Senate Committee Inquiry on Engineering Skills Shortages

a. About NORTH Link

NORTH Link has had a long involvement with industry in Melbourne's North, going back to the early 1990's. In September 1993 it assisted in organising a workshop for secondary schools and manufacturers, with the aim of increasing the links between educational institutions and manufacturing in Melbourne's North. 38 secondary schools and 18 manufacturers participated in the workshop. Between 1992-1996 NORTH Link developed and implemented a project titled *Manufacturing Industry: Careers and Opportunities*, which was directed at promoting careers in manufacturing to young people. Up to this very day NORTH Link has continued its support to industry, particularly to SME's who make up a large proportion of its membership. It conducts regular business events and hosts the annual Northern Business Achievement Awards. Also, two of NORTH Link's staff deliver the Commonwealth funded Enterprise Connect program that provides advice and assistance to companies with an annual turnover of at least $2 million.

NORTH Link has also managed the delivery of a number of Victorian and Commonwealth Funded projects, including: *Trade Start, Enterprise Connect, Greenhouse Challenge* and the *Industry Skills Training and Employment Program (i-STEP)*. Its board of directors is made up of senior people from both the private and public sectors.

From October 2010 to December 2011, NORTH Link took up the challenge of assisting industry to fill positions that had proven very difficult to fill, particularly those for apprentices and tradespersons in metal fabrication and associated trades. It obtained funding from the Victorian Government to deliver the *Industry Skills Training and Employment Program (i-STEP)* in which it sought to match the requirements of employers with the interests and vocational aspirations of jobseekers. Approximately 50% of the more than 100 vacancies that were received were for tradespersons and apprentices in metal fabrication. It was evident that the pool of people who wanted to enter these trades was relatively small and posed a significant threat to the competitiveness of the trade-exposed manufacturing sector, whose competitive edge relies on innovation and more effective process improvement and distribution systems, which will require better educated and more skilled employees.

Terms of Reference

NORTH Link is pleased to draw on its long association with the engineering sector, and its observations and learnings from the delivery of *i-STEP* to make a submission to the Senate inquiry, addressing items b,c and e of the Terms of Reference.

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b. The impact of the long-term outsourcing of engineering activities by government on skills development and retention in both the private and public sectors

The long-term reduction in the recruiting and training of apprentices by the three levels of Government has had an impact on engineering skills development and retention.

More than 100 vacancies from employers in Melbourne's North were serviced during 2011, under *i-STEP*. Approximately fifty per cent of those vacancies were for either tradespersons or apprentices in metal fabrication and related trades: Sheetmetal Workers, Boilermakers, Welders, Fitters and Turners, Metal Machinists. Throughout 2011 there were on-going vacancies in these occupations and it was evident the employers were experiencing considerable difficulty in engaging and retaining suitable people.

In the past Government utilities have been able to attract applicants for apprenticeships, probably due to them being perceived as providing secure employment and good wages and conditions, and accordingly the long-term outsourcing of engineering activities is likely to have contributed to the current skills shortages.

c. Options to address the skill shortage for engineers and related trades, and the effectiveness of relevant policies, both past and present

- **Attracting New Entrants**

A general marketing approach to encourage entry to the metal trades is insufficient.

A commonly held view amongst employers is that the reason for skill shortages in the metal fabrication trades is that young people have not had exposure to these trades and of the opportunities that are available. Related to this is an observation that young people are not being encouraged to enter these trades by career teachers and/or parents because of outdated views of the nature of the work, or a perception that the manufacturing industry is in terminal decline, a view which has been exacerbated by recent media reports of mass retrenchments. Potential new entrants may simply not be aware of the opportunities.

The Victorian Government has for several years funded the *Careers in Manufacturing Program* whose main aim is to connect schools to the manufacturing industry in order to educate them about the nature of the work and the opportunities that exist, through providing Industry Ambassadors and funding to schools to cover the cost of busing students to industry visits or to events that promote manufacturing. However, in the absence of Careers Teachers actively engaging with this program, its impact will be limited.

To try and provide secondary school students with greater knowledge about the opportunities in metal fabrication and related trades, NORTH Link organised a road show in October 2011. The *Engineering and Instrumentation Road Show* featured visual presentations of the different occupations in metal fabrication, an outline of the opportunities available, and details of pathways to complete trade training. Employers, representatives of the three Local Learning and Employment Networks (LLENs) in northern Melbourne and representatives of the three major trade training institutions (Kangan Institute, RMIT and NMIT) were partners in this initiative.

While presentations were well received, particularly those from industry representatives, the response from secondary schools was disappointing. Although emails promoting the road show were sent to the Principals of VCAL providing schools in Melbourne's North, and followed up with a phone call to the Careers Teachers and/or VCAL Coordinators, participation by students was generally poor (with the exception of Penola Catholic College in Broadmeadows, which sent around 75 students). Lessons from this initiative relate to the timing of the road show and the need to secure and reinforce the support of Careers Teachers and VCAL Coordinators well in advance of the event.

