Submission to the Foreign Affairs, Defence and Trade references committee by Peter Leggatt AMWU member and employee of Defence working at Proof and Experimental Establishment Port Wakefield

INTRODUCTION

The Joint Proof and Experimental Unit's (JPEU) function is to conduct test and evaluation of ADF ammunition and ordnance so as to ensure it is safe and suitable for use by the wider defence community, (i.e. uniformed members of defence). Failure of defence ammunition and ordnance can and has resulted in the injury and death of Defence members as well as the inability of the ADF to defend Australia's sovereignty. This testing is carried out at two sub units; Proof and Experimental Establishment Graytown in Victoria and Proof and Experimental Establishment Port Wakefield in South Australia.

CAPABILITY

The P&EE's are a sub unit of JPEU, which is a part of the Explosive Ordnance Branch, nestled within Joint Logistics Command. The P&EE's conduct testing, collecting performance data which in turn is provided as technical information input for the determination and assessment for the life cycle of Defence ammunition and ordnance.

Test and Evaluation activities involve subjecting Defence ammunition and ordnance to simulated Natural and Induced environmental threats as well as tracking item performance throughout the ammunition/ordnance life. Such testing includes, but is not limited to vibration, mechanical (drop and shock) and climatic (heat, cold, rain, dust, pressure) testing, performance testing and non destructive inspections on encased EO using Radiography. The simulated tests represent the environment such ammunition and ordnance maybe exposed to during their service life. Items that have been exposed to simulated environments are then subjected to being functioned or test fired where measured performance is checked against norms.

Performance tracking of an explosive item through its life, will typically lead to extensions in shelf life, resulting in significant savings to Defence.

Equipment used to conduct the performance and simulation testing is of a highly specialised nature and requires suitably qualified engineers and technicians to operate and gather the data, to ensure the performance information provided, is real, unbiased and within defined limits and accuracies.

With the testing and data capture being of a highly technical nature, the subsequent qualifications needed to conduct such testing activities requires specialist training and many years of experience to provide the required level of integrity to the test process and results.

Examples of current workforce training and experience of some personnel employed by JPEU are as follows:

Radiography – 4 years of technical training. Experience is currently respectively 35 year and 3 years.

Vibration - 4 years of technical training. Experience is currently respectively 15 year and 6 years.

Mechanical - 4 years of technical training. Experience is currently respectively 15 year and 20 years.

Environmental - 4 years of technical training. Experience is currently respectively 20 year and 4 years.

WORK FORCE DEMOGRAPHIC

P&EE currently employ's 23 civilians with and average age of greater that 50 year and 19 military personnel. The civilian work force includes engineers and technicians working in the testing and evaluation field, operating the test equipment, setting up and managing the data collection process, evaluating and reporting on test findings.

Military personnel employed at P&EE are members of the Artillery Corp or Electrical and Mechanical Engineers corp.

- Artillery Corp members provide personnel who operate proof ordnance used at P&EE.
- The Corp of Electrical and Mechanical Engineers provide support in maintaining equipment use at P&EE.

POTENTIAL RISKS

Current work force demographic issues present a degree of risk to Defence that will result in the loss of capability in the near term, as a result of four personnel within one functional sub unit of P&EE PW actively planning retirement with in the ensuing 12 months.

Greater risks to military personnel are foreseeable and predicable with the loss of the capability due to reinterment with out replacement. Historic evidence has shown that even with the capability provided by P&EE Injury to Australia military personnel has resulted.

1999 – 2000 (?) at high range -105 mm in bore detonation caused injury; fault found to be excess cracking in the fill, production x-ray technique was insufficient to detect faults.

2013 at high range – 155 illumination rounds function in bore before breach closure causing injury due to fuze failure, fuze was not tested for acceptance into service.

2013/14 Smoke grenades that have been functioning whilst carried by soldiers, grenades were not correctly tested for entry into service.

2015 Naval 5" firing incident where rounds failed to perform correctly, falling short into environmentally sensitive area, decimating a bird hatchery items were not correctly tested prior to release into service.

FUTURE NEEDS OF DEFENCE

Any future decline in P&EE capabilities and of the physical sciences and engineering will limit the ability of the Government through Defence to provide safe and suitable explosive ordnance that increases our force multiplication and also the ability to investigate and analyse future incidences of failure of defence ammunition and ordnance, of which historic evidence suggests is increasing.

Purchase of 5" 54 rounds of which a 10% sample was checked for serviceability via radiographic inspection, where it was found that 80% did not conform to specification.

M107 155 mm artillery rounds were radiographically examined and failed supplied specification.

5" Proximity Fuzes that have been loaded onto Australian Naval ships were found to be prematurely functioning, potentially having shell fragments strike the ship and reduces the ability for ship defence.

While the above is a physical science issue, the moral issue of the government abrogating it's responsibilities of ensuring soldiers, sailors and airmen/women are supplied with safe and effective ammunition/ordnance sourced from commercial suppliers whose primary interest is profit, is of serious concern.

Confidence in Defence leadership to provide troops on the ground, on ships and to aircrew is the basic tenant of service in the armed forces; if this tenant were to be undermined the effectiveness of the armed forces would be jeopardised.

Further to the need to make profit, commercial companies are actively recruiting ex military and public servants, knowing full well that there are friendships that can be used to leverage more work for the contractor. These actions that are not occurring at arms length are seeing a detrimental loss of critical skill sets within Defence, including the ability to mentor the next generation of public servants.

EFFECT OF OUTSOURCING ON DEFENCE

What would be the effect of outsourcing the P&EE capability on Defence? Defence would lose the ability to independently verify contractor supplied data and would be unable to conduct impartial investigations into accidents and incidents involving Australian military and civilian people.

Once lost the ability of Defence to reinstate this capability would be highly problematic, this struggle to retain or employ skilled staff for a specific capability has been demonstrated by the need to conduct a recruitment action for a radiographer 4 times before a suitable candidate was recruited. The candidate that was ultimately selected was selected on the full understanding that they would require training as they, while being the best applicant, were unqualified in industrial radiography.

Submitted by

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