



House of Commons  
Defence Committee

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# Helicopter Capability: Government response to the Committee's Eleventh Report of Session 2008–09

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**First Special Report of Session 2009–10**

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## The Defence Committee

The Defence Committee is appointed by the House of Commons to examine the expenditure, administration, and policy of the Ministry of Defence and its associated public bodies.

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### Publications

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### Committee staff

The current staff of the Committee are Mike Hennessy (Clerk), Georgina Holmes-Skelton (Second Clerk), Karen Jackson (Audit Adviser), Judy Goodall (Inquiry Manager), Richard Dawson (Senior Committee Assistant), Christine McGrane (Committee Assistant) and Miguel Boo Fraga (Committee Support Assistant).

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# First Special Report

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The Defence Committee published its Eleventh Report of Session 2008–09 on *Helicopter Capability* on 16 July 2009, as House of Commons Paper HC 434. The Government's response to this Report was received on 6 October 2009. On 12 December 2009, the Committee wrote to the MoD asking for further information. This information was received on 4 January 2010 and stands as Annex A to the Government response. Both are appended below.

## Government response

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The Government welcomes the House of Commons Defence Committee's report on Helicopter Capability. We are grateful that the Committee recognises the professionalism, dedication and bravery of our helicopter personnel and the efforts of those in industry and within the Department to support the provision of helicopter capability.

We welcome the Committee's recognition of the important role our helicopter capabilities fulfil across a range of areas, notably on operations in Afghanistan, but also in other roles such as the provision of maritime helicopter capability and Search and Rescue capability within the UK.

We are pleased that the Committee commends the close working relationship between industry, the Defence Equipment & Support organisation and the front line commands, which has delivered increased availability of helicopters to operations. We are also grateful for recognition of the progress that has been made in delivering more efficient and effective training for our helicopter forces.

The Government's response to the Committee's conclusions and recommendations as set out on pages 26-28 of the report is as follows:

**1. (Recommendation 1) Our visit to Middle Wallop and Yeovilton proved invaluable and we record our thanks to all those involved. Our discussions that day have informed our oral evidence sessions, and indeed, this Report. (Paragraph 2)**

The MOD welcomes the interest the Committee has shown in the provision of helicopter capability and is pleased to have had the opportunity to outline its plans and the challenges being faced. The MOD has aimed throughout to provide the Committee with all necessary information to support its enquiries.

**2. (Recommendation 2) Helicopters provide many vital capabilities to the modern Armed Forces and, with the challenge of hybrid warfare, are becoming increasingly relevant to current and contingent operations. Their status as force-multipliers lends further weight to their value. They are a cost-effective means of increasing the operational impact of other force elements and therefore, of operational capability generally. As such, it is essential that the fleet should be 'fit for purpose', both in terms of quality and quantity. (Paragraph 5)**

The MOD fully recognises that helicopters are a vital capability for the Armed Forces, and that in order to fulfil the full range of military tasks they are required to undertake they need a mix of helicopter capabilities, ranging from UK Search and Rescue to battlefield support in Afghanistan, to global maritime patrol. As set out in the written evidence submitted to the HCDC Helicopter Inquiry in April 2009, the Department plans its current and future helicopter force structures on the basis of an assessment of the capability required to achieve military success in a range of military tasks and operational scenarios.

The Department agrees that its helicopter fleets must be 'fit for purpose' in terms of quality and quantity, but where possible has also strived to maximise the flexibility of assets to support more than one role. For instance the Sea King Mk4, which has traditionally

provided a littoral manoeuvre (ship-to-shore transport) role for the Royal Navy Commando Helicopter Force, is currently providing vital support to operations in Afghanistan in a land-based battlefield helicopter role following the fitting of performance-enhancing rotor blades. In a similar fashion the Royal Navy Airborne Surveillance and Control helicopter has adapted to operate Afghanistan providing vital wide area surveillance and ISTAR support to C-IED operations. Such flexibility is a key factor underpinning the procurement of the Lynx Wildcat which, because of the increased commonality between its Army and Navy variants will be able to re-role quickly between the maritime and battlefield roles to enable maximum utilisation of the assets and provide the fleet as a whole with greater versatility.

