such as frost. The electric locomotive can also better display its advantage on busy railway and the trunk with many tunnels and slope in mountain region.

3. The technology for the future

There are currently four electric locomotive manufacturers in China.

- CNR Dalian Locomotive Company, who focuses on passenger electric locomotives
- CNR Datong Electric Locomotive Company, who focuses on heavy haul electric locomotives
- CSR Zhuzhou Electric locomotive Company, who focuses on heavy haul electric locomotives
- CSR Ziyang Locomotive Company, who focuses on passenger electric locomotives.

On the Daqin Line, all locomotives are made by Chinese manufacturers, with locally developed technology.

At present, the most advanced diesel locomotive only has about 5,000kW single-machine power, but the HXD2 electric locomotive manufactured by CNR DELC is with 10,000kW single-machine power and haul capacity of 10,000t, and suitable to work on iron and coal railways in Australia.

HXD2 locomotives are currently operating on the Daqin rail line (now a roundtrip of close to 3000km). Everyday there are close to 65 sets of 20,000t train operating on the line, as well as 20 sets of 10,000t trains and 10 sets of 15,000t trains. On average one train leaves Datong every 7-8 minutes. This has enabled an annual haulage task of 440mt for 2011.

HXD2 locomotives in action on the Daqin line.

The Daqin line is a dedicated electric line (with duplicated tracks). The tonnage on the line is only possible because of electric traction. We believe diesel trains or mixed diesel and electric trains would not have been able to achieve the tonnage due to the slower speed and complication of

No 11, Huayuan Street, Xicheng District, Beijing, P.R.C 100032
Tel: 86 10 51898268 Fax: 86 10 51898264

operations.

The direction of heavy haul railways in China is electric – there are no doubters. In addition, as a general rule, electrified railways do not allow diesel operations on them.

4. Summary

We believe the choice of traction is primarily a question of overall system optimisation, taking all aspects of the railway system into account. Competitive market forces, future technological developments and environmental outcomes are equally important, as both rolling stock and infrastructure investments are long-term in nature.

As AC locomotive propulsion technology is well established in Australia, there is opportunity to continue to leverage the benefits presented by the higher performance characteristics of electric traction through continued investment and utilisation of dedicated heavy rail haulage corridors such as the Blackwater and Goonyella systems.

From an industry insider's point of view, we believe electric traction is the trend of the railway industry development. It will make sense when we study the options to not only base the anlalysis on the current situation but also with the future development and opportunity costs in mind.

We trust that the QCA will give sufficient consideration to the comments above in finalizing its decision on QR Network's DAAU.

In addition, we believe that the QCA would benefit from obtaining first-hand information by physically visiting efficient heavy haul railways in China in order to understand the drivers of efficiency and its application to the central Queensland coal network.

