



**PLUMBING TRADES EMPLOYEES UNION
NSW BRANCH**

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Productivity Commission Green Paper Continuing the productivity conversation

**Plumbing Trades Employees Union
Submission**

Productivity Commission Green Paper

Continuing the productivity conversation

Executive Summary

The PTEU represents the licensed and registered plumbers and fire protection professionals of NSW, the skilled workers who install and maintain the vital services which preserve the health of the NSW community and keep our built environment safe.

We are the trades that provide clean and safe drinking water through the plumbing network and help ensure another Grenfell Tower disaster occurs by installing world leading fire protection systems. In addition to this, through the new Medical Gas, Mechanical services licensing and training structure that is being implemented in NSW, our trades will help prevent another Bankstown Hospital tragedy.

We are concerned that in some key areas the discussion and recommendations of the Report ignore critical considerations about our apprenticeship that are fundamental to keeping our community safe. We were particularly alarmed to read the commentary surrounding trades-based apprenticeships and are concerned about any policy decisions this could give rise to. **Under no circumstances would the NSW community support ripping up the apprenticeships model for construction work.** We believe the Commission has failed to recognise the vitally important public health and building integrity benefits which we believe are directly linked to the quality, and comprehensiveness, of Certificate III level trades-based apprenticeship training.

The occupational licensing scheme under the Home Building Act and Regulations ensures that only suitably skilled and qualified persons work on the plumbing and fire protection systems which protect the residents and buildings of NSW. The licensing system provides our members with a skills passport, and signals to employers and the community that our members have the training, skills and experience to work safely on the full range of plumbing, air conditioning, heating, cooling, ventilation, gas and fire protection systems.

The licensing and registration system is in turn supported by a training and skills framework, the centrepiece of which is a comprehensive three-year Certificate III training course.

In the following pages we provide some context about the role of our members in terms of the contribution their skills make to the safety and amenity of the built environment. Our submission includes discussion of several areas of the Paper which directly impact the existing arrangements, which we believe are working well, and our members.

Central to achieving productivity improvements right across the economy is a strong and capable skills development and training sector. In this context, the primary focus of our comments over the following pages relate to Chapter 3 which deals with the need to improve efficiencies in the VET sector.

Any perceived efficiency improvements from reducing or truncating trades training need to be balanced against the real risks associated with a poorly trained workforce; and the long term safety and related community and economic benefits which accrue from having a properly trained and skilled workforce, capable of taking advantage of emerging technologies which deliver long term productivity gains.

We also offer our perspective on other issues which are important to our members relating to the Chapters 4 – 7 which relate respectively to regulation, energy, infrastructure and jobs.

Submission

Safety needs to be the priority

The Chapter which deals with apprenticeships and the VET sector training arrangements for trades, does not mention safety. Yet it is safety which is the key reason trades-based training is structured as it is. A three-year training period coupled with on the job learning is necessary to ensure competence, which is in turn necessary to ensure safety.

In untrained hands plumbing products can be as dangerous as firearms, toxic chemicals or explosives. Risk is associated with every element of plumbing, be it gas installation and the associated carbon monoxide and other gas related poisoning hazards; water borne bacteria and disease outbreaks; scolding risks from not fit for purpose taps or fittings; lead leaching out of corroding pipes; or the obvious risks associated with ineffective or non-functioning fire protection systems.

Effective and safe plumbing products and the skills, training and competence of practitioners are the only lines of protection - for households, community facilities, offices, schools, hospitals and so on - against a wide range of potential risks and hazards.

In **Bankstown Hospital** in 2016 a baby died when it was given nitrous oxide instead of oxygen. Proper testing of the medical gas system had not been undertaken prior to it being used and the incorrect substance administered. At the time of the tragedy no license or specific training was required of people doing medical gas work. In August this year the NSW Parliament passed legislation introducing a licensing system for medical gas work. A three-year Certificate III level qualification and relevant industry experience is now a pre-requisite to be licensed to install and test medical gas systems. The Parliament determined that a full Certificate III level course was required for licensing because to be safe and competent to work on medical gas systems requires an understanding of how the system works in its entirety.

To understand how to negotiate all these variations and complexities, and diagnose and treat issues that could pose risks, requires a systems wide understanding of the interplay between the various substances, materials and systems.

Rather than a series of stand-alone skill sets, the plumbing profession, (including the mechanical services trade, which includes medical gasses), should be viewed as a series of acquired skills and understandings gained from layers of learning, which when combined with practical experience, delivers competency and by extension, community safety.

These foundational skills will not be delivered by a stand-alone medical gas qualification. A Certificate III apprenticeship (or 4 years' experience), meets the foundational skills requirement.