The Equipment Programme funds the delivery of core capabilities, but beyond this the Urgent Operational Requirement (UOR) process has been successfully employed to tailor those capabilities to the challenges, such as the threat and environmental conditions, of specific operational theatres where they are to be deployed. The Treasury has funded a wide range of UOR measures on helicopters to support operations in the challenging conditions of both Iraq and Afghanistan. These include modifications to the Merlin airframes that will begin to deploy to Afghanistan in November 2009, and installing more powerful engines to the entire effective Lynx Mk9 fleet, which will enable those helicopters to operate in Afghanistan during the summer months, providing for the first time a year-round Light Helicopter capability.

We continue to keep our capability requirements under review.

**3. (Recommendation 3) Significant improvements have been made to the availability of key assets such as Chinook. However, in the longer term, increased availability will be no substitute for additional capacity. Adequate capability is also a question of numbers of airframes. (Paragraph 11)**

The MOD is pleased that the Committee has acknowledged the great strides it has made in improving the availability of its helicopter assets and hence the volume of flying time that is available to front line commanders. The Department has made logistics support to aircraft in theatre a key priority and serviceability rates in theatre are consistent with the operational requirement and the measures that we have taken have contributed to significant increases to the flying hours available on operations

As the Department has set out in its evidence to the Committee, the key measure by which the delivery of helicopter capability is assessed is the provision of helicopter flying hours. The Department recognises that generating sufficient airframe numbers is inevitably a factor in delivering the required level of capability, but just as crucial is maximising the availability of those assets. Our aim is to deliver the maximum capability from the asset pool, within the bounds of sensible resource management. Maximising the efficiency of our fleets will increase the percentage of the overall aircraft fleet that can be deployed on operations at any one time and allow for those aircraft to fly more hours when they are deployed.

Furthermore, the individual capability of the helicopters within our fleet will be increased through planned improvements to our existing aircraft. For example, the introduction of

new engines on Chinook and Puma will increase their load carrying capability over a typical mission scenario by some 20% and 60% respectively.

**4. (Recommendation 4) We do not believe that the question of helicopter capability can be properly answered without reference to the size of the fleet. We are concerned that operational commanders in the field today are unable to undertake potentially valuable operations because of the lack of helicopters for transportation around the theatre of operations. We are also concerned that operational commanders find they have to use ground transport, when helicopter lift would be preferred, both for the outcome and for the protection of our forces. Furthermore, we are troubled by the forecast reduction in numbers of medium and heavy lift battlefield helicopters, which will make this worse. We have an additional concern in respect of the apparent lack of training that is taking place for amphibious operations. (Paragraph 21)**

Helicopters play a critical role in Afghanistan, offering commanders a capability that the insurgents cannot match. Our helicopter assets have a wide range of utilities from finding and destroying enemy targets to the tactical and operational movement of troops and freight. Unfortunately though they are not a panacea. Every commander knows that predictability kills and that helicopters simply add to their planning options. Commanders need to have a variety of vehicles and helicopters at their disposal and they will select the most appropriate asset for the task at hand. Helicopters expand our planning options and make us less predictable but they cannot fulfil the most fundamental role of all, engagement with the local population, which requires our troops to mix with the local population on the ground.

UK commanders in Afghanistan have made clear that they have enough helicopters to conduct key tasks, but that they would always welcome more—and we continue to work flat out to deliver increased capability in theatre. After the challenging summer of 2006, we increased the flying hours available from the helicopters (Apache and Chinook) that were already in theatre. In late 2007 the newly modified Sea King Mk 4s arrived in theatre further increasing capacity. All in all, by April 2009 we had increased the number of UK airframes available to commanders in Afghanistan by over 60%, and the number of helicopter hours by 84%.

