



House of Commons
Defence Committee

Towards the next Defence and Security Review: Part One

Seventh Report of Session 2013–14

Volume II

Written evidence

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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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Thomas Docherty MP (*Labour, Dunfermline and West Fife*)
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The Reports of the Committee, the formal minutes relating to that report, oral evidence taken and some or all written evidence are available in a printed volume. Additional written evidence may be published on the internet only.

Committee staff

The current staff of the Committee are James Rhys (Clerk), Dougie Wands (Second Clerk), Karen Jackson (Audit Adviser), Ian Thomson (Committee Specialist), Christine Randall (Senior Committee Assistant), Rowena Macdonald and Carolyn Bowes (Committee Assistants), and Sumati Sowamber (Committee Support Assistant).

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Written evidence

Written evidence from the Ministry of Defence

1. *What work is currently being done both in the MoD and in other Departments in preparation for the next SDSR? How is it co-ordinated? How many staff (fte), and of what grades are involved? How many MOD personnel and of what rank have strategy as part of their job titles? What external consultations are being carried out?*

Initial preparatory work towards the next National Security Strategy (NSS) and Strategic Defence and Security Review (SDSR) is already underway across Whitehall. Although at an early stage, this includes identification and analysis of the key questions that may need to be addressed in 2015, based upon an examination of what has changed in the strategic context, and of any lessons learned, since 2010. This will enable consideration of whether any shifts in policy, approach or capabilities may be required in order to protect and promote HMG's national security interests. This work is being led by the Cabinet Office, including through the cross-government National Security Strategy Network, and falls under the auspices of the National Security Council.

In support of the Cabinet Office-led process, the Ministry of Defence (MOD) is undertaking a well-defined programme of research and activity to understand the future strategic context, examine policy options and to test the continued validity of Future Force 2020. This is designed to build an evidence base that will support decision-making in the next NSS and SDSR, and is being closely co-ordinated with other government departments, international partners and external experts. In keeping with the Civil Service Reform Plan's commitment to open policy making, this includes engagement with numerous academics and subject matter experts in think tanks, universities, industry and non-governmental organisations.

This work is being overseen in the MOD by the Defence Strategy Group, which is co-chaired by the Permanent Under-Secretary and the Chief of Defence Staff. The Group looks beyond the immediate annual budgetary cycle to drive coherence between medium and long-term strategic direction, policy and planning. The Group focuses, in particular, on the 5 to 20 year time horizon in order to ensure consistency with the biennial National Security Risk Assessment process, which will underpin the NSS in 2015, and to which Defence is a major contributor alongside other Government Departments.

The Defence Strategy and Priorities (DSP) team is co-ordinating MOD's preparatory work for the 2015 NSS and SDSR, on behalf of the Defence Strategy Group and under the newly-established Director Defence Strategy. As well as commissioning and managing work from across the MOD, DSP is around halfway through its own two-year programme of regional and thematic strategic studies. These analyse the geostrategic environment out to 2035 and explore the resultant policy choices and options, which in due course will help to inform resource allocation, force structure and capability development decisions.

DSP draws heavily upon bespoke horizon scanning led by the MOD's Development, Concepts and Doctrine Centre (DCDC), which is now part of Joint Forces Command. In turn, this is closely co-ordinated with wider cross-government horizon scanning under the auspices of the new Cabinet Secretary's Advisory Group. Work on the next iteration of DCDC's flagship Global Strategic Trends document is now underway, and is due to be published in mid-2014. DCDC is also leading work on behalf of the Vice Chief of Defence Staff to explore and develop new strategic and operational concepts for the Armed Forces, following their withdrawal from Afghanistan. In aggregate, this futures and concepts work will provide much of the overarching context for the 2015 NSS and SDSR.

MOD's preparations for the 2015 NSS and SDSR also include the Strategic Force Development and Balance of Investment processes. These activities are conducted to determine which capabilities, such as personnel and equipment, Defence needs to deliver its policy baseline. This is an iterative methodology, balancing potential policy aspirations with the available resources. The Strategic Force Development process uses existing 2*-level military headquarters to test the capability and resilience of Future Force 2020 against a broad range of illustrative scenarios, operational environments and mission types, thereby identifying any areas of affluence or shortfall within the future force structure. This process is approximately halfway to completion, and will conclude well in advance of the 2015 NSS and SDSR. The Balance of Investment (BoI) programme also considers the key drivers and constraints on the Defence programme, across all aspects of capability, and links proposed spending to potential benefits. In so doing, the BoI work prioritises the Defence programme, highlighting those options that deliver best value for money. It achieves this by considering the Defence Outputs (eg Military Tasks) alongside other factors, such as Defence industrial capacity and dependencies on Allies and partners.

2. *May the Committee have a copy of the Report "Enhancing Strategic Capability", prepared by Major-General Mungo Melvin and presented to the Defence Transformation Board in 2011? What progress has been made in implementing the recommendations of the Report?*

Major-General Melvin's report on Enhancing Strategic Capability was one of many inputs that informed the work of Lord Levene's Defence Reform Unit. As such, it was part of the process of internal thinking that led up to the final Defence Reform conclusions and recommendations, and was considered in that context. We are

not tracking whether or not the report's recommendations have been implemented and it would not therefore be appropriate to publish it. The Secretary of State will report to Parliament in the autumn regarding Lord Levene's annual review of progress on Defence Reform implementation.