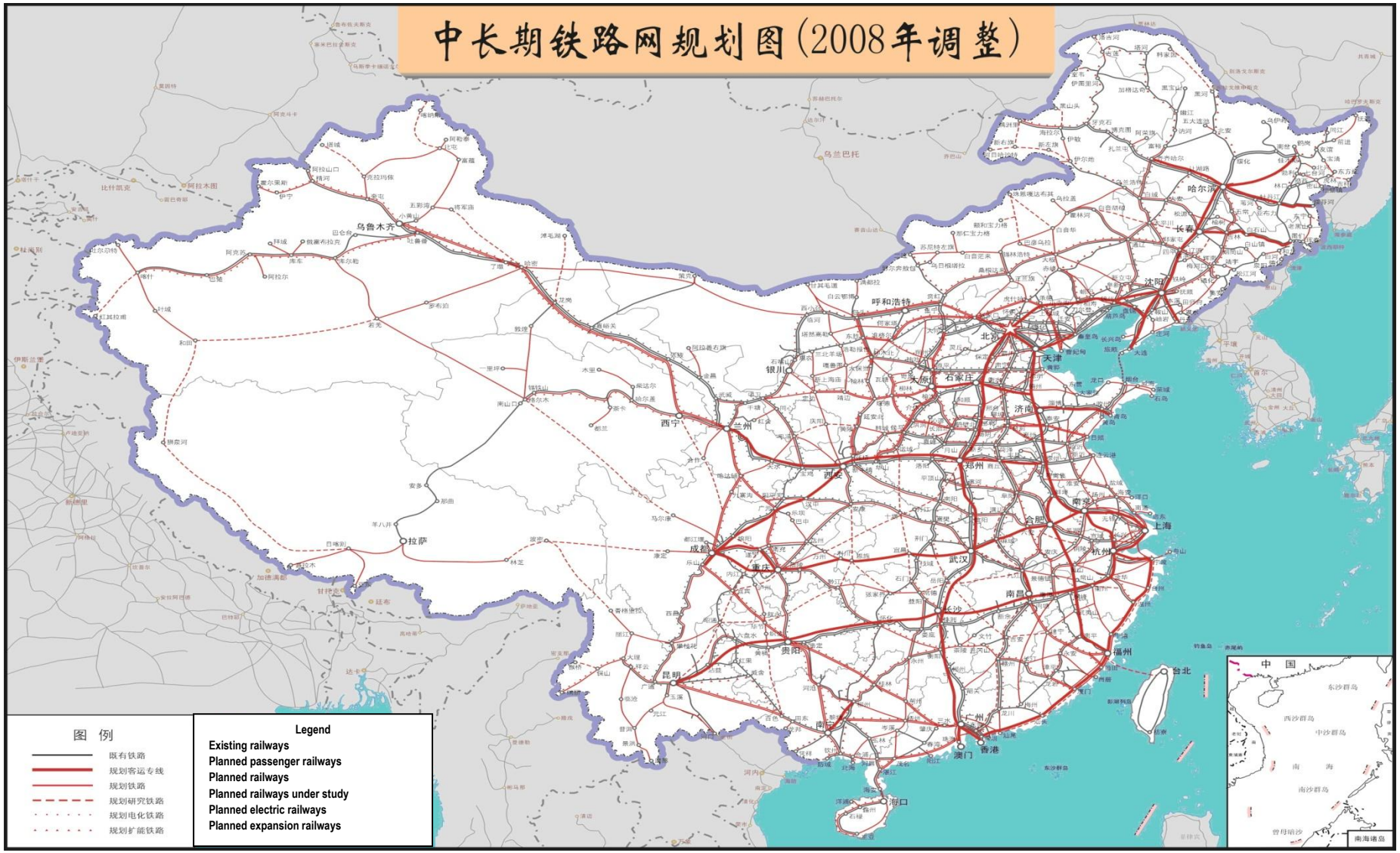
To this end, if it is possible, CRM would like to cordially extend an invitation to the representatives from the QCA to visit Chinese railways. During this trip, CRM will arrange meetings with relevant parties and site visits to the Daqin line and other operations if required.

Please do not hesitate to contact me if you have any further questions.

Sincerely yours,

Zheng Lie
Assistant President
General Manager of International Unit
China Railway Materials Company Ltd
Email: zhenglie@crmsc.com.cn

No 11, Huayuan Street, Xicheng District, Beijing, P.R.C 100032
Tel: 86 10 51898268 Fax: 86 10 51898264