We plan to make further increases to our deployed capacity—by Spring 2010 helicopter hours are forecast to be more than 130% higher than November 2006. This will be achieved primarily through a number of key platform improvements. This includes the re-deployment of the Merlin fleet to Afghanistan, with the first airframes entering theatre in November this year. The six Merlins purchased from the Danes have expanded the fleet by 25%, which will allow us to deploy more Merlins to Afghanistan than would otherwise have been possible. We are also converting eight Chinook Mk3 helicopters to a support helicopter role for deployment to Afghanistan. The first increase in deployed Chinook numbers is planned to take place from summer 2010. Our Lynx Mk9s are being re-engined so that from October 2009 they will be able to operate in the extreme Afghan summer conditions, delivering a year-round Lynx capability for the first time.

Increasing helicopter capacity is very complex. It is not just about buying more helicopters—which we have done—it is also about manpower, training and support. We cannot have all our helicopters in Afghanistan. Some are required for operational tasks

here (eg Search and Rescue), while others are unsuitable for Afghanistan (eg Gazelle). Of the fleets that are suitable for deployment to Afghanistan, a significant proportion of their number will be required for pre-deployment training and to maintain aircrew skills when they are not deployed, while others will be undergoing the depth maintenance required after intense operational usage or modified to increase their performance and survivability. There is also a constant commitment of aircraft to 'equipment and tactics trials' that will help to save lives in Afghanistan.

It is important to remember too that UK forces do not operate in isolation in Southern Afghanistan – we are there as part of the ISAF coalition. Helicopters are a shared asset among our coalition partners, and we draw on helicopters provided by our Allies just as they draw on ours. Just as Coalition helicopters may be employed in support of UK troops in Helmand so UK helicopters may be utilised in support of Coalition troops elsewhere in Regional Command (South) (RC(S)). Within the coalition we are by far the second largest provider of helicopters. Excluding the US helicopter fleet, the UK currently provides half of the helicopters available to RC(S) with the remainder provided by the Dutch, Canadians and Australians combined.

The priority of tasking is decided by the 2 star HQ on the ground—RC(S)—and is often planned many days in advance for deliberate operations and routine tasking. In addition a number of aircraft across RC(S) are always kept at very high readiness (VHR) for 3 tasks: Medical Emergency Response Teams; VHR Attack and Reaction Forces (troop reinforcement). Regardless of the nation owning the helicopters, the most appropriate aircraft is despatched in response to each requirement. Prioritisation recognises that there may never be enough helicopters to satisfy every potential task but it ensures that the essential tasks are supported appropriately.

To further free up military helicopters, so that they can focus on direct support to operations, we use civilian contracted air support to move freight and supplies. NATO has a commercial contract to deliver 600 hours per month of freight lift, available to all RC(S) Troop Contributing Nations on a priority basis. In addition, the UK maintains a national contract for Medium and Heavy Lift helicopter to carry freight. This contract provides 340 hrs at a cost of around £3.9M per month, enabling us to free up our own helicopters for higher priority tasking.

The Committee expressed concern over a 'forecast reduction in numbers of medium and heavy lift battlefield helicopters'. While current plans do show a slight reduction in the numbers of lift aircraft owned by the MOD between now and 2020, while we life-extend Puma and Sea King prior to the delivery of Future Medium Helicopter, our analysis shows that on current plans overall lift capacity will increase and we are examining options for improving output even further. Much of the reduction relates to the disposal of old aircraft that do not today provide a deployable capability, the increased contribution of other ISTAR assets to roles previously provided by helicopters, improvements in the performance of individual aircraft and their support arrangements, and the provision of non-combat capabilities (ie Air-Sea Rescue) through PFI arrangements where the MOD will not own the assets.

It is also important to note that of our current support helicopter fleet only our Chinook, Merlin, Lynx that are being re-engined and those Sea King aircraft that have been fitted

with performance-enhancing rotor blades are considered suitable for deployment to Afghanistan, particularly during the summer months. Over the next 5 to 10 years, while overall rotorcraft numbers are scheduled to fall, the number of support helicopters suitable for deployment during the Afghan summer will have increased by over 50%. This will be achieved through improvements to our Puma aircraft and the acquisition of new, more capable, helicopters.