TAFE institutions in Melbourne's North have for some time reported that they have had increasingly difficulty attracting participants in their Engineering pre-apprentice courses. A contributing factor is the policy in Victoria that those aged 20 and over cannot attract government subsidised places for courses that are at an equivalent level to their current qualification, irrespective if that qualification was in an unrelated industry.

Further, the Group Training Company APlus recently advertised four Australia School Based Apprenticeship in Engineering in the inner northern suburbs of Melbourne, for Year 11 and 12 secondary school students, but have been underwhelmed by the response.

A contributing factor to the lack of interest of apprenticeships in the engineering trades may be that Careers Teachers are not sufficiently well equipped, in terms of their life experiences and knowledge, to provide pertinent information and guidance to secondary school students in the middle years of their secondary education.

Therefore, an initiative to address skill shortages in the engineering trades is to allocate at least one Careers Adviser with a trade background, to perhaps 3 or 4 secondary schools in close geographic proximity, who could provide information and guidance to students, and their parent(s), who display an interest and aptitude for the trades.

Another initiative could be to try and influence script writers and media producers to include more trade exposure in their story lines on popular local productions. The 'home makeover' and cooking shows have do doubt increased the interest in these trades and it would be good if something similar could be done for the metal fabrication trades.

- **Apprenticeship Completions**

A major concern of employers when seeking to engage apprentices is that of retention. The report by the expert panel appointed by the Commonwealth Government, titled *Apprenticeships for the 21st Century*, noted that the completion rate amongst those who commenced their apprenticeships in the automotive and engineering trades in 2005 was 51.3% *(Commonwealth of Australia, 2011, p. 22).*Apprenticeships represent an investment in time and money by an employer with the view of realizing a return once the apprentice reaches a certain level of skill. If the apprentice leaves, either because they discover that this is not an occupation they wish to pursue, or because they move on to another employer in the same industry, this represents a loss of investment to the employer who then has to try and find another apprentice and train them from the beginning.

Consequently, employers are quite selective when seeking to engage apprentices. They want to maximize the chances that the apprentice will complete their trade with them. Accordingly, they seek candidates that can demonstrate a genuine interest in the trade of metal fabrication and has the necessary aptitude and 'hands-on' orientation to this type of work. They are generally not interested in someone who just wants a job.

Strategies are needed to ensure that young people are well informed about their career choices and to ensure that if they commence a trade that the proper supports are in place to give them the best opportunity to complete their training. These strategies are discussed in the next section.

e. Effective strategies to develop and retain engineering talent in the private and public sectors

A more proactive, robust and industry led strategy is required that targets both recruitment and retention. Apprentice mentoring is likely to be an effective and enduring strategy.

Given the strong evidence, over a number of years, of a diminishing number of quality applicants seeking an apprenticeship in the engineering trades, and its consequent impact on industry and the economy, there is a need for a more proactive and robust approach to addressing this issue, beyond a general marketing campaign. Such an approach could be piloted in a particular geographic area where there is a high concentration of employers from the manufacturing and engineering sector.

The framework of a potential pilot project to increase the entry rate to the engineering trades would have the following features:

- 50 people are recruited to complete a pre-apprenticeship in metal fabrication. Candidates would be drawn from the existing unemployed and from those in danger of disengaging from education
- 30 companies are engaged in the program and have to commit to hosting pre-app participants for at least 1 day per week. Those that require it would be provided with assistance to develop a meaningful program of work, and to provide proper induction and support to the trainees. Such a strong involvement from employers would increase the prospects that participants would gain employment if they successfully complete the program, thereby increasing interest in the program
- After the first 2 weeks of the pre-app, participants will be required to spend a day a week with different employers for the remainder of the program
- Employers can select from the available pool of candidates at any time during the program. Also, participants in the program can be referred to any other vacancies that may arise from employers who are not participating in the program
- Support would be provided to participants to deal with issues that may threaten their completion of the program

Recommendation:
A project be piloted in a geographic area of high concentration of engineering companies, aimed at a collaborative approach by industry and educational institutions to improve the supply of new entrants to the engineering trades.

While increasing the supply of applicants, through effective marketing and involvement strategies is a necessary and important initiative, it is likely to be several years before the demands for skilled labour are satisfied. Combined with such an initiative, there is therefore a need to maximize the available skills by arresting the attrition rate of those who commence engineering apprenticeships. This can be done by more effective selection processes and by mentoring support. An effective program of mentoring for existing apprentices, particularly in the early stages of their apprenticeships and particularly for small companies that have low human resource management resources, can result in early identification and intervention of any issues that have the potential to sour the employment relationship, and ensure that any decisions to terminate an apprenticeship have been well considered by all parties.

Apprentices who receive mentoring support and subsequently continue their apprenticeships will be well placed to be trained as mentors for future new apprentices, thereby increasing the capacity of companies to maximise apprenticeship completion in the future.

Recommendation:
That support be provided to pilot mentoring programs, for the benefit of both employers and apprentices, in areas where there is high concentration of engineering companies, with a view to maximising apprentice retention.