9 March 2006

National Competition Council
Level 9 / 128 Exhibition Street
Melbourne VIC 3000

Attention: Mr John Feil

Dear Mr Feil

APPLICATION BY FMG FOR DECLARATION OF A SERVICE

RESPONSE TO G13 EXPERT REPORT DATED 26 FEBRUARY 2006

Evans & Peck has read the submission on the NCC website by consultants G13 & Associates, dated 26th February 2006. Lawyers Blake Dawson Waldron have requested that E&P review that report and prepare an independent review of the veracity of the report's findings with respect to G13's calculation of rail capacity.

Accordingly, E&P has prepared the following summary and requests that it be posted on the NCC website in response to the G13 report.

Findings

Evans & Peck disagrees with a number of key assumptions contained in G13's report, some of which have a significant impact on the accuracy of the findings of that report.

The following points detail the issues that E&P considers have the greatest impact.

Issue #1 – Modelling approach

On page 5 of its report G13 notes that

> *… it is necessary to estimate capacity by a sequential but iterative analysis progressing from simple to complex, viz:*
> • *Deductive reasoning by analogy with other situations[26];*
> • *Static model quantification and sensitivity analysis[27]; and*
> • *Inductive dynamic modelling to simulate "reality"[28].*

Here G13 confirms that dynamic modelling is necessary to estimate capacity but then discounts it in Footnote 28 due its being *inherently complex and detailed and, in consequence, generally unsuited to strategic and business analysis*.

Evans & Peck considers this logic to be flawed. It is precisely **because** large systems exhibit complex behaviour that dynamic modelling is used by organisations throughout the world for strategic and business analysis. Evans & Peck has over 20 years of experience in applying dynamic modelling to hundreds of real business problems throughout Australia, and regularly finds that even simple dynamic models provide superior accuracy over 'straight line' static models. A selection of past E&P clients and assignments is provided in Attachment 1 of this letter.

Static modelling is useful in testing small changes to a well-understood system, but where a 300% increase in production levels is being considered for a specific system using no real data for calibration (as in this case), the logic underlying the use of static modelling is inherently flawed.

Issue #2 – Modelling assumptions

G13 states in their page 1 disclaimer that:

> *"This report has been prepared with limited availability of contemporary data specific to BHP railway operations in the Pilbara. In contrast to G13 normal practice, data, analyses and conclusions have not been formulated or tested with the benefit of on-site observation and dialogue with railway personnel. To this extent the judgements and conclusions in this report must be considered as provisional."*

Thus the numbers used in G13's modelling are based on assumptions rather than on real data. E&P is of the opinion that those assumptions are inaccurate and result in a material overestimation of rail capacity.

Although G13 has not provided a full account of the assumptions used in its capacity estimate E&P has attempted to "reverse-engineer" the G13 spreadsheet model in order to demonstrate the impact that data quality can have on the result. E&P's analysis is presented in the boxed section below.

G13 declared assumptions:		E&P deduced G13 assumptions:	
* Tonnes per Train	= 25,000	* Train spacing	= 25.7 mins
* Operating weeks / yr	= 51		
* Unusable track capacity	= 20%		

Using these assumptions the G13 estimate of a double track rail capacity can be expressed as:

[25,000] x [51x7x24] x [100%-20%] x [60/25.7] = **400 Mtpa**

BHPBIO's advice to E&P is that running loaded trains through the Chichester Ranges limits the train spacing to a minimum of 36 minutes. If this real data is combined with G13's other assumptions the estimate becomes:

[25,000] x [51x7x24] x [100%-20%] x [60/36] = **286 Mtpa**

The example above shows a potential capacity over-estimation of **40%** due to a single incorrect assumption.

A further example relates to G13's assumption of 10% for *planned use lost due to variability*. E&P's analysis of real BHPBIO data shows that planned use lost due to variability at a 100 Mtpa production rate is in the order of 20%. As there is no clear explanation of how this variability factor impacts capacity E&P have not been able to quantify the effect of G13's assumption on capacity.

As production rates increase so will production losses due to variability. The impact of an error in this assumption will be significant.

The G13 report does not contain a clear explanation of the methodology and calculations used in preparing its estimate of rail capacity, therefore E&P is not able to assess the total impact of the variance between G13's assumptions and real data.

To achieve an accurate estimate of production capacity, G13's assumptions would need to be verified utilising real data and dynamic modelling.

Issue #3 – Capacity Balancing

G13 makes the following statement under section *4.1.2 Mine and port effects, train running effects, maintenance*:

> *… This reflects the fundamental truth that the railway is part of an interdependent supply chain influenced by, and influencing, the capacity and behaviour of other parts of the supply chain.*

E&P agrees with this statement and has incorporated the dynamic impacts of system constraints into its estimate of rail capacity. E&P's report on these effects, dated January 2006 is currently posted on the NCC website.

G13's modelling neglects this *fundamental truth* by assuming that the capacity of all elements of the system can be upgraded in order to balance capacity at all production levels, regardless of cost. This does not reflect the reality of the situation that BHPBIO, FMG and potentially other parties are faced with, particularly in relation to the unloading facilities at Port Hedland.

It is recommended that G13's estimate be revised in terms of the constraints that can realistically be expected to exist at the mines and port in the future.

Summary

In summary, it is Evans & Peck's considered opinion that G13's report contains a number of incorrect assumptions and some errors of logic that cause G13's estimate of production capacity to materially overestimate the capacity of BHPBIO's rail system.

Yours faithfully
for and on behalf of

EVANS & PECK PTY LTD

Tim Humphry
Principal

EVANS & PECK
think through the future

Attachment1. Selection of E&P Dynamic Modelling Assignments for Strategic and Business Analysis.

Industry	Client	Project	Description of Service	Location
Business/Project Feasibility	Grainco	Melbourne Storage Complex, Silo Configurations	iThink model to evaluate and optimise silo number and size (few big silos or many little silos), to service the boutique client demand of numerous grades & quality of grain.	VIC
Business/Project Feasibility	Pacific National	BroadAcre	Model of supply chain from upcountry storage, through a consolidation facility and then to port via various size train consists. Model performance was assessed against demurrage generated by various sets of two years worth of shipping stem for up to 10 grain types.	NSW
Chemical	Dupont	Automotive Paint Supply Acquisition	Construction of a Balanced Scorecard for the newly combined companies to demonstrate underlying drivers of profit and customer satisfaction.	NSW
Chemical	Lend Lease	Propellant Manufacturing plant	Impact on plant throughput of various product mixes with differing process times at each station.	NSW
Communication	Optus	Pay TV	Impact on call centre service levels of introducing credit checking into normal sales routine of operatives.	NSW
Communication	Alcatel	Triple Play	Macro & Micro models of Broadband take-up looking at a range of competitors, technologies, geographies and consumer demands.	Australia
Communication	Telstra	RARE	ithink demo & pilot study of drivers of service levels in relation to m'tce of rural exchanges & tails.	QLD
Communication	Telstra	BCC	Model of pricing & service offerings for BCC Voice contract.	NSW
Construction	Transfield	Northside Stormwater Storage Tunnel Sydney	iThink model to evaluate and optimise construction processes and methodology of the demobilisation of 3 tunnels from the one decline at Tunks Park in Northbridge, Sydney.	NSW
Construction	Baulderstone Hornibrook	Elevated Freeway Segment Erection	iThink model to evaluate constraints in construction processes to optimise construction equipment requirements.	VIC
Construction	Transfield Obayashi JV	Melbourne Link Roads - Tunnel Floor Repairs	iThink simulation model of repairs to tunnel floor to evaluate and optimise anchorage sequencing, stressing and overall repair processes.	VIC
Construction	Leighton Contractors	Hilton Hotel	Model of interaction of vertical transport constraints and floor refurbishment involving up to 12 trades to determine likely project duration.	NSW
Defence	RAAF	Fleet Doctor	Update of program tool used to schedule servicings and upgrade of F-111 fleet to ensure required availability and configurations are met. Recent modifications allow for the phase out of the fleet during the introduction of its replacement (JSF).	NSW
Defence	RAAF	Engine Doctor	Construction of tool to schedule production of overhauled engines to meet variant demands over Life of Type of F-111 fleet. Project received DMO Smart Idea Award.	NSW
Defence	Bell Helicopter	ARH - Viper	Dynamic model to demonstrate how the number of aircraft proposed would meet mission & availability requirements over the LOT as specified in the RFT for Armed Recon Helicopters.	ACT

Industry	Client	Project	Description of Service	Location
Defence	Sikorsky	Air 9000 ATH	Dynamic model to demonstrate how the number of aircraft proposed would meet mission & availability requirements over the LOT as specified in the RFT for Additional Troop Lift Helicopters. This model included impact of varying Squadron numbers and various combinations of repair venues.	USA
Energy	Ergon Energy	Remote Area Power Stations	iThink model of a remote area power station (3 diesel driver/generator units) to evaluate the impact of different operating policies on performance and OPEX (number of starts & fuel consumption).	QLD
Energy	Enertrade	Coal Seam Methane	Models of (a) residual storage capability of 300km pipeline against varying demand profile and (b) configuration of wellhead and centralised compression devices to optimise Capex & Operating costs.	QLD
Health Care	Health Dept WA	Strategic Planning	Study into impacts of changing demographics and same day surgery on future demand for multiday beds in WA hospitals.	WA
Health Care	NSW Health Dept	Winter Bed Crisis	Model of large teaching hospital incorporating out lying services and aged care facilities to trial options for reducing the shortage of beds over winter.	NSW
Health Care	Northern Sydney Area Health Service	Hornsby Hospital ED	Examination of bottlenecks within patient journeys which could lead to Ambulance by-pass.	NSW
Health Care	Aust. Health Mgt Group	CareLink	Study of resourcing required to support a client health improvement program including telephone counselling and extensive mail outs with associated post processing.	NSW
Information Technology	Brisbane City Council	Call Centre & Customer Service Centres	Model of impact on overall costs and staffing requirements when services transferred from CSC to Internet Portal.	QLD
Information Technology	Brisbane City Council	Service Payment Channels	Study of impact on channel payment fees of varying channel & instrument migration strategies.	QLD
Information Technology	Transfield Obayashi JV	Melbourne Link Roads - Account Migration	Migrating old accounts from old toll computer to new toll computer.	VIC
Justice	Department of Justice WA	Whole of Justice demand Model	Driver model for WA Justice System.	WA
Minerals Processing	Iluka Resources	Capel Plant Processing	Model of process plant to forecast future production quality & quantity. This ithink model has been converted top AnyLogic as part of a pilot program to improve output & profit by using optimisation.	WA
Mining	Rio Tinto	Staffing Model	Staffing utilization model for mining.	Global
Mining	Xtrata	Abbot Point Coal Terminal	Study of impacts of “other users” on terminal throughput.	QLD
Mining	Swanbank Electricity Generator	Coal safety stock piles	Trade off between stockpile size and possibility of expensive spot purchases.	QLD

Industry	Client	Project	Description of Service	Location
Pharmaceutical	Pharmacy Guild of Australia	Commentary on IGR	Model constructed of main parts of the Intergenerational Report to simulate impact of aging population, increasing drug usage & price and work force participation rates on Federal budget projections.	ACT
Pharmaceutical	Pharmacy Guild of Australia	Pharmacy Workforce	Study of impacts of aging pharmacists, increased percentage of female graduates and increasing demand for community services on future pharmacy workforce.	Australia
Resources	Sydney Olympic Park Authority	WRAMs	Model of supply & demand for recycled water for use and sale by SOPA at Homebush Bay.	NSW
Security	Tyco	Safe Stations Project	Study of likely repair & replacement costs over a ten year period for various computerised recording and storage devices providing passenger security at suburban railway stations.	NSW
Ship-Building	Tenix	Replacement Patrol Boats	Model of impact of delivery schedule, reliability and demand on availability and profit for a new fleet of Naval Patrol boats.	VIC
Ship-Building	Tenix	Impact of Rework on ANZAC frigate ship-building	iThink Model to evaluate impact of faulty construction work and non-implementation of design changes during new build ship construction processes.	VIC
Transport	SACL- Sydney Olympic Committee	Olympic Bussing study at Sydney Airport	Pre Olympic Bussing & Post Olympic Outbound Passenger Screening at Sydney Airport. – Model developed to undertake a transportation efficiency study to optimise bus numbers and queuing time for passengers for bussing transfers of passengers from planes to immigration at terminal.	NSW
Transport	Sydney Olympic Committee	Olympic Bussing study at Sydney Airport	Utilisation model.	NSW
Transport	State Rail	Parramatta to Chatswood Rail Link	Model of proposed shuttle service to determine track configurations and fleet numbers to meet 15 min interval service.	NSW
Transport	Macquarie Generation	Rail unloader & conveyor	Model to determine impact of power station feed conveyor reliability on bin sizing & train operation.	NSW
Transport	Bunbury Port Authority	Berth Utilisation study	Model to assist with decisions on port upgrade path.	WA