The Committee made comment on the level of training that is taking place for amphibious operations, and we acknowledge that the tempo of Land operations over recent years has had an impact on the Department's ability to conduct amphibious operations (Littoral Manoeuvre—LitM). Nevertheless, small scale exercises have been achieved and a minimal level of LitM currency and competency will be maintained.

**5. (Recommendation 5) While we are grateful to the Minister for raising with us his uncertainties about the decision to extend the life of Puma, we do not feel that we were given the full picture on this issue by other witnesses. We very much regret this. (Paragraph 28)**

The MOD's planning assumption has been for some time that the Puma Life Extension Programme (LEP) would be necessary in order to ensure the required level of medium lift capability would be available to operations in advance of the Future Medium Helicopter programme. As the Minister for Defence Equipment and Support (Minister(DES)) set out in his oral evidence to the Committee in June 2009, he requested a review of the MOD's planning assumptions to assess whether there was a way to deliver the required capability without recourse to the Puma LEP. The review concluded that it would not be possible to cancel the LEP without unacceptable risk to operational commitments. As a result Minister(DES) agreed that the Puma LEP should proceed and a contract was signed on 18 September 2009 with Eurocopter.

We continue to assess the options available to deliver lift capability requirements in the medium term but no decisions have yet been made. Given the Committee's interest in the delivery of lift capability, we will update the Committee on our plans when we are in a position to do so.

**6. (Recommendation 6) Given the age of both Sea King and Puma and the poor survivability of the Puma, extending their lives at considerable cost is not the best option, either operationally or in terms of the use of public money. We do not believe that these LEPs will provide adequate capability or value for the taxpayer. Only a procurement of new helicopters can meet the original objective of reducing the number of types of helicopter in service within the UK Armed Forces. (Paragraph 30)**

The MOD agrees with the Committee that one of our key objectives should be to reduce the number of types of helicopter in service with the Armed Forces. We are aiming to deliver this objective in the medium term but, as set out above, to attempt to remove Puma from service at this juncture and replace them with a new capability would lead to a reduction in helicopter support to current operations, which we are not willing to contemplate.

The Puma LEP takes advantage of the significant investment that has already been made in those airframes and will deliver important lift capability until at least 2022. Although the



Puma fleet was originally procured in the 1970s, it has only flown half of the Service Life for which the original designer, Eurocopter, has cleared the airframe. The modifications under the LEP, in particular the new engines, will provide 35% more engine power delivering far greater performance in the high altitudes and hot summer temperatures as currently experienced in Afghanistan; they will also provide a 25% improvement in fuel efficiency providing greater range. The new cockpit will bring the aircraft up to date with digital displays and modern navigation and communication equipment.

We do not agree with the Committee's comments on the 'poor survivability' of Puma. We have a duty of care to our people under the Health and Safety at Work Act to ensure that the capabilities that they operate are safe and that we have reduced the risks of any major injuries or fatalities to as low as reasonably practicable. The more powerful, modern engines and avionics will address the principal safety hazards associated with the platform. Overall, our analysis indicates that following the LEP, the Puma Mk2 will deliver a significant step change in capability, specifically enabling the aircraft to perform very well in Afghanistan's exacting 'hot and high' environment.

No decision has been made on the nature of the investment to be made in the Sea King Mk4 LEP and we continue to explore our options.

