MODELLING AND RELATED SUBMISSIONS
TO THE NATIONAL COMPETITION COUNCIL
IN RESPONSE TO DRAFT RECOMMENDATION
DATED 4 NOVEMBER 2005

BHP BILLITON IRON ORE PTY LTD

Application by Fortescue Metals Group Ltd for Declaration of Service Provided by the Mt Newman Railway Line

6 January 2006

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MODELLING AND RELATED SUBMISSIONS

1. OVERVIEW

1.1 On 5 December 2005, BHPBIO submitted its Outline of Principal Submissions (**Outline**) to the Council in response to the Council's Draft Recommendation.

1.2 On 31 December 2005, BHPBIO submitted Further Submissions in response to the Council's Draft Recommendation.

1.3 BHPBIO now submits its Modelling and Related Submissions (**Modelling Submissions**) to the Council. The Modelling Submissions are based on, and are related to, modelling undertaken for and by BHPBIO in the period since the Council published its Draft Recommendation. The Modelling Submissions are:

(a) **Rail capacity modelling** undertaken by Evans & Peck to assess the total capacity (maximum achievable level of iron ore transportation) of the Mt Newman Line, assuming a fully dual tracked rail network and based on actual operating conditions (attached as **Document 1**);

(b) **Port capacity and facilities overview**: This is an overview report from TSG in relation to the availability and capacity of the existing port facilities at Port Hedland (attached as **Document 2**). This informs and supports the rail capacity modelling work undertaken by Evans & Peck, above.

(c) **Operational modelling** undertaken by TSG to assess the likely impact of third party access on the operational performance of the rail system, and to determine the corrective measures that would be necessary to alleviate the operational performance consequences of another operator on the system pursuant to third party access (based on several possible access scenarios) (attached as **Document 3**);

(d) **Capital cost analysis** undertaken by BHPBIO to determine the likely capital costs associated with implementing the corrective measures identified by TSG. This analysis also estimates the cost of full double tracking of the Mt Newman Line, which would be required to achieve the maximum capacity of the Mt Newman Line (attached as **Document 4**); and

(e) **Analysis of the costs of delays to investment due to access regulation** models and quantifies one of the key costs of declaration in this case, being the costs to BHPBIO of delays to its future investments in increasing the capacity of its integrated mine/rail/port iron ore production system, including the Mt Newman Line (attached as **Document 5**).

1.4 These Modelling Submissions are informed by and rely on information in the related submission, **Identification of the relevant Service** (attached as **Document 6**). This submission examines the scope of the service which the Council has recommended to be declared, points to there being no means for FMG (or any other potential user of the Mt Newman Service) to operate a train from the Mt Newman Line to the proposed new port facility at Anderson Point, and makes it clear that the Service cannot include the use of that part of the Mt Newman Line that runs from the junction of the Mt Newman Line with the Goldsworthy Line, to Nelson Point at Port Hedland.

In undertaking the operational modelling and capital cost analysis it has been necessary to identify more precisely the scope of the relevant Service (although some of the modelling has had to be undertaken on different assumptions – which are expressly identified where they arise – so as to be meaningful).

1.5 The Modelling Submissions and other material are relevant to the Council's consideration of various criteria under s44G(2), including whether it would be uneconomical for anyone to develop another facility to provide the service (criterion (b)), whether access to the service would promote competition in at least one market (criterion (a)) and whether access to the service would be contrary to the public interest (criterion (f)).

2. ECONOMIC TO DEVELOP ANOTHER FACILITY

2.1 The Mt Newman Line is not a "natural monopoly" in that it will not be able to serve the entire range of reasonably foreseeable demand for the transportation by rail of iron ore from mining areas near the Mt Newman Line to Port Hedland. The maximum potential operational capacity of the Mt Newman Line, even if fully double tracked and ignoring port constraints, is approximately 240 million tonnes[1] (see the Evans & Peck report – Document 1). This is considerably less than the foreseeable demand made up of:

(a) BHPBIO (and the other Mt Newman Participants) iron ore of [**CONFIDENTIAL - CONFIDENTIAL**], or, more broadly, up to approximately 300 mtpa within the next 20 years; and

(b) FMG iron ore, ex Cloud Break of approximately 45 mtpa (although up to 60 mtpa), and ex Mindy Mindy of possibly approximately 10 mtpa.

This reasonably foreseeable demand for iron ore transportation means that the development of another facility within the next 10 years is highly likely or inevitable.

