

## **MIAB Technology Pty Ltd**

Lowen Drive, PO Box 413, Bright, Victoria 3741  
Phone: 61 (0)3 5755 1242 Fax: 61 (0)3 5755 2342  
Mobile: 0418 426 419  
Email: [leigh\\_fletcher@netc.net.au](mailto:leigh_fletcher@netc.net.au)  
Managing Director: Leigh Fletcher  
High speed automatic welding for the petroleum pipeline industry

Mr. Garry Banks  
Chairman, Access  
Productivity Commission  
Level 28, 35 Collins St.,  
Melbourne,  
Victoria 3000

### **National Access Regime and Innovation**

Dear Sir,

My name is Leigh Fletcher. I am a former Executive Director of the Cooperative Research Centre for Welded Structures (CRC-WS), a former member of the National Innovation Summit Working Groups, and a current member of the Australian Pipeline Industry Association (APIA) Research and Standards Committee. During the Mercer - Stocker Inquiry into the CRC Program, I represented the CRC Association.

I have worked in various research and technology capacities in the Australian gas pipeline industry for over 30 years, and know the industry very well. Throughout that period I have been active in international circles in that industry and am in a good position to benchmark its performance in research and innovation, cost competitiveness, continuity of supply to customers, and in the safety of the public and of employees. I have also been intimately involved with related industries in Australia such as hydro and thermal power generation, mining, petroleum refining, and water supply, so again I am in a good position to benchmark the gas pipeline industry in its context of similar Australian industries.

My view of the Australian gas pipeline industry is:

1. whereas in the late 60s and 70s it constructed expensive pipelines using public sector funding with imported technology; during the 80s and 90s it has emerged from being a technological follower to a world leader in the type of pipelines which suit its geography, resources, and markets;
2. within that niche Australian pipelines are better and more innovatively designed than in any other country in the world, and Australian companies are now having considerable success in overseas markets;
3. the pipeline industry, more than any other industry sector that I know of, has invested in, and benefited from research which it has promoted, and has conducted in Australia;
4. following from this, modern Australian pipeline costs (and hence this component of energy delivery costs) are low by world standards; and
5. at the same time, the frequency of pipeline failures in Australia is much lower than overseas, and our safety record is second to none.

Whilst I was at the CRC-WS we were able to attract both the Australian Pipeline Industry Association and AGL to join as core participants, and we attracted some 18 other companies in Australia and overseas to join a comprehensive pipeline research program. That program was often cited as an

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Australian model of business driven R&D, and its success was in stark contrast to the difficulty of attracting support from other industry sectors.

So, what has changed, and why am I writing a submission to the Productivity Commission?

The answer is that for nearly a year now I have been working on the introduction of some radical new world-first technology to the construction of pipelines. My experience and my long association with the pipeline industry means that I am well placed to do this. And based upon its record, the Australian pipeline industry would have been the perfect place to achieve take up. The technology involved is a new high speed method of welding of the pipes to form the pipeline, and since that process is the rate determining step in the construction of the pipeline, it has a disproportionate effect on the overall construction cost. When I first developed the proposal about 9 months ago I calculated construction cost savings of around 15%, and these estimates have now been independently confirmed by an alliance of Australia's major constructors of pipelines. This represents a cost reduction of more than 6% in the total cost of the pipeline, and being an up-front cost reduction, it has a very significant effect upon project economics.

In ordinary circumstances, having got to that stage, I had expected to achieve a "pull-through" effect where there would be very strong pressures to develop and introduce the technology. In October last year I had got to the stage of having a draft Start Grant Application to the stage where all I needed was industry support for commercialisation. However, to my complete surprise, I am having great difficulty in my efforts to attract that support.

In many such cases, this kind of failure would not be a surprise. Industry is notoriously risk averse, and promoters of hair-brained research schemes are more than plentiful.

The trouble is that that explanation doesn't hold water. I have been successful in the application of innovative technology before many times with this industry, and it has been an industry which was characterised by its hunger for new technology. I know the people involved, and they know me. In 1995 I was awarded the inaugural APIA Most Valuable Contribution Award for work on research and standards for the industry. In all of the presentations I've made everybody has been very impressed with the new proposal. However it seems that pipeline companies contemplating new or expanded pipelines are not motivated to use the technology, even though it would reduce cost and minimise construction risk. The Chief Executives of several companies have told me that they've no incentive to invest in research. It seems that their financial returns on a pipeline are tied to actual costs by regulation, and therefore there is no reason to take up new technology and no benefit in cost reduction. There is simply no financial incentive. So why would they invest in this kind of research, particularly as there is risk involved? And of course there is risk: I wouldn't be able to apply for a Start Grant otherwise.

I don't mean to imply that research has stopped altogether. The program at the CRC-WS continues, but at a markedly lower level, and with much fewer than half the number of industry sponsors.

I have seen the Commission's draft report which concludes that regulation of Australia's infrastructure industries needs to be modified to enhance its benefits and reduce its potential costs. I would very much support that finding, and emphasise the evident negative effect which regulation is having upon innovation in an industry which has hitherto had an excellent track record in that area. This is not a potential cost, it is here and now, and it will have an effect upon gas transmission costs for a long time into the future through the effect of up-front costs upon project discounted cash flows. This can only be averted by an urgent change to the level of incentive to reduce costs through innovation.

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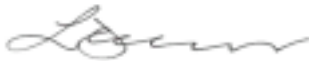
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The market research I have done for this venture shows that not only is there a lack of proper incentive to use this new technology: It also shows that there are fewer than previously expected pipelines being planned because of the presently unattractive investment climate for pipeline infrastructure. It seems to me that this situation is hardly in the interests of consumers in the long term, it is directly contrary to the Government's innovation policy, and it certainly isn't helping to achieve the anticipated benefits that increased use of natural gas can have upon our greenhouse gas emissions.

I would be happy to make further detailed presentations if that would be of assistance.

Yours Sincerely



Leigh Fletcher

Managing Director

MIAB Technology Pty Ltd

cc Senator Nick Minchin