**7. (Recommendation 7) We welcome the Minister's assurance that he is committed to minimising the difference between the equipment standards on an Apache in the UK and an Apache in Helmand. The MoD should commit to making training aircraft as close to the theatre-entry standard as is affordable, and we realise that this might be achieved by fitting improved systems on training aircraft in the United Kingdom or by teaching key pilotage techniques on unmodified aircraft. (Paragraph 35)**

We aim to ensure that in all cases aircrew train on equivalent aircraft to those they will operate in theatre. As Minister(DES) commented at the HCDC Inquiry, we would never ask our troops to operate equipment on operations unless they had been adequately trained in advance. RAF Merlin did not deploy to Afghanistan immediately on completion of their role in Iraq precisely to allow time for crews to complete crucial pre-deployment training on aircraft modified to the standard that crews would experience in theatre. Although only a proportion of each Battlefield Helicopter fleet will necessarily be fitted to Theatre Entry Standard (TES), we will always aim to have sufficient platforms at this standard available to support pre-deployment training (PDT). As a result of UOR and Equipment Programme modifications, there are 'fleet within fleet' challenges to be resolved to ensure we have sufficient aircraft 'fitted for' and 'fitted with' TES to sustain current operations, enable PDT and provide a limited contingent capability'

Our training capability is fit for purpose, including for the provision of sufficient simulators. We do, however, recognise this as an area where we can make further improvements, and all Apache simulators are being upgraded this year to ensure they have improved coherence with the latest aircraft sensor, display and software standards. These upgrades will also enhance the weapons training capability of the simulators. Some UOR modifications have not yet been embodied within the simulators, but this does not impact on the quality of training received prior to deployment, because the use of such modifications is covered in live flying training.

**8. (Recommendation 8) We were concerned to hear from industry that the Defence Industrial Strategy, so far as it relates to helicopters, needs to be 'picked up and moved forward again'. The loss of momentum in relation to the Defence Industrial Strategy may lead to significant acquisitions in this sector taking place without sufficient reference to the DIS. This would be regrettable if it prevented greater rationalisation of helicopter types for the reasons we set out above. We urge the MoD to avoid this if at all possible. (Paragraph 38)**

Industrial considerations are an important factor in our decision-making on the delivery of helicopter capability to the Armed Forces, but the overriding concern is to ensure that the right capabilities are provided and that this is achieved at best value for money.

Most of our support arrangements have been agreed with industry on a long term basis, with incentive mechanisms (eg for the delivery of improved availability) built into our contracts. Industry plays a vital role in the effective delivery of military capability and its support, and MOD continues, in general, to be pleased with the aerospace industry's support to operations (to modify existing aircraft, buy new, and improve equipment support) over recent years. The demand that MOD is placing on Industry to support current operations is very high and the Department maintains a regular dialogue with key Suppliers to ensure priority demands are met.

As the Department's evidence to the Committee set out, many of MOD's current demands on Industry require retaining key skills onshore (as highlighted in the DIS), i.e. those critical to the through-life support of the current aircraft fleet (including technology insertion) and the verification of continued airworthiness of military helicopters. These skills are largely resident onshore at AgustaWestland, Yeovil, although we are pleased too that the onshore capabilities of both Boeing and Eurocopter continue to improve. The demands of current operations, coupled with export business, and ongoing procurement and modification projects mean that those critical skills are safeguarded in the medium-term. However, beyond this the volume of new helicopters required by the MOD dictates that Industry will need to continue to transform its business models to focus more on new export orders and on the through-life support to the current fleet. We regularly communicate with industry collectively (eg via the National Defence Industries Council), and bilaterally, about developments that might affect how the Defence Industrial Strategy principles can be applied.

**9. (Recommendation 9) On support, closer working between the military and industry through IOS and TLM programmes is clearly the way forward. We were impressed by the reports we had from companies of CONDO operations, particularly with regard to their consequences for process improvement and cost effectiveness through early interventions. We encourage the MoD to capitalise upon lessons learned from the success of the Chinook Through Life Capability Service programme. (Paragraph 41)**

The Department is grateful for the Committee's recognition of the improvements that have been made in helicopter support, especially on operations. Our joint working with Industry colleagues, in some cases while deployed on operations, is delivering real benefits. As set out in the Department's evidence to the Committee, we continue to move from traditional support arrangements to IOS-based support solutions, which provide incentives to, for example, improve aircraft availability. This approach is delivering higher availability to the

Armed Forces and long term value for money. We agree that the Chinook Through Life Capability Service sets an excellent benchmark and we are seeking to incorporate lessons from that programme into other support arrangements.

