



Unite Submission to the Defence Select Committee Enquiry into the Puma Life Extension programme.

This response is submitted by Unite. Unite is the UK's largest trade union with almost 2 million members across the private and public sectors. The union's members work in a range of industries including manufacturing, aerospace, shipbuilding & repair, financial services, construction, transport, education, health and not for profit sectors.

Executive Summary

- The Ministry of Defence must seriously consider replacing the current ageing Puma with sixteen new Merlin Mk3a aircraft.
- This proposal will rationalise the Medium Support Helicopter fleet from 3 types to one, this will reduce costs and make economic and financial sense to the Treasury and the tax payer.
- Unite has serious concerns about the safety of Puma, the main concern being its poor engine response.
- If the programme is implemented, any transition period will not impact upon operational capability, as there will be no loss of aircraft as they enter into an upgrade programme.
- The proposal for Merlin will ensure a bigger footprint for UK based companies. As well as providing contracts for Augusta Westland; the engines will be manufactured by Rolls Royce.
- The procurement of Merlin would ensure the maximum retention and creation of jobs for workers based in the UK.

- The key technical skills required to make these complex pieces of machinery will be retained in the UK and will ensure skills shortages and skills gaps are controlled.
- The proposal could deliver acquisition savings of more than £300 million against the Future Medium Helicopter Tranche 1 and Life Extension Programme budgets.

Introduction

Over the past three decades the UK Aerospace industry has undergone a series of significant changes and strategic re-structuring. The two most important changes have been the rapid globalisation of manufacturing industry and the changes to production and capability in the face of the UK armed forces being involved in two major military conflicts.

The sector is the second largest in the world and is a significant driver of regional, national and global economic growth and productivity. The industry generates £38.6bn worth of revenue and exports of £4.34bn¹ The Aerospace sector employs a workforce of over 124,000 people and supports a supply chain of over 100,000 people. Unite represents around 100,000 workers within the Aerospace industry.

The sector has a number of large key companies but also has a diverse and strategically important supply chain of small and medium sized enterprises (SMEs). These workplaces are incredibly important to the success and productivity of the Aerospace sector and Unite acknowledges the key role SMEs play in ensuring that the UK Aerospace sector remains one of the most successful in the world.

Puma Life Extension Programme (LEP)

Unite believes the Puma LEP is a stop-gap measure to provide an interim “Battlefield Medium Support Helicopter” capability before the MoD can procure a new helicopter when funds become available in 2022.

Unite has concerns that there are serious issues around the safety of Puma; the main concern with the current Puma is its poor engine response. A demand by the pilot for too much power too quickly causes the rotor speed to droop resulting in a consequent loss of lift. To overcome some of these known failings the Ministry of Defence (MoD) has decided that the aircraft needs a new more powerful engine. This in turn will require a new cockpit because of the need to fit modern digital engine controls.

Unite believes this will not solve the problem. Although some handling characteristics will be improved other poor safety features cannot be rectified. For example, the aircraft has a high centre of gravity and, when combined with a short wheel base and tricycle undercarriage, this makes the aircraft prone to rolling over especially in high winds and when operating from uneven

¹ SBAC – UK Aerospace Survey 2008.

landing sites. It is this feature that makes the aircraft unsuitable to operate from the back of ships.

Added to this, Unite believes the aircraft has not been designed to meet modern safety standards. It is only built to a 6g crash case, whereas the Merlin for example is designed to survive a 16g crash. Roughly translated this means that only 40% of Puma crashes would be survivable whilst with Merlin the crew and passengers would survive in excess of 90% of all crashes. As well as this, the Puma LEP upgrade does not include the fitting of modern crashworthy seating.

Unite believes these safety issues cannot be resolved. Crashworthiness is all about achieving a balanced design where no one feature compromises the capabilities of others. A crashworthy seat is great to have but only if the basic airframe does not collapse in a crash. Optimised crashworthy design cannot be achieved retrospectively on a legacy platform. Partial incorporation of crashworthy design features may be a benefit to survival rates but are likely to generate significant design change and weight growth penalties that must be factored into the overall operational performance.

Capability

The capabilities that are needed now are vastly different to those envisaged 50 years ago when the cold war was the greatest threat to UK national safety and security. What this has created is a scenario where it is the technological advantage that is needed by the UK armed forces.

This level of technological change and expansion has created new ways of working and the creation of new industries and new technologies. Part of this creation has been developed by the small and medium sized enterprises (SMEs) in the sector. This is where the technological innovation is to be found and where there are significant levels of intellectual property and the ability to provide solutions for the big companies that dominate the UK Aerospace sector.