The **Grenfell Tower** disaster in London in 2015 is an extreme example of where the use of inappropriate materials can result in catastrophe. If the flammable cladding was not on the market it would not have been on the tower block. That tragedy followed the near disaster in Melbourne in 2014 when the Lacrosse Tower, which was clad in Grenfell type flammable aluminium cladding, and where the fire spread to 13 stories in 13 minutes. If it was not for a well-functioning and properly installed fire protection system, the Lacrosse fire would have been a major catastrophe. Another well documented example is the 2014 recall 4000kms of Infinity electrical cable, involving an estimated cost to consumers and homeowners of more than \$80 million.

It is not just fire risk that is relevant here. The very life blood of our community and our economy, our ability to access abundant, unadulterated water, is plumbing and plumbing products dependent. **Plumbing and water treatment failures can be catastrophic.** They can result in mass casualties as occurred after an outbreak of severe acute respiratory syndrome (SARS) in Hong Kong last decade, which saw 321 people infected by SARS resulting in 65 deaths. Investigations into the outbreak found that poor plumbing design coupled with faulty plumbing materials caused the loss of a water barrier seal in a U-shaped water trap. The water barrier seal evaporated allowing air to escape from within the sanitary drainage system and into the building. The economic cost of the SARS outbreak in Hong Kong is \$60B.

In the city of Flint Michigan in the United States, thousands of people were impacted by lead contaminating the city's water supply, a problem directly attributable to corrosive pipework. In Australia we have had issues with lead also, such as in Western Australia where lead has been detected in the water supply for the new Perth Hospital. Plumbing products can be ticking time bombs. Plumbing product related risks, associated with things like lead poisoning, or asbestos in products, is that the associated impacts or illnesses may take years, sometimes decades, to be detected. In this context, plumbing products that are installed, and then leak, break or otherwise cease to be effective, can be causing damage today which we may not know about for many years.

The use of skilled, qualified and competent practitioners and fit for purpose, certified products can prevent these large-scale disasters and also reduce the likelihood of more localised failings. Conversely, the use of unskilled labour and/or plumbing and

building products that are not fit for purpose can have serious impacts in terms of fire risk and community safety.

The point here is that there is a clear link between high quality training and community safety, and this consideration should be front of mind when considering any changes to the current VET sector training arrangements. In particular, we are concerned that the Commission's focus, with respect to VET reforms, is exclusively on quantity rather than quality. In the case of plumbing and fire protection, the community requires both.

VET Sector

In Chapter 3, the paper notes many of the challenges faced by the trades training component of the VET sector. The Paper questions the effectiveness of the existing pathways, in terms of retention and completion rates, and, at page 76, makes observations about apprenticeships being too long and rigid.

A successful apprenticeship requires a three-way agreement between the employer, apprentice and the RTO. The RTO provides National Accredited Qualifications which underpins the apprenticeship and the employer has a critical role in supporting that education with workplace learning. In plumbing and fire protection we argue that the model is working well in NSW and we would strongly caution against making changes to the existing three-year apprenticeship model for these economically vital licensed trades. There are several reasons for this:

- **The most important is safety.** The whole point of having a comprehensive three-year qualification as the entry requirement to the industry is because that is how long industry believes is necessary. It is not because of historical reasons, or to maintain a “closed shop” between select companies and apprentices, as the paper asserts. It is because over decades industry stakeholders have worked together to determine the units of competency necessary to be considered a safe and competent professional. The Plumbing and Fire Protection Certificate III qualification(s) does not include any units that could be considered unnecessary.
- Rather than a series of one-off skill sets, plumbing and fire protection qualifications represents a **series of layered understandings**, a gradual build-up of system wide knowledge which is necessary to work effectively and safely in the modern sector. The contemporary plumbing and fire protection industry utilises and intersects with very sophisticated building service systems. The heating, ventilation, gas, water, waste extraction and fire services are all part of an increasingly complex web of connections and cross connections hidden behind the walls and under the floors of our buildings. These systems deal with extremely hazardous materials and volatile substances. The Certificate III trades training – done over three years – is a proven way of ensuring that trades people working on the building service systems (the air conditioning tower, or the plumbing or the ventilation system, or the sprinkler system) are safe to do so.

- The **existing model delivers rounded and thorough training** through adding theory through an established community of practice. This then provides the opportunity for learning through placing the apprentice into a **community of practice**. The main reason for the existence of a community of practice is to benefit each other, as community members create opportunities for interactions and participation. A community of practice has a long-term perspective, shared histories, meaningful relationships, as well as shared knowledge, values, and beliefs. An apprenticeship provides access to the interactions, practices, and knowledge of the community and the opportunity to participate in ways that are authentic and valued by the community. Newcomers to a community of practice lack the necessary knowledge and skills but learn guided by and in collaboration with masters, through observation of practices by members of the community at varying skill levels, and interactions with other community members of different experience levels.
- A successful apprenticeships three-way partnership creates a **mutually advantageous solution** that gives eager workers the chance to build their skills on the job with an income, while enabling employers to save money on recruiting and training the skilled workers of the future to the nuances of the communities of practice in which they will work. This simply cannot be replicated outside of the apprenticeship pathway or through any training pathway that does not provide the work-readiness which comes through direct employer involvement.