**10. (Recommendation 10) The urgent action being taken within the MoD to improve the acquisition and delivery of spares to all helicopters in theatre needs to be given top priority. (Paragraph 43)**

Maximising availability of helicopters to current operations remains our top priority and our record in exceeding expected availability on operations in Afghanistan is a testament to the efforts of colleagues in industry, the project teams at the Defence Equipment and Support organisation and those at the front line commands, who have all worked extremely hard to achieve this. Every effort is made to ensure that the demand for helicopters spares is predicted and the spares requirement is met. Inevitably, when conducting high intensity operations, there will be rare occasions when the availability of some spares becomes low and, to mitigate any negative effect on the forward fleet, spares may be drawn from reserve or non-effective aircraft. While our focus remains on improving the availability of helicopters in operational theatres, we will also work to ensure adequate numbers are available in the training fleet, which will enable us to sustain capability on an enduring basis.

**11. (Recommendation 11) Operations in Afghanistan have now been made the highest priority, what is known as a 'campaign footing', but this has stretched the manning of the helicopter fleet. It is therefore unfeasible to surge helicopters into theatre. Joint Helicopter Command is to be commended for its efforts in delivering trained manpower to the front line, and then giving personnel sufficient time to do all the things at home that enable them to go back for repeat tours. However, we believe it essential that the parent Services examine the basic manning levels to enable personnel from all three Services to be deployed and rested on an equitable basis. (Paragraph 46)**

We are grateful to the Committee for the recognition of our efforts to ensure the sustainment of capability in theatre, while ensuring that required harmony ratios are adhered to. We continue to look into ways to improve in this regard and we are currently in the process of doing as the Committee recommends to ensure our helicopter forces are appropriately manned.

**12. (Recommendation 12) Increased joint working between the three Services has shown benefits in the same way that increasingly close working between the military and industry has done. We recommend that the MoD presses ahead with its programmes to consolidate and make more common the various schemes in place for training helicopter air and ground crew. The MoD should take steps to eliminate the time lag between delivery of UORs in theatre and the upgrading of equipment at home. In this respect, it is unacceptable for personnel to encounter new equipment for the first time in theatre. (Paragraph 49)**

Significant steps have been taken since the formation of the Joint Helicopter Command (JHC) to harmonise training for helicopter air and ground crews and we will continue to pursue this strategy. Key successes include joint training on Jebel Sahara, which helps to prepare aircrew about to deploy on Operations for 'hot and high' environmental

conditions. We are also creating further opportunities to enable joint training at all levels, from initial phases of pilot training through to the final exercises of Limited Combat Ready training across the 3 services within JHC.

As set out in our response to Recommendation 7 above, we aim to ensure that crews and maintainers are trained with the capabilities that they will deploy with. We recognise that there have been instances where individuals have deployed to theatre without having used some elements of TES equipment, for instance on communications equipment that is used on the Sea King Mk4 in Afghanistan. In these cases we have provided training, the hands on use of the equipment taking place after arrival in theatre.

**13. (Recommendation 13) We welcome the Government's announcement of a strategic review of defence, the need for which has long been apparent. The case for better resourcing of helicopters has however, already been made clear. The MoD should not use the announcement of the strategic review to delay the important decision which needs to be taken in relation to the acquisition of the Future Medium Helicopter, albeit on a modified off-the-shelf basis. The time has come to appreciate fully the role of helicopters in modern operations. We expect the Government to stop equivocating over the separate concepts of 'capability', 'capacity', and 'availability'. The MoD should seize the opportunity to recognise the importance of helicopters to current and contingent operations, and work towards strengthening all aspects of capability: the number of helicopters in the fleet, the support structure that underpins their operations, manning, both in the air and on the ground, and finally, the training for the full spectrum of capabilities described by the review itself. (Paragraph 51)**

