Evaluation of Options and Risks in the Provision of Gas to Support the Continued Operation of the Gove Alumina Refinery

Doug McTaggart
Galibier Partners

Daniel Magasanik
Marsden Jacob Associates

June 2013
Executive Summary and Recommendations

Pacific Aluminium (PacAl), a subsidiary of Rio Tinto, has requested the Northern Territory Government (NTG) for assistance for the continued operation of the Gove alumina refinery by releasing up to 300PJ of gas for at least 10 years from the current contract between the NT Power and Water Corporation (PWC) and Eni Australia.

In order to keep the Gove refinery profitable and in operation PacAl claims it needs to reduce operating costs by around $150m per year. PacAl intends to do this by converting the Gove alumina refinery energy source from liquid fuels to natural gas – in part or in total. However, at the present time, the currently developed gas fields do not have sufficient reserves to support both PacAl’s requirements and the NT’s electricity generation requirements for a twenty year minimum period.

In considering assistance to PacAl, we have examined the following options:

A. Reject PacAl’s request for assistance with gas supply;

B. (Direct Sale) Direct sale over 10 years of 300PJ of gas to PacAl by PWC from the current contracted reserves with Eni Australia Ltd, aggregating any other available gas supplies in the NT;

C. (the Eni Proposal) The release of 300PJ of gas from the current contract between PWC and Eni for direct sale by Eni to PacAl;

D. (Swap option) A gas swap/loan from gas customers from existing or planned facilities in the NT;

E. (Dual fuel option) A dual fuel solution whereby PWC sells up to 13PJ of gas to PWC for 10 to 15 years (130PJ to 195PJ) and PWC and PacAl use a combination of fuel oil and gas.

PWC currently has a gas supply agreement (GSA) with Eni Australia for the delivery of 740PJ of gas through 2034. This gas is low priced relative to other sources of fuel, including that currently used in the refinery by PacAl. The economic rationale that might support a solution for PacAl’s problem is that the NTG, via PWC, can sell some of this gas to PacAl at a price significantly below the cost PacAl’s current fuel source, thereby reducing the average cost of the refinery operations and extending its life.

The challenge such a solution creates is that the increased demand for gas exhausts current supplies under PWC’s existing contract sooner than 2034. Under option C, this is as early as 2026, requiring PWC to buy gas on market thereafter. Such purchases would most likely be at a
higher price than currently paid, perhaps significantly so. This exposes the NTG to an unacceptable risk.

In addition, by dedicating a significant portion of its supply of gas to a single customer – PacAl – PWC limits its ability to supply new load likely to come onto the market as the Northern Territory seeks to benefit from accelerated economic growth. In other words, economic growth would be sacrificed.

For a solution to work, the price charged for gas by PWC to PacAl must be such that PacAl still benefits after allowing for significant capital costs in building a pipeline from Katherine to Gove, a distance of 600KM, and converting the refinery to run on gas. It seems likely that Commonwealth Government support for PacAl would be required in this instance.

Any solution would need to ensure that the refinery operations continue after the period of PWC gas supply. The NTG would not want to be facing this same problem in ten years time.

The challenges and risks of any solution must be weighed against the cost to the NTG and the Northern Territory of a closure of the Gove refinery – Option A. The economic and social costs of such an outcome are difficult to quantify but are likely to be large and concentrated in the Gove/Nhulunbuy local region. It is estimated that closing the refinery would likely reduce the Nhulunbuy population from around 4,000 to 1,500, with a significant negative impact on the local indigenous population.

In considering all the options, we conclude that it is likely that the dual fuel option, Option E, is the only workable solution. In this case, PWC sells a lesser quantity of gas to PacAl for a 10 or 15 year period and PacAl supplements the use of lower priced gas by continuing to use some fuel oil. PWC supplements its likely shortfall by also using fuel oil.

This solution is immediately implementable and provides breathing room up front so that alternative gas supplies can be arranged – either from new or existing offshore or new onshore production. This solution creates an immediate domestic market for gas as both PWC and PacAl would want access to more gas to eliminate the need to use fuel oil. It is anticipated that this excess demand would bring forward development of domestic onshore gas production sooner than is currently planned, enabling both PWC and PacAl to move to a fully gas supplied solution.

In effect, the dual fuel solution transfers value to PacAl sufficient to support the continued operation of the refinery for long enough to ensure new gas supply is delivered to meet the created excess demand.

Options B, C and D all are either unworkable in a timeframe that meets PacAl’s needs or carry unacceptable risks.
Option B – selling gas to PacAl and supplementing Blacktip supplies (beyond the current contract) with on market purchases – apart from carrying some significant risks – does not appear to be workable. The fundamental problem facing PacAl (and PWC) is that there is no ready supplier of gas available in a timeframe that meets PacAl’s needs.

Option D – a gas swap – requires securing gas late in the period, starting about 2025, to pay back gas borrowed early in the period. The price risk (more than 10 years from now) is large and would need to be mitigated. However, as with Option B, there does not appear to be a swap partner in existence which has a ready supply of gas. Therefore this option is also unworkable in a timeframe that meets PacAl’s needs.

Option C, allowing Eni to sell directly to PacAl is commercially unacceptable, notwithstanding the impact of closure of the Gove alumina refinery, and carries the greatest risks for the Territory. These are:

- A reduction in the gas supply period from Blacktip from 2034 to 2026;
- The price risk associated with finding new supplies of gas by 2026. This could cost around $400m a year for 8 years. These costs will need to be passed on, in part or in full, to households and business via significantly higher energy costs;
- To the extent that not all costs are passed on, given the NTG’s current level of debt, over $5 billion, the need to buy gas from 2026 onwards will put the Territory’s credit rating at risk;
- More rapid production from Blacktip with uncertain impact on the long-term performance of the field, with a risk the field could be compromised;
- Constrained economic growth as gas provided to other (new) Territory projects would further truncate gas supply to some point before 2026.

Option C could be feasible if bankable mitigation of the considerable price risk could be put in place. We understand that this is highly unlikely without direct support from the Commonwealth Government.

RECOMMENDATIONS

1. The NTG works with PacAl to facilitate a dual fuel solution via conversion of equipment at PacAl to gas while retaining the capability to use liquid fuels.

2. PWC enters into a GSA with PacAl committing to deliver a minimum of 13PJ/yr for ten or 15 years beginning 2015, as part of a dual fuel solution. Should a new of source gas,
deliverable at less than current fuel oil prices be found, then PWC and NTG have the option of increasing the volume of gas delivered.

3. The NTG immediately calls for an open tender, initially for expressions of interest, for deliverable gas to PWC when feasible.

4. The NTG continues to pursue alternative gas supplies, including seeking a swap partner.

Note: This document is the Executive Summary for the report ‘Evaluation on the Options and Risk in the Provision of Gas to Support the Continued Operation of the Gove Alumina Refinery’. The full report contains commercially sensitive information and therefore will not be publicly released.