In creating a smaller, stronger and more strategic Head Office under the new Defence Operating Model that came into force in April 2013, as called for by Lord Levene, we have made considerable progress in enhancing our strategic capability. This includes:

- Re-defining Defence strategy and its component parts—corporate strategy, pol/mil strategy and military strategy—in the paper entitled *Organising Defence's Contribution to National Strategy*, which has already been shared with the Committee. This approach has been assimilated into the MOD's new operating model and its principles embedded in the Defence Academy's various syllabi.
- Establishing the aforementioned Defence Strategy Group, to advise the Defence Secretary on strategic issues. This Group has met 13 times since its creation in December 2011, considering issues as diverse as the future of transatlantic and European security co-operation, the implications of China's rise, future intelligence priorities, the Middle East and North Africa, strategic force development and ballistic missile defence. This has strengthened significantly the MOD's strategic architecture.
- Establishing the new Director Defence Strategy post in MOD Head Office.
- Expanding the role of DCDS(Military Strategy & Operations) and establishing the 2* ACDS(Military Strategy), under which there is also a clearer 1* lead for Military Strategic Planning. This has improved the MOD's ability to plan for emerging threats and crises.
- Agreeing and implementing the MOD/FCO International Defence Engagement Strategy. This sits at the heart of the department's pol-mil strategy and has brought greater coherence and more effective long-term planning to defence activity overseas.
- Launching the new Policy, Strategy and Parliamentary profession in MOD, as part of the cross-government Policy Profession, to ensure that civil servants have the right skills, training and education to develop and deliver effective policy and strategy.
- Holding regular seminars at the Royal College of Defence Studies to encourage broader, more strategic thinking and to provide valuable training opportunities for staff across the Security Policy and Operations organisation within MOD Head Office.

3. *What training and practice in strategic thinking do military personnel receive?*

The Defence Academy provides education and training in strategic thinking for military personnel and Defence civil servants. The main intervention is provided through the International Course of the Royal College of Defence Studies (RCDS). This is designed to prepare selected senior military officers and officials for high-level leadership and management roles, including appointments in the MOD, international organisations and other functions in which strategic thinking is required. The Course seeks to develop strategic understanding and build the capacity for strategic thinking through rigorous analysis of the international security environment; the levers that provide for security, stability and prosperity, and the key tenets of leadership at the national strategic level. The International Course runs for one academic year and includes practical application through strategic analysis and table top exercises. Typically, about 35 UK military officers and 3–4 Defence civil servants undertake the Course. Academic support is provided by King's College London. The RCDS also provides other opportunities (such as evening seminars) for personnel to discuss strategic themes.

Elsewhere in the Defence Academy, the training delivered by the Joint Services Command and Staff College (JSCSC) includes education on the strategic context. Attendance on the Higher Command and Staff Course (HCSC) and the Advanced Command and Staff Course (ACSC) is selective: about 24 UK military officers and 5–6 civil servants from the MOD and wider national security community attend the HCSC; and about 180 UK military officers attend the ACSC. Both courses place a premium on developing and refining critical thinking and decision-making skills, and include extensive table top exercises. As a result of changes since 2011, Defence strategy now features more prominently in the Advanced Command and Staff Course syllabus.

4. *What plans has the MOD, either solely or in conjunction with the NSC and other departments, to produce a strategic lessons report covering high-level decision-making, operations and activities in Iraq and Afghanistan over the period 2002–2014? How will such analysis, if conducted, feed into SDSR 2015?*

The Directorate of Operational Capability (DOC) has produced four classified reports covering the lessons to be learnt from the entirety of the Iraq Campaign, and is currently in the process of producing a report on operations in Afghanistan. These reports are deliberately focused on operational lessons, but also touch upon policy issues. The DOC team is currently working on volume five of what is expected to conclude as a series of seven.

Within Defence's new organisational construct, Joint Forces Command's (JFC) Director of Joint Warfare is responsible for strategic lessons. The Defence Strategy Group's terms of reference encompass oversight of

strategic lessons and the Group will therefore, in conjunction with JFC, have a number of opportunities to consider these issues in the run up to the SDSR in 2015.

5. What plans are there within the MOD—in association with the Cabinet Office and NSC—for writing an official history to cover operations and activities in Iraq from 1991 to 2008, and that in Afghanistan from 2001 to 2014? Is the MOD working with the FCO on such projects already, and if not, is this being considered? If not, why not?

The UK Government's official history programme is overseen by the Cabinet Office which, in consultation with other relevant Government Departments, nominates subject areas and then commissions the appropriate authors. Official histories are not the only source of information on past operations, but they aim to provide the definitive official perspective regarding the events that took place. Consequently, they need to be written quite some time after the event in question to ensure that they are as complete and objective as possible. This means that the lead times for commissioning them can be quite long. For example, the Falklands Islands official history was published in 2005, some 23 years after the conflict. It should also be noted that this was a government-wide history of the crisis and conflict, not just of the military operations. This was very different from the military-centric official histories of the First and Second World Wars, for which the lead times were shorter. For further details concerning the future of the official history programme, I would refer Committee members to the Cabinet Office.

6. What historical support does each of the Services receive? Who supports Joint Forces Command? Are there plans for a joint Armed Forces Historical Research Centre? Could this feature in SDSR 2015 as a capability enhancement?