A process for undertaking a Strategic Defence Review in the next Parliament was set out by the Defence Secretary on 7 July 2009. While clearly we expect the Review to provide an assessment of the full range of capabilities that are required for the Armed Forces to achieve success in the tasks they are asked to undertake, we are clear that where decisions are required to support current operations there should be no delay. For that reason, since the Secretary of State's announcement we have made several key decisions relating to helicopter capability. This includes committing to contracts worth around £400M for the fitting of an enhanced cockpit capability and more powerful T55-714 engines to the full Chinook fleet, increasing their ability to operate 'hot and high' and improving their capability in low light levels and contracts worth around £300M for the life extension of the Puma helicopter, which is vital to the effective delivery of lift capability in the short to medium term.

Work continues to assess the optimum solution to meet the Department's helicopter lift requirements in the longer term, and as outlined in the response to Recommendation 5, we will update the Committee when we are in a position to do so.

The Department agrees with the Committee's recommendation that we need to ensure all the respective Lines of Development such as equipment, support, manning and training are adequately resourced to deliver the required levels of operational capability and we keep our plans in each of these areas under constant review. Our success in the Chinook TLCS programme is a clear example of achieving additional capability through greater investment across the Lines of Development. Specifically, by increasing numbers of aircrew and maintainers whilst ensuring sufficient spares and robust depth servicing, we have

delivered an increase in the Chinook Annual Flying Task by some 30% in the past two years. With the delivery of Chinook Mk3, and continued investment across manpower, training and support, we expect to be able to increase this provision over the coming year. As set out in our response to Recommendation 10, we are seeking to capitalise on the success achieved with Chinook by incorporating lessons learned on TLCS into other support arrangements.

## Annex A

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**1. The Response to the Report addressed the concerns raised by the Committee in terms of fleet size. However, less reference was made to availability in terms of task lines required and fulfilled. What is the Government doing to ensure that, in addition to sufficient numbers of helicopters, there are sufficient trained pilots and ground-crews available in order to enable these assets to be used to their full capacity?**

Currently, the Helicopter Forces within the Joint Helicopter Command (JHC) are either manned to the endorsed (funded) level of establishment or will achieve the required level of manning within the next 18 months. This will allow the sustainable delivery of the required number of Rotary Wing platforms, task lines and flying hours in Afghanistan, including the planned delivery of uplifts in Merlin and Chinook in 2010 which we have already announced. Importantly, achievement of the endorsed establishments will also deliver the appropriate Force readiness cycles laid down by Commander JHC.

**2. You state that by April 2009 the number of helicopter hours in Afghanistan had increased by 84%. When was the baseline for this increase?**

The baseline for percentage increases in both helicopter numbers and helicopter flying hours increases is November 2006.

**3. Is it the case that the flying hours and availability dropped off over the summer? To what extent do you estimate that the re-engined Lynx Mk9s will reduce the summer drop-off in 2010?**

Due to degraded performance resulting from Afghanistan's summer environmental conditions, Lynx helicopters have since 2007 only deployed during the winter; as a result there has been a comparative hours reduction in the summer. The Lynx Mk 9a, with improved engine performance, will allow the aircraft to operate during the Afghanistan summer and deliver a year round capability.

**4. To what extent are you able to make full use of civilian helicopters, given their relative vulnerability?**

Civilian helicopters are fully utilised to deliver logistical support within the context of the operational situation. Improvements to future contracts will increase utility and efficiency, but they will remain constrained by their vulnerability to hostile action. Commercially contracted helicopter support ensures that military aircraft with their range of defensive aid suites and ballistic protection can concentrate on the completion of military tasks for which they are best suited.

**5. How certain are you that the Sea King LEP will go ahead? When can a decision be expected on the nature of the investment to be made in this project? To what extent are you hoping this programme will reduce the dip in the numbers of lift aircraft owned by the MOD between now and 2020?**

For the reasons highlight in response to question 7 (below) we are unable to retire our Sea King Mk4 immediately, without impacting our ability to undertake current operations. We

have however decided to significantly reduce our planned investment in this fleet, and now plan to retire all marks of Sea King by early 2016, ensuring that we avoid any disproportionate increases in costs that might arise if the fixed costs of supporting the Sea King fleet were then to be shared across fewer aircraft.

We own today 38 Chinook, 28 Merlin, 37 Sea King Mk4 and 34 Puma lift helicopters (not including the nine Puma that are now non-effective and the eight Mk3 Chinook currently under reversion). Only the Chinook, Merlin and those 16 Sea King Mk4 aircraft that have been upgraded with the 'Carson' main rotor blades and new tail rotors are suitable for operations in Afghanistan, i.e. 82 helicopters. Obviously only a percentage of these could be deployed given our need to undertake depth servicing, and essential training to ensure our crews remain current and ready to deploy within our harmony guidelines.

Previously published plans would see us operating in the battlefield support helicopter role, by 2020, 48 Chinook, 28 Merlin, 28 Puma and around 28 Future Medium Helicopters, i.e. a total of 132 aircraft, all would likely be suitable for operations in Afghanistan. The plans we announced in December decreases slightly this number (to 126 aircraft) but significant increases the overall lift capacity and capability by focusing investment in more capable Chinook helicopters; Chinook offers more than double the lift capability over a medium support helicopter. We believe that this new approach best balances the need for aircraft numbers, the individual capabilities of those aircraft, and the number of hours we can operate them for. It must be remembered that each of these aspects is important—there's no point having lots of aircraft that are unsuitable for the demanding roles we require of them.

**6. What level of investment has been made in the Puma since 1990? Would this money have been better spent on buying new Merlin or Chinook airframes to add to the existing fleet?**

Between 1990 and the recent commitment to the Puma upgrades we have spent some £60M-£70M on capability enhancements to the Puma fleet. This level of investment would equate to the acquisition of about three Merlin helicopters or about two Chinook helicopters. These very modest additions to our existing Merlin or Chinook fleets would have been insufficient, by a considerable margin, to have delivered the roles and requirements assigned to the 34 aircraft Puma fleet.

**7. Can the MoD provide the Committee with a detailed summary of the evidence upon which the decision to go ahead with the Puma LEP was based?**

The planning assumptions for the Future Medium Helicopter project were for deliveries to start in Financial Year 2014/15 and then continue at a rate of six aircraft per annum thereafter. This would allow the retirement (after their respective life-extension projects) of Sea King Mk4 in 2018 and Puma from 2022. Without new investment, however, we would need to commence the withdrawal of these aircraft types from 2012. It is simply not practicable to deliver the required number of new helicopters by 2012 due to manufacturing, financial, training and logistic constraints.

Our discussions with a number of helicopter manufacturers indicated that industrial capacity potentially existed to provide 20 new aircraft by the end of 2012, with all new 56 aircraft being delivered by mid 2015. To achieve this however would require an additional

£500M-£800M over the next four years above the funding already available to helicopters. This additional funding could not be found without detrimental effects elsewhere across the Defence Programme.

Within the current funding profile assigned to the sustainment of the Puma and Sea King Mk4 and the delivery of the Future Medium Helicopter project, we could only afford to buy a maximum of seven new helicopters by the end of 2012, with up to 18 helicopters delivered by mid-2015. This approach would create a substantial gap in lift helicopter numbers from 2012 until at least 2017 that, at its worst would reduce support helicopter Forward Fleet numbers by up to 40%. Such a shortfall would reduce the numbers of support helicopters we could deploy on operations from 2013 for at least 5 years and would create a significant shortfall against the current requirement in Afghanistan.

We concluded, therefore, that within available resources we needed to sustain either the Puma or the Sea King Mk4 if we were to avoid an unacceptable impact on operations. Of these two types our plans for Puma will deliver a much more capable aircraft with significantly improved performance, modern avionics (such as a state of the art navigation and radio systems) and automatic digital flight control system. We therefore concluded that investing in Puma to extend its life and deliver a step change in its capability was the best means by which we can avoid a significant reduction in Battlefield Helicopter capability from 2013 onwards.