As well as not wanting to undermine a model which is working, our concerns with the discussion in the Paper relate to the lack of focus on the **downside risks of fragmenting trades** based apprenticeships into smaller one off skill set based qualifications. Any perceived efficiencies to be derived from this approach are likely to be greatly outweighed by the costs associated with an untrained or undertrained workforce. This point relates to the whole gamut of trades relating training.

The costs associated with poor quality work – ranging from waste damage to major building faults to the leaching of hazardous substances into the air conditioning or water units – are potentially enormous. The Australian building industry is in something of a construction quality crisis, with several major reports (Shergold Weir) and inquiries being undertaken into the root cause of widespread building failures. We submit that rushing trades training in the name of efficiency is illusory and will likely at to inhibit rather than encourage productivity.

Regulation

Chapter 4 of the Discussion Paper deals with regulation, and, more specifically, the need to ensure regulation is relevant, effective, necessary and efficient. Consistent with the points we make above about training being the minimum necessary to achieve safety in plumbing and fire protection, in relation to the discussion around regulation we make the following comments:

- As a general statement, in the Plumbing and Fire Protection Industry, unnecessarily burdensome “red tape” is not an issue. The applicable regulations exist to protect community safety and facilitate quality outcomes. In NSW, as in other states and territories, the regulations are developed and reviewed according to strict net public benefit assessments and regularly subject to review to ensure that they restrict market conduct only as far as is necessary to achieve the required dividend, be that in terms of consumer protection, community safety, or public health. Whether those regulations relate to occupational licensing, or quality, or compliance requirements (all of which are in focus in the Discussion Paper), as an industry we are generally satisfied that they are accurately focussed and well designed.
- Here again we note that acting to remove regulations with a view to improving productivity needs to be done with caution and through the prism of risk. For example, the Paper makes a series of observations about the value or otherwise of regulated CPD programs. However, absent from the discussion is that, in industries like plumbing and fire protection, where new products and technologies are emerging all the time, ongoing skills development is central to remaining competent and to practice safely. As the economy and the energy mix continues to diversify, it is vitally important for a modern plumbing or fire protection professional to know how to use, install, work safely with, a whole range of increasingly complex systems and interconnections. Removing opportunities to remain current, or any other existing regulation, because on its face the regulation appears unnecessary, would be hasty and dangerous.
- With respect to mutual recognition of skills, the Discussion Paper focusses on the potential benefits of the free flow of skills across state borders. We agree that in theory a national licensing recognition framework would be very efficient and drive up productivity. However, the nature of our federation is such that the requisite level of like for like training does not apply in plumbing and fire protection. There are complexities to this, which centre on the different requirements for licensing and registration across Australia’s jurisdictions. We would be pleased to engage in any process aimed at addressing those challenges.

Water & Energy

We note the discussion with great interest at Chapters 5 and 6. We would submit that the discussion about the use and operationalising of various new energy sources and about water scarcity and the need for efficiency, would be enhanced if it was linked to a discussion about skills and training. For NSW and Australia to take best advantage of new technologies, be it in new energy such as Hydrogen or in water capture, storage, use and re-use, it is vitally important that thorough, high level training be there to ensure the workforce has the skills to enable the community to adapt.

Skills are not only at the heart of being able to take economic, social and environmental advantage of new technologies, high quality training is key to being able to do so in a way which keeps the community safe. In this context, taking steps to undermine or

fragment trades-based training appears counter intuitive. Refer to our points at Chapter 3.

Infrastructure & Housing

We note and support the discussion and recommendations in the Discussion Paper as it relates to the need for infrastructure and housing investment. These investments can only come to life if there are a sufficient number of skilled and qualified trades people available to do the work. We are therefore, strongly supportive of any and all NSW government initiatives aimed at stimulating activity in these key sectors.

The PTEU agrees that the 2020-21 Budget will be required to support workers following the COVID-19 pandemic. To keep apprentice's in work and training, and therefore continuing the supply of skilled workers to the market over the 5 year period highlighted by the green paper, as well as support the NSW economy it is imperative that there is a substantial stimulus package in the 2020-21 Budget.

Keeping the building and construction industry strong is the foundation upon which our national economic recovery must be built. As such we are would support stimulus activity in the form of things like:

- Immediate commencement of shovel ready public construction projects
- Bringing forward infrastructure projects
- The pull-forward of all scheduled and regular inspection, testing and maintenance of Government buildings.

For more information please contact:



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