Each of the Services has its own Historical Branch. Joint Forces Command is able to call on the services of the most relevant Historical Branch or, if required, all three. As part of the Defence Transformation programme, work was undertaken to examine whether the three Historical Branches remained fit for purpose or whether there was a case for amalgamating them into one unit. It was concluded that the current arrangements remain effective, and recommended a few minor amendments to the Army Historical Branch, which are currently being reviewed. There are no plans for a joint Armed Forces Historical Research Centre or organisation. In addition, the Defence Studies Department of King's College London, which is an integral part of the Defence Academy's JSCSC, can also provide historical support to the Department and to Joint Forces Command (including DCDC). As an example, the Defence Studies Department includes the Corbett Centre for Maritime Policy Studies; its publishing output aims to promote the understanding of maritime history and policy.

7. What capability within the MOD now exists to cover the work previously conducted by the former Conflict Studies Research Centre and the Advanced Research and Assessment Group at the Defence Academy? How will any observed deficiencies be addressed in the SDSR 2015?

The MOD has a wide array of capabilities at its disposal in order to analyse current threats, future risks and the longer-term strategic and operational environments. The Defence Academy's academic partners—King's College London and Cranfield University—undertake research and the Academy recently refreshed the arrangements through which the MOD (and other Government Departments) can propose or sponsor research by the Academy's significant number of Master's degree students. Other key sources of expertise include: the Defence Intelligence organisation, which provides all-source threat assessments to the MOD and other Government Departments; Defence Strategy and Priorities which, as outlined above, is undertaking a programme of strategic studies in preparation for the next NSS and SDSR; and DCDC, which produces concepts and doctrine, synthesises operational lessons and identifies future trends, all underpinned by thorough research and experimentation. In addition, the MOD has access to an extensive range of external sources. This includes corporate membership of several major Think Tanks and increasingly close engagement with a network of academics and subject matter experts, in accordance with the Civil Service Reform Plan's commitment to open policy making.

8. I understand the Cabinet Office has reported on the implementation of the Levene reforms. If it is within the power of the MoD to let the Committee see it, they would be grateful. If it is not, I will approach the Cabinet Office.

Having consulted the Cabinet Office, which sets cross-Government policy in respect of maintaining the integrity of the Gateway Review process, we have concluded that the level of redaction necessary to enable release of this report to the Committee would make it meaningless. As the Committee will be aware, however, in November 2012 the Defence Secretary published Lord Levene's first annual review of progress towards implementing the recommendations of the Defence Reform Review. Lord Levene's letter to the Secretary of State for Defence, and the associated assessment against each of the recommendations, can be accessed online (via <https://www.gov.uk/government/publications/defence-reform-an-independent-report-into-the-structure-and-management-of-the-ministry-of-defence—2>). The Cabinet Office also publishes an annual report on the implementation of the 2010 NSS and SDSR; the most recent was released in November 2012, and is available

online at: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/83775/121128-Annual-Report-to-Parliament-on-NSS-and-SDSR.pdf.

July 2013

Written evidence from DefenceSynergia

INTRODUCTION

1. DefenceSynergia (DS) has consistently taken the position that Her Majesty's Government (HMG) needs to put in place a "Grand Strategic Narrative" to provide all government departments (especially the Ministry of Defence (MoD)) with an overarching framework for cohesive policy and planning purposes. Thus far this has not happened. As a consequence, MoD, along with all other major spending departments of state, are working to Comprehensive Spending Review (CSR) limitations without a clear understanding of HMG's foreign and domestic objectives. In effect, each department is "doing its own thing" with little objective regard for national interests. Foreign policy, energy, industrial, commercial, defence and security plans are not coordinated and at times are actually working in different directions—the net effect engenders political confusion, poor decision making sometimes ignoring professional advice and unnecessary, contradictory expenditure.

2. So, for example, efforts to grow GDP are hampered without a defence/industrial strategy through: rising energy costs to meet ecologically focused targets; delays in meeting UK transport infrastructure requirements; delays in building nuclear power generation plants or the political nerve to change direction for the good of the nation rather than narrow party advantage. In the case of defence, MoD has consistently failed, possibly through no fault of its own, to articulate its need for a Grand Strategy against which it can test its manpower and equipment plans in conjunction with national interests and priorities.

3. Despite HMG assurances to the contrary, DS is unconvinced that the National Security Strategy (NSS) is anything more than a higher level tactical doctrine which broadly defines for HM Forces the size, time frame and type of operations they must constrain themselves to without explaining why (the rationale); where (the geopolitical rationale) or what (the threats or interests they must defend). The latter requires a wholly different approach unless HMG is admitting that its scope for foreign policy intervention is to be dictated wholly by constraints of cost and by MoD's incoherence. One clue to this is the Prime Minister's recent *démarche* in which, rather than emphasise defence as the first priority of government, exercised a further threat, under SDSR 2015, to funding in support of the UK's security. It is clear, now, that Force 2020 is rapidly becoming a rather sinister mirage—certainly a mere "wish list" thus continuing the annual cutting of the Defence budget that has occurred in the last decade in contrast to other departments of state that enjoyed substantial rises. Does anyone care?