Through life capability is vitally important at this crucial time. There has been a critical change of approach regarding national security within the UK, the USA and other areas around the world. This impacts significantly on Unite members and the strategic long term objectives of the companies they work for. Unite is keen for the present government to focus on capability as an issue within the sector.

Strategic and focused investment will secure the jobs, skills, livelihoods and communities of the workers in the sector. The Aerospace sector is a unique niche sector. The workers within the sector are highly skilled, highly educated and have undergone extensive training. The work they do is not undertaken anywhere else in the UK and is of vital importance to the UK economy and the UK balance of payments.

Aircraft Procurement

Unite believes it is highly likely that, should the Puma Life Extension Programme commence, a good deal of emergent after work will be identified, which could have a detrimental impact on controlling costs. Experience gleaned from an earlier programme to upgrade South African Pumas for the MoD showed that of the originally procured 6 aircraft only 4 could be made suitable for operational service. There are also known issues with the top deck structure which supports the main rotor gearbox and engine where repair costs are high.

Unite is clear that capability is of strategic importance where government procurement is concerned. The MoD has a poor record of implementing procurement contracts on time and ensuring that strategic military equipment is available for the armed forces. The National Audit Office has provided evidence to show that delays in procurement can end up costing the UK government and the UK tax payer far in advance of the original budget.

Quentin Davies, Minister for Defence, Equipment & Supply (DE&S) recently announced a study into the potential procurement of new aircraft in place of both the Puma and Sea King Life Extension Programmes (LEPs). There are major benefits associated with the introduction of further numbers of helicopters to enhance the existing fleet of helicopters currently used by the MoD. Unite believes the most pragmatic alternative to having two LEPs is to increase the current Merlin Fleet by 44 aircraft.

Skills and Training

It is clear that the Aerospace sector is one where the employees are highly qualified and highly skilled. However, a number of key reports have indicated that a shortage of skilled employees may be hampering growth in manufacturing industry as well as limiting the potential for any changes in highly technical operational processes. Unite believes that procurement decisions by the MoD must take into account training, skills and ensuring the key skills in the sector are retained. Long gaps in the awarding of contracts can generate serious problems with skills retention and skills shortages.

Unite is keen to see that companies within the sector do not become complacent about training their existing workforce. It is vital for workers to continue their training and development while in work and it is the employer's responsibility to ensure that the workforce has this opportunity. Skills gaps can become a serious issue within manufacturing companies and as such could seriously affect productivity.

The present government has made it clear that they want to see a highly educated and highly skilled workforce for the future growth and prosperity of the UK economy. There are two key factors driving demand for skills within this sector.

- Replacement demand – where job opportunities are created by retirement, occupational mobility and where there are skills shortages within the sector.

- Structural change driven by international competition – the important role of skills in improving productivity relative to international competitors cannot be underestimated. Structural change within the sector, such as the huge changes in technology and the products required by the armed forces, are broadening the types of skills required within the sector.

Unite believes that ensuring strong workforce skills is a matter of shared responsibility between government, employers, unions and individuals. It is clearly documented that trade unions have played a pivotal role in encouraging workers and employers to participate fully in the learning agenda, this role can now be extended to include on the job training and skills development for all workers.

Unite Recommendations

- The Ministry of Defence must give serious consideration to replacing the current ageing helicopters with modern aircraft that will have up to a 40-year operational expectancy, and which are designed to contemporary safety and survivability standards.
- As an element of the proposal, replace the current Puma capability with 16 new Merlin Mk3a aircraft within the same budget and profile.
- Rationalise the Medium Support Helicopter fleet from 3 types to one, with the removal of costs associated with the support and maintenance of the current Puma and Sea King Mk4 aircraft.
- Unite believes the transition period will incur no impact upon operational capability as there will be no loss of aircraft as they enter into an upgrade programme. The Puma fleet will diminish significantly as aircraft are returned to Romania for structural rework followed by new electrical and avionic equipment being installed.
- The proposal could deliver acquisition savings of greater than £300 million against the Future Medium Helicopter (FMH) tranche 1 and Life Extension Programme budgets.
- By increasing the fleet size of an already utilised aircraft, this will reduce the direct cost of ownership of the Merlin helicopter by 28% through economies of scale and also build on significant UK investment in the Merlin helicopter.
- Implementing the programme will remove or significantly reduce the requirement for further investment in training, infrastructure, independent test and evaluation, trials and MoD Project Team costs, while avoiding the costs, risks and delay associated with bringing new aircraft types into service.

- Accepting the upgrade of Merlin will ensure a bigger footprint for the UK workforce as Rolls Royce will be supplying the engines.
- Unite believes the implementation of the upgrade will provide for the retention and creation of jobs in the aerospace sector.
- All equipment procured by the MoD must be manufactured in the UK, using UK based workers.

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