2.2 It follows that to accommodate rail access for FMG or any other third-party traffic pursuant to declaration will merely bring forward in time the requirement to effectively duplicate the Mt Newman facility. Granting FMG, or any other third-party, access at merely the cost of

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[1] It must be noted that this maximum is unlikely to be practically achievable:

(a) the practical constraints at the Port of Port Hedland limit this capacity to no more than 220 mtpa – see the letter from TSG in relation to port capacity issues (Document 2);

(b) the assumption behind this finding by Evans & Peck is that the Mt Newman rail system is fully double-tracked. This would require expenditure of approximately $1,750 million (over and above the RGP3 works) to effect full double tracking (see para 4.1 of Document 4). An investment of this amount may not be attractive to BHPBIO as it further develops its plans. It may decide to construct separate new rail and port infrastructure in the Pilbara.

expanding the Mt Newman facility to accommodate that marginal traffic now may significantly understate the true costs of access.[2]

2.3 To accommodate FMG on the Mt Newman Line, the likely capital costs of double tracking the Mt Newman Line from Bing to Shaw is estimated at A$640m (see cases B2 and C2 in Document 3 and paragraph 2.3 in Document 4). FMG, by way of the work of its adviser, WorleyParsons, has estimated that the total costs of constructing the FMG Line, as at January 2005, will be approximately $548 million, and the costs of FMG constructing its own line from Shaw Siding to Anderson Point at approximately $475 million.[3] Therefore, even on this simple present capital cost analysis, it is economic to develop another facility.

2.4 Even if (contrary to the facts above):

(a) the Mt Newman Line were capable of meeting anticipated demand; and

(b) the cost of expanding the Mt Newman rail system to accommodate the impact caused by FMG's use of the system did not exceed the estimated costs of FMG constructing its own railway line,

it would nevertheless still be economic (in both the "social" and "private" senses) to develop another facility to provide the Service. The table set out in paragraph 2.5 (below) has been prepared from the conclusions in the attached modelling and other materials. It has been prepared on the basis that:

(c) FMG and its co-venturer cannot feasibly develop the Mindy Mindy deposit on its own[4] (ie without the concurrent development of FMG's Chichester deposits), as the size, grade and other features of the Mindy Mindy deposit cannot sustain the development of the port and other infrastructure, even if rail access were granted –

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[2] In comparing the cost of adding to an existing facility or constructing an additional new facility, there will be relatively "cheap" expansions and "expensive" expansions when measured by reference to dollars per tonne of incremental annual production rates. Accordingly, even if the Council were to take the view that expanding the facility now to accommodate FMG access would be **less** costly than FMG constructing its own line (which is contradicted by the analysis below), any calculated rail track capital cost saving would be likely to reflect the utilisation of a "cheaper" expansion option. Therefore, allowing for the sooner implementation of a subsequent "expensive" expansion option, being the duplication of the facility, would have to be taken into account against any such present rail track capital cost saving.

[3] See the FMG Announcement to the ASX, 2 August 2005. The below rail costs for the 255 km line from the Chichester Ranges to Anderson Point are estimated at A$548m – see footnote 22 in the Council's Draft Recommendation. Pro-rating this cost for the distance from Shaw to Anderson Point (220 km) gives a capital cost of approximately $475m. The specifications of this rail line are undisclosed, and may be of a lesser quality to that used by BHPBIO.

[4] Note that BHPBIO have previously submitted that the commercial development of Mindy Mindy is at best marginal even if rail access were provided and other infrastructure costs were pro-rated across other production) – see BHPBIO submissions of 3 June 2005.

hence, the table below does not analyse the relative costs for servicing Mindy Mindy alone;[5]

(d) FMG will transport approximately 45 mtpa from the Chichester Ranges, initially at least, either:

(i) on the Mt Newman Line, if the Service were to be declared;[6] or

(ii) on the FMG Line, pursuant to announcements that FMG has made; and

(e) there is insufficient capacity on the Mt Newman Line for traffic beyond approximately 45mtpa from FMG to be accommodated, even if the Mt Newman Line were to be fully double tracked.[7]

2.5 In these circumstances, which are consistent with FMG's announcements, (or indeed, in any other circumstances), the following table demonstrates that it would be clearly "economic" (in the required sense) for anyone (including FMG) to develop another facility to provide the Service:

[5] Note however, even in the hypothetical context of developing only the Mindy Mindy deposit, the relative costs in those circumstances would still point to it being economic to develop another rail line to service Mindy Mindy alone. This is evident from the work undertaken by Rio Tinto and Evans & Peck in May 2005 and presented in the Rio Tinto submissions to the NCC in June 2005, where they point to an estimate of approximately $122m to construct an acceptable standard spur line from the FMG Line to Mindy Mindy.

[6] Although note the submissions in para 3.1 below and in Document 6. The analysis here assumes that access to the Goldsworthy Line is available, contrary to the actual position.