SDSR 2010

4. In looking to SDSR 2015 it is necessary to review SDSR 2010 briefly, taking account of the disadvantageous financial climate in which it was formulated. DS has always understood the CSR limitations and the reasons for them. The massive mismatch in capability requirements versus actual funding had to be addressed and MoD required radical reorganisation to meet both the challenge of getting its funding projections on track and keeping them there. More importantly, it has been imperative to ensure that operational requirements could be met through precise statements of requirement, professional procurement process and taut project management disciplines. If it is now accepted that the funding has been largely brought into line with reality, the jury is still out on the question of professional project management of programmes and operational capability being delivered.

5. As an example of this, a brief glance at the F35 programme shows that after 14 years in development and production (an issue in itself) this aircraft is massively expensive, technically and operationally flawed and unlikely to enter operational service for several more years. Whilst other nations such as Australia, Canada, Holland and even the USA are questioning the efficacy of staying in the programme, MoD has no "plan B" should the project fail. This, in spite of the fact that their obvious concern has been price which has escalated from \$60 million per aircraft ten years ago to between circa \$140 to \$200 million today—thus forcing MoD to reduce its alleged "initial" buy from 138 to an arguably operationally unrealistic figure of 48 aircraft.

SDSR 2015

6. The general shape of HM Forces having been outlined in SDSR 2010 it is as well to consider whether this configuration will survive SDSR 2015 and beyond and, if so, is the funded ORBAT correct in view of the NSS requirements? DS believes not, since the shape, size and structure cannot meet the declared intentions for a Maritime Strategic Narrative to underpin the operational requirements for expeditionary operations and the flexibility required to undertake these in a variety of theatres. A number of threats are already apparent on the Mediterranean littoral and in the Persian Gulf; with rather more development these may be seen to hazard fundamental energy and raw material supplies. This aside, can the equipment plan be realised without the

promised annual increase of 1% in the procurement budget? Judging by the Prime Minister's recent remarks, patently not.

ARMY

7. DS has accepted that the proposal for the regular army to reduce in size to 82,000 and restructure into 4 Brigade sized formations called Reaction Forces (RF) and several Brigade formations designated as Augmentation Forces (AF) is correct. However, there are still serious misgivings in respect of the proposal to reconstitute the Territorial Army (TA) as a 30,000 Army Reserve (AR) that is routinely called upon to augment regular army units or formations on operations not requiring general mobilisation. Could the AR better serve national interests (and those of civilian employers) if held back—with some exceptions like medics, EOD and special forces—for general mobilisation, becoming the core of heavy armour and medium artillery forces that are rarely required. The last time British armour, Multiple Launch Rocket system (MLRS) and medium artillery were used in anger was in Iraq in 2003—the time before that was 10 years earlier, in 1991.

THE ROYAL NAVY

8. It is generally acknowledged, both within and without the MoD that the Royal Navy (RN) (23,000 personnel) and Royal Marines (7,000 personnel) have already lost the vital critical mass necessary to meet the current NSS and MoD Departmental Planning Assumptions (DPA). In attempting to match these assumptions, the MoD is planning for a 19 ship destroyer (DD)/frigate (FF) flotilla, a 15 ship Mine Counter Measures (MCM) force and a 7 boat SSN squadron to support a single, at sea, Queen Elizabeth class aircraft carrier with a severely reduced capability to operate autonomously or with allies. This configuration can no longer be termed “Carrier Strike” and the “flexible air group” often mentioned in literature is beginning to look more and more like a United States’ Marine Corps (USMC) air group (USS Wasp) in its configuration: 12 F35b, 4–6 Apache/IN US Sea Cobra, 4 Chinook/Osprey, 6 Merlin/S60bh and so on. The difference is that the USMC have the CVN Fighters of the USN as top cover, we have nothing. The USN has stated publicly its intention to concentrate its forces in the Pacific, The point is, we cannot now rely on the US, even if we do operate a joint force. Previously the US might have deployed two carrier battle groups in the Atlantic; there will now only be one. Additionally, the new USN carrier air groups will deploy 65 or fewer aircraft, both fixed wing and rotary, with an absolute maximum of 24 F18 E/F for top cover and inflight refuelling. This is a major reason to keep or increase our force levels at a level from which we can operate autonomously if needs be. Apparently, there is a suggestion that The Prince of Wales might be commissioned but, present manpower ceilings and budgetary constraints contradict that consideration. The best that can be expected is that this ship will suffer in reserve. A single landing platform dock (LPD) will be available for amphibious warfare and, once again, there is the possibility of a second in reserve. The 4 Royal Fleet Auxiliary (RFA) Point Class ships provide uncertain logistic support for expeditionary warfare operations and, we must ask, how many will be available eventually? (it seems that the Point Class have been reduced in numbers from 6 to 4 already without public scrutiny. If so, it would be helpful for the HCDC to explore the reasons for this). The number of RFA oilers and support vessels are inadequate to resupply the fleet over the full range of operational areas implied in the NSS. RFA strength will eventually be 2 Wave class oilers, 4 Tides, 3 stores/ammunition ships, plus Diligence (specialised repairs/support) and Argus (air training/forward casualty support). The Committee should note that there is no firm commitment to replace these latter two important vessels.

9. Even before the fleet contracts to the Order of Battle (ORBAT) outlined above, the Royal Naval manpower is badly overstretched with morale suffering quite severely and significant numbers of highly skilled and experienced people of the most vital ranks and rates are leaving the service early. Whilst the MoD argue that the most up to date capability of individual ships, aircraft and submarines makes up for the derisory numbers tasked with the UK's worldwide commitments, little or no account has been taken of the need for redundancy, maintenance and attrition as a result of battle damage and system breakdowns (already occurring).