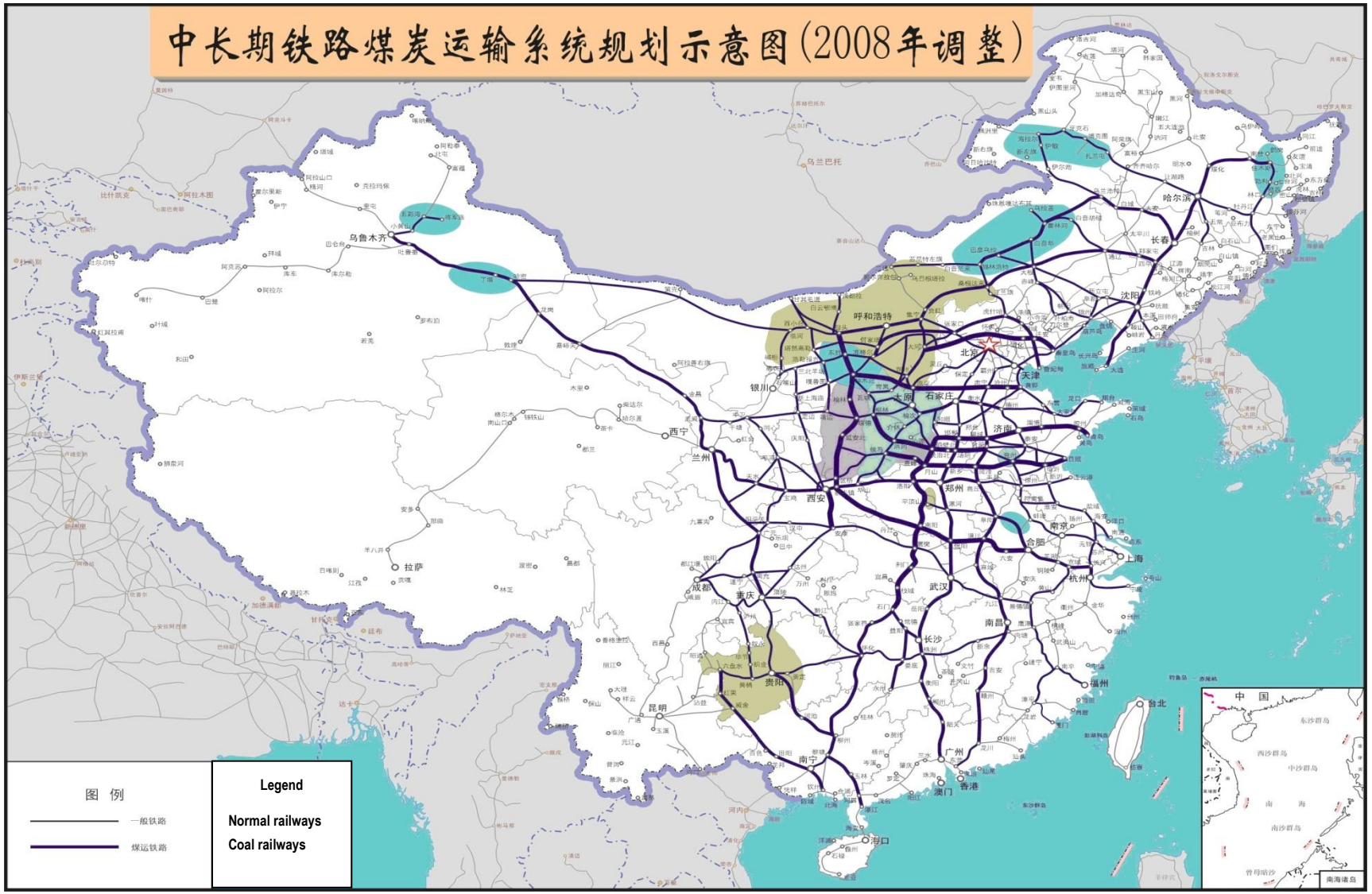


The Medium and Long Term Development Plan of Chinese Railway Network

No 11, Huayuan Street, Xicheng District, Beijing, P.R.C 100032
Tel: 86 10 51898268 Fax: 86 10 51898264

The Plan of The Fast Speed Passenger Railway

No 11, Huayuan Street, Xicheng District, Beijing, P.R.C 100032
Tel: 86 10 51898268 Fax: 86 10 51898264



The Plan of Coal Heavy Traction System