[7] This assumes that FMG takes up that capacity on the Mt Newman Line prior to about 2010. After about 2010, it is likely that the Mt Newman Line will not accommodate any significant FMG traffic, as BHPBIO will have taken up the whole of the available capacity on that line, even if fully double tracked (which is limited to approximately 220 mtpa – see the Modelling Report in relation to work done by Evans & Peck, Document 1, and the TSG letter on port capacity, Document 2).

Costs of Developing Another Facility OR Declaration of the Mt Newman Line

Another Facility (FMG Line)		**Declaration of the Mt Newman Line (FMG 45mpta)**	
Direct Costs	($million)	**Direct Costs**	($million)
FMG's estimated capital costs of construction of the FMG Line from Shaw siding to Anderson Point[8]	$475[9]	Rail capital costs to accommodate FMG on the Mt Newman Line 45mtpa ex-Cloud Break (Documents 3 & 4)	$575-640
		Opportunity costs to BHPBIO in delaying future investments (Document 5)	$1,600
		Reduced throughput on the Mt Newman Line due to occasional lost train slots	$80[10]
		Opportunity costs in delaying introduction of new technology[11]	??
		Coordination and administration expenses (train operation etc)	$10[12]
"Social" costs		**"Social" costs**	
Environmental detriment from construction of FMG Line	??[13]	Decreased taxes and royalties due to lost revenue from delayed future investments, delayed technology introduction etc.	$840[14] +

[8] See footnote 3 above.

[9] Note that this is a January 2005 estimate, and the specifications of this line are undisclosed.

[10] Estimated to be approximately one lost train slot per month, at $1.5m per train in lost revenue for a two rake train at current prices. After an allowance for reduced prices going forward has been made, this has been converted to an NPV of approximately $80m over the life of the declaration.

[11] This cannot be quantified but is likely to arise, given that any new technology base for train operations will require all operators to adopt it. A third party operator with very much lower scale operations is likely not to consent to significant capital expenditure in adopting new technology systems.

[12] Estimated at $2 million pa, or $1.5 million after tax. NPV of approximately $10 million.

[13] The marginal detriment or cost to the environment from constructing the FMG Line is likely to be small as the FMG operations, even if to be operated on the Mt Newman Line, will nevertheless cause environmental loss, by way of very significant additional track works to the Mt Newman Line (see Document 4), dust and other loss of amenity in Port Hedland and other detriments. Further, the development of another facility within the next 10 years is highly likely or inevitable.

[14] It has been calculated that a one year's delay to an expansion will cause BHPBIO to suffer an opportunity cost of A$290m after tax (see para 10 of Document 5). The pre-tax figure would include, approximately, royalty payments of A$50m and corporate taxes of A$100m. Converting these costs to an NPV as per the cost of delays to BHPBIO, results in an NPV of royalties and taxes forgone of approximately A$840m.

Another Facility (FMG Line)		**Declaration of the Mt Newman Line (FMG 45mpta)**	
		Decreased incentives for investment for all mining infrastructure in Australia	??
Benefits of having FMG Line (to be operated as "open access line" along a different corridor) to service other iron ore mine promoters	(??)	Decreased supply reliability of BHPBIO and others operating on the one Mt Newman Line, due to operator interface risks	??
Benefit of marginally increased competition between track operators in the Pilbara	(??)	Increased safety risks due to two or more operators.	??
Benefit of marginally increased employment and regional development from immediate railway and port infrastructure construction	(??)		
Total : Less than $480		**Total : More than $3,000**	

2.6 The Council cannot be satisfied that it is uneconomic to develop another facility to provide the Service.

3. PROMOTION OF COMPETITION

3.1 The Council has determined that the service provided by the Goldsworthy Line cannot be declared under Part IIIA because it is not a "service" within the meaning of section 44B of the TPA. FMG and the Council have not identified a manner in which trains may be run from the Mt Newman Line to FMG's proposed port facility at Anderson Point. In the absence of that link, the Council cannot be satisfied that declaration of the Mt Newman Service would promote competition in any market.

4. PUBLIC INTEREST

4.1 In light of the analysis and modelling presented in the table above, and there being no promotion of competition in any relevant market (among other factors), it is clear that declaration of the Mt Newman Service would be contrary to the public interest.

5. CONFIDENTIALITY

5.1 This document, and the attached Modelling Submissions and other documents, include information that is confidential to BHPBIO. The relevant information is marked as "confidential" in the documents, and is provided to the Council on the basis that the Council will not make that information available to any other person or organisation without the express written permission of BHPBIO.

BHP Billiton Iron Ore
6 January 2006