10. A fundamental assumption in both NSS and SDSR continues to be that most operations will be conducted with allies. An essential feature of such scenarios is the closest possible integration of intelligence and operational data. The opportunity to capitalise on these has been squandered by a refusal to invest in Cooperative Engagement Capability (CEC) and the short sighted decision not to give the aircraft carrier the ability to interoperate fixed wing aircraft with the most effective strike capability. Limited Airborne Early Warning (AEW), a special helicopter vehicle unique to the UK, and no carrier borne in flight refuelling exacerbate these weaknesses. The rapidly escalating costs of the chosen Joint Strike Fighter (JSF), F35B, with its emerging vulnerability and limited operational capability has so reduced the size of the intended embarked squadron (12) that aircraft numbers will be unable to carry out operations effectively whilst protecting the carrier herself. Capability can only go so far, mass and numbers are also essential.

11. Although the deterrent is a “Political Instrument”, it would be remiss not to mention, very briefly, the Trident replacement. This force is still run by the Royal Navy in Ships Submersible Ballistic Nuclear Submarines (SSBNs) which attract a vast infrastructure of intelligence, command, control and support facilities, most of which read across to other aspects of naval responsibilities. In this regard the force is a significant asset and investment underpinning the extremely thinly spread resources elsewhere. SSBNs do not detract from the defence budget, they reinforce its potency as the most efficiently and effectively run outfit in all three services (Members of the HCDC may wish to explore this assertion). Much nonsense is spoken about the

desirability of downgrading or eliminating this capability. Suffice it to say that it is independent and, by mirroring allied deterrents and establishing alternative centres of decision making and despatch, increases the diplomatic and military effectiveness of holding this ultimate weapon. Countless studies have confirmed that it is the only method that approaches a guarantee of success and at best cost.

12. We are where we are but, it is not too late to revisit these inadequacies to ensure a better balanced fleet in the long term. Under the aegis of SDSR 2015, it is still possible to establish “Carrier Strike” within current constraints of cost and time; do it and “to hell” with the embarrassment of a second U turn. Look again at the principles of frigate and minor warship design to increase numbers very significantly through the procurement of “off the shelf” weapons systems that will reduce costs. Projected SSN numbers in commission are not credible under current procurement plans which must be revised in order to achieve and sustain their numbers to match commitments—there will be too few of these, the most effective of “war fighters”, before long. It is incredible to believe that the proposed RN bearing can fill all the required billets in the current ORBAT; a proper audit of these figures must be made, ceilings adjusted and recruiting targets revised accordingly.

ROYAL AIR FORCE

13. The Royal Air Force (RAF) post SDSR 2015 is a conundrum. In fast jet (FJ) terms only a single fleet of circa 100 FGR Typhoon will be available for land operations—and a former Chief of the Air Staff has concluded that this FJ fleet, supported from a total RAF manpower base of 33,000—more than 50% fewer than at the time of Gulf War I—will restrict forward deployment to a maximum of 3 squadrons (between 30 and 36 aircraft) of Intelligence, Surveillance, Target-acquisition and Reconnaissance (ISTAR) capable aircraft. ISTAR, Airborne Early Warning and Control (AWACS), Air to Air Refuelling (AAR) and Air Transport (AT) will be vested in 8 C17, 22 A400m, 14 A330–200, 3 Rivet Joint, and 7 E3D. The future of Sentinel (ASTOR) is still undecided and the effectiveness of the RAF fleet of E3D is steadily being eroded whilst MoD refuses to implement NATO block 40/45 Project Eagle upgrades to the computerised data-link communications suit. Despite a continuing DPA requirement, not least to support the UK independent nuclear deterrent, there are no published plans to back-fill the long range maritime patrol aircraft (LRMPA) gap.

FIXED WING AIR POWER

14. With the introduction of the QE class of aircraft carrier the subject of UK fixed wing air power is no longer a matter just for the RAF. Indeed, the MoD decision to buy 48 of the F35B Lightning II short take-off and rolling landing (STORAL) version must be factored into the overall picture and UK air power doctrine (the two Fast Jet policy) revisited. The RAF operational requirement (OR) is for a medium range (1500–1800 nm) Tornado GR4 replacement which frankly none of the F35 variants (not least the F35B) can meet. Further, the NSS calls for 12 F35B to be routinely embarked upon a carrier with the ability to surge to 36 in an emergency. With a fleet of only 48 F35B and the necessary establishment of an operational conversion and trials unit (OCTU) it is unlikely that more than 40 aircraft will ever be available for operations, of which, some 25% will be unavailable for maintenance reasons, making the DPA requirement to surge to 36 a “pipe dream”. Whether the RAF has a role in flying the F35B alongside the Fleet Air Arm (FAA) is academic. To meet the NSS commitment and to achieve combat ready (CR) status whilst maintaining flying currency the majority of F35B, crews and maintainers will have to be dedicated to FAA carrier operations. This leaves the RAF with a single FJ (Typhoon) and no medium range Tornado GR4 replacement.

HELICOPTER & AIR POWER OWNERSHIP

15. It is clear to DS that RN/FAA helicopters (and fixed wing) must be marinised and their crews and maintenance teams inducted into maritime operations, ships damage control functions and sea culture. However, for the Army Air Corps (AAC) and RAF such land-based distinctions are far less obvious or restrictive outside the fixed wing fleets. Indeed, the RAF Support Helicopter Force (SHF)—Puma, Merlin and Chinook—form part of Joint Helicopter Command (JHC) which HQ also has 16 Air Assault Brigade (16 AAB) under command. It does not seem too radical a step to suggest that these RAF SHF assets be transferred to the AAC, leaving the RAF with command responsibility for all fixed wing other than dedicated FAA air assets.

SUMMARY

16. DS concludes that SDSR 2015 must first be underpinned by a national “Grand Strategy” to which all departments of state and the National Security Council (NSC) are signed up. With an overarching national strategy providing the highest level of government vision, all departments of state will be able to formulate and test policy and plans—MoD would then be better positioned to size, scope and equip the armed forces to meet government foreign and domestic policy objectives rather than continue with its time honoured means of balancing individual service priorities without taking the main thrust of foreign policy into account.

17. However, in the current financial climate realism must also play its part. Therefore, the defence budget as set must be used in the most cost effective way to achieve best “bang for buck” which will require far more attention to professional programme and project management. For example: why pay in excess of £6 billion for the failing F35B when perfectly suitable operational alternatives—French Rafal or US F/A-18E/F Super Hornet—are available now at a third of the cost? Why must MoD persist with its OR restrictive two Fast Jet

fleet policy? Why do MoD continue to believe that the Army Reserves, despite all the commercial difficulties for employers, should be used outside their traditional general mobilisation role?

18. Whilst DS firmly believes that the RN must be bolstered—19 DD/FF and 7 SSN being far too few ships to meet the NSS DPA—we do acknowledge that in the current financial climate this may not be possible without compensating offsets elsewhere in the defence budget. However, when weapons platforms are few, prudent project management should dictate that the systems they carry must be first class and that force multipliers and weapons or systems upgrades must be used in lieu. Therefore, DS contends that:

- (a) CEC for the fleet and Project Eagle for the E3D must be funded to compensate for the lack of numbers and to keep our weapons systems up to date, relevant and able to integrate with allies.
- (b) In the case of the RAF medium range Tornado GR4 replacement OR—the F35 of any variant not meeting the specification—the time may be right to consider full development of Unmanned Combat Air Vehicles (UCAV) rather than conventional technology.
- (c) LRMPA capability must be restored.
- (d) UK reliance on “Partnering” Allies needs to be carefully monitored since these allies are cutting their own capabilities (where is the French defence budget headed?) and without co ordination NATO gaps will appear. In the case of the USA there is a perceptible shift in strategic priority from the North Atlantic to the Pacific which makes it increasingly unlikely that the USN will be available to cover gaps in Royal Navy capability.

19. Finally, there needs to be a recognition that the UK Armed Forces reputation for fighting excellence and leadership worldwide is under threat. Although this reputation has been hard won over the years much depends upon the people and training of the Armed Forces and their ability to succeed—failure in Iraq has surely been a wake up call. But without a Grand Strategy “Goal” how can the Armed Forces calibrate their capability to ensure success? Will the nation forgive politicians with a track record of providing second class systems to undervalued personnel as is arguably the case right now?

April 2013

Written evidence from the Oxford Research Group

SUMMARY

Protracted UK military engagement in Iraq and Afghanistan has highlighted the serious challenges created by applying twentieth century military approaches to the twenty-first century phenomenon of “hybrid war”. Even in Mali, the misguided notion that the majority of efforts should be devoted to providing military assistance still appears to characterise the UK’s approach. Recent operations have proved the resilience of extremist ideology in vulnerable areas, where social and political marginalisation of parts of society make violence appear to hold greater promise to achieve their ends than peaceful participation in political and social life. This has led to a “renaissance” of the al-Qaida and jihadist visions in countries such as Syria, Iraq, Nigeria, Yemen, Somalia and wider East Africa. The experience of the past decade shows us that terrorism and violent extremism can only be effectively countered by targeting the conditions that allow extremist groups and their ideologies to prosper, not by singularly military approaches.

Therefore, there is a need for more nuanced approaches in “the next generational struggle” against international violent extremism, which seek to address the conditions that allow such ideologies to thrive. The 2015 SDSR process will also need to devote considerable time to consideration of incorporating non-military solutions to today’s security risks, particularly non-traditional threats such as climate change and severe socio-economic marginalisation of large parts of the “Global South”. To this end, Oxford Research Group (ORG) urges the Committee to engage with existing strategies such as the Building Stability Overseas Strategy and the International Defence Engagement Strategy to consider how best to integrate ideas for non-combat and preventive approaches to conflict.

There must be a rebalance of priorities within the UK Defence and Security Strategy for it to produce relevant and effective policies in light of modern security threats, with a shift towards a greater role for conflict prevention and provision on non-combat security support in fragile states. The 2010 SDSR states; “Our approach recognises that when we fail to prevent conflict and are obliged to intervene militarily, it costs far more.” Yet serious questions remain about the extent to which a focus on conflict prevention is being constrained over-reliance on somewhat out of date ideas about containment, deterrence and military intervention. The next SDSR is a very important opportunity to shift the balance in concrete policy terms towards of tackling “threats at source” and so examining the specific ways this can be done must become a top priority.

Finally, ORG notes the current heavy budgetary weighting in defence spending towards deterrence and questions its impact on the Committee’s assessments of strategic balance. We also urge the Committee to include use of unmanned aerial vehicles (UAVs or drones) within its overarching Inquiry towards the next Defence and Security Review, as it significantly relates to considerations of the legitimacy of the use of force, the utility of force, and the relationship between hard and soft power. Moreover, the Committee must do everything it can to encourage the Government to prioritise the updating of the NSS over the period of 2013–14

so that this document can genuinely inform the 2015 the SDSR and give it a strong strategic rationale. To this end, we also urge the Committee to work with the Joint Committee on the National Security Strategy to consider the important questions of which principles, frameworks and objectives are included in the updated NSS.

1.0 INTRODUCTION

1.1 Oxford Research Group (ORG) welcomes the new Inquiry of the Defence Select Committee as a timely move towards a comprehensive assessment of British defence policy, particularly given the limitations of the somewhat rushed 2010 Strategic Defence and Security Review (SDSR) process. Following ORG's submission of evidence to previous Committee inquiries prior to and following the release of the SDSR, we welcome the invitation to submit our analysis on the key challenges to getting the review process right in 2015.

2.0 LESSONS LEARNED FROM CURRENT AND RECENT OPERATIONS: THE LIMITS OF FORCE

2.1 Protracted military campaigns in Afghanistan and Iraq over the last decade have highlighted the serious challenges created by applying twentieth century military approaches to the phenomenon of a "21st century vortex of violence" (a complex mix of insurgents and militias, organised crime, political violence and terrorism)¹ or "hybrid warfare".² Following the Prime Minister's announcement of UK commitment to a "new generational struggle"³ against Islamist extremism and international terrorism, the next Defence and Security Review must seek alternative approaches to addressing terrorist threats in the lessons of the failed "War on Terror" and counter-terrorism methods over the past decade.

2.2 **In Afghanistan**, following the events of September 11 2001, UK and coalition forces aimed to dismantle the operational base of al-Qaida, using intensive airpower, special forces and re-arming the Afghan Northern Alliance, to great effect initially. The Taliban, hosts of al-Qaida in the region, were dispersed within weeks. However, despite calls for a substantial stabilisation force to be deployed across the country, the mandate of the International Security Assistance Force (ISAF) specified securing Kabul only.⁴ Within five years, Taliban elements had regained much of the south of the country, forcing a substantial increase of Western coalition forces under NATO leadership—140,000 foreign troops by 2010. However, it has proved impossible to constrain Taliban and other armed groups, a process complicated by the availability of cross-border sanctuaries in thinly governed frontier regions of Pakistan. Indeed, following the Committee's warnings about the possible civil war in Afghanistan after 2014, Defence Secretary, Philip Hammond MP recently admitted that "the UK's ability to influence outcomes [in Afghanistan] is very limited... nobody can say with certainty what the future for Afghanistan will be...".⁵ These doubts come as reports of the growing influence of the Islamic Movement of Uzbekistan—an ethnic Uzbek insurgent group with reported close links to al-Qaida and the Taliban—in Tajik and Uzbek dominated northern Afghanistan.⁶

2.3 **In Iraq**, US-led Western coalition forces sought termination of a regime seen as a member of the "Axis of evil", developing weapons of mass destruction and supporting terrorist groups. However, Saddam Hussein's demise was not followed by peaceful transition but instead by the bitter and complex combination of insurgency, inter-communal violence and terrorist acts that comprise "hybrid warfare". By 2008, the conflict was estimated to have cost \$3 trillion in total.⁷ Coalition forces saw an estimated 4,000 killed and more than 20,000 seriously injured, often resulting in lifelong disabilities. Moreover, at least 120,000 civilians are reported to have been killed,⁸ close to 4 million displaced and 120,000 detained without trial, and frequently abused or tortured. Al-Qaida in Iraq is now thought to have merged with Syria's Jabhat al-Nusra, with claims that it was set up by al-Qaida in the first place.⁹

2.4 Following drawn out campaigns in Afghanistan and Iraq, UK involvement in situations such as **Libya** has been markedly different. There are lessons to be learnt from this new mode of intervention, particularly as the UK becomes more involved in **Mali**. The misguided notion that the majority of efforts should be devoted to providing military assistance (comprised of logistical, surveillance and training support) still appears to characterise the UK's approach, particularly in Mali. While it is encouraging that £2 million has been pledged for activities in Mali to help support political processes and build stability, the sum is outmatched by the £3

¹ Shannon D Beebe and Mary Kaldor, *The Ultimate Weapon is No Weapon: Human security and the new rules of war and peace*, PublicAffairs Books (New York), 2010, pp57–62,

² See Frank G Hoffman, *Hybrid Threats: Reconceptualizing the Evolving Character of Modern Conflict*, Strategic Forum, No. 240, April 2009

³ *UK in "generational struggle" against terror, says PM*, BBC News, 21 January, 2013 available at <<http://www.bbc.co.uk/news/uk-politics-21130484>>

⁴ See History of Afghanistan International Security Assistance Force, available at <<http://www.isaf.nato.int/history.html>>

⁵ *Afghanistan's future after Nato troops leave uncertain, admits Hammond* by Richard Norton Taylor and Sam Jones, the Guardian, 10 April 2013, available at

<<http://www.guardian.co.uk/world/2013/apr/10/afghanistan-future-uncertain-hammond>>

⁶ *Uzbek fighters gain support in Afghan north* by Bethany Matta, Al Jazeera, 10 April 2013, <<http://www.aljazeera.com/indepth/features/2013/04/20134910314648770.html>>

⁷ See Joseph Stiglitz and Linda Bilmes, *The Three Trillion Dollar War*, Allan Lane (London), 2008

⁸ See: Iraq Body Count, available at <<http://www.iraqbodycount.org/>>

⁹ Al-Qaeda in Iraq claims merger with Syria's Jabhat al-Nusra by Richard Spencer, The Telegraph, 9 April, 2013, available at <<http://www.telegraph.co.uk/news/worldnews/middleeast/syria/9982477/Al-Qaeda-in-Iraq-claims-merger-with-Syrias-Jabhat-al-Nusra.html>>

million pledged to the African-led International Support Mission to Mali (AFISMA) military mission. Most importantly, there appears to be little sign that the UK government is asking serious questions about how the root causes of the conflict in Mali could have been addressed at an early stage (eg through active and sustained support for negotiations between the marginalised population of the north and the central government in Bamako) and what the lessons of this might be for the wider region.

2.5 It is clear that the interconnected threats of political violence and international terrorism present a risk to UK national interests and security. **However, recent failures in military responses designed to control these problems show the need for a concerted effort to refocus UK approaches away from simply responding to today's crises and towards addressing the underlying trends which produce these threats over the long-term.** This goal was reflected in the 2010 National Security Strategy (NSS) which stated: "We must address trends that contribute to instability, as well as tackling risks directly". Addressing the long-term drivers of global insecurity must now move from being an aspiration in White Papers and strategy documents and instead be made a top priority at the heart of British defence policy. There are signs of acknowledgement of the need for new approaches in recent strategies such as the Building Stability Overseas Strategy (BSOS) and the International Defence Engagement Strategy, with their focus on upstream conflict prevention and non-combat security assistance in fragile states. However, the 2010 SDSR proved a missed opportunity to think carefully about ways of undertaking such a refocus in all areas of defence and security policy. In particular, as the lessons of efforts in Afghanistan and Iraq have proven, the challenge of hybrid warfare demands new thinking and honest reflection as to the appropriateness of current security paradigms based on traditional ideas about the use of force.

2.6 Recent UK military undertakings have also highlighted the resilience of groups like al-Qaida and their potency as an idea. **This resilience underlines the limits of militarised responses to the spread of Islamic terrorism and countries vulnerable to the spread of extremism.** While the campaign in Afghanistan did much to disperse al-Qaida from the country, affiliates of the group have been responsible for numerous attacks across the world since 2001. In addition to Iraq, Afghanistan and Pakistan, attacks and attempted attacks took place in Spain, Morocco, Turkey, Tunisia, Egypt, Jordan, Yemen, Indonesia and, of course, the UK.¹⁰

2.7 Worse still, recent developments point to a widely spread "renaissance" of the al-Qaida vision through jihadist groups around the world¹¹:

Syria: Although armed militias within the National Coalition of Syrian Revolutionary and Opposition Forces have struggled for funding, radical Islamist groups such as Jabhat al-Nusra and al-Mujaharin have continued to get external support, mainly from benefactors in Saudi Arabia and other Gulf states. They also have links with opposition elements in neighbouring Iraq. In Syria the importance of the Jihadist paramilitary groups continues to grow. They tend to be more determined, more adequately armed, more coordinated and more competent in urban insurgency, with a significant minority having previous combat experience, often against US forces in Iraq. There are many examples of more secular paramilitary rebel groups working very closely with Jihadists and even being led by them. Even if the new National Coalition becomes effective (which is not too likely given the disparate nature of the militias within Syria), the more radical Islamists are now thoroughly entrenched and it will be very difficult for them not to have a role should a post-Assad environment emerge.

Iraq: Two related elements are important. One is that there have been numerous mass protests by Sunnis against the Shi'a-dominated Maliki government. These have been near-daily occurrences, especially in Anbar Province and have been hardly covered in the Western media. In parallel with this has been an upsurge in violent paramilitary actions against the government by Jihadists embracing the al-Qaida vision. A series of bombings and shootings across Baghdad and several other cities on 17 March were the worst for more than six months. The Islamic State of Iraq (ISI) is a coalition of many of these groups, which have collectively targeted government officials, police and security forces and, on occasions, Shi'a communities. The ISI regards Sunni politicians as having sold out to the Maliki regime. Significantly, some of the members within the coalition have very close links with the Syrian Islamist rebels, so that there is a seamless trans-border connection. The Syria-Iraq connection is probably the strongest current expression of the al-Qaida vision and has potential for further development.

Nigeria: The Boko Haram rebellion in northern Nigeria continues without respite. Boko Haram has a wider regional connection—it is known to recruit from neighbouring countries, including Niger, Chad and Cameroon; Islamist groups are increasing their influence in Mauritania and Niger; and there are indications that Boko Haram supporters have received combat training in Somalia. While Boko Haram is primarily focused on the state, its offshoot, Ansaru, has a much broader transnational outlook, which is closer to the al-Qaida vision. Its recent kidnapping and killing of foreign workers has suddenly focused attention on what may be a trend towards making the whole of the Boko Haram movement more transnational.

Mali: The intervention in Mali is leading to a new western/jihadist confrontation. There was some expectation that the French intervention would lead to a period of quiet during the hot season, with the confrontation developing later in the year, but French and Chadian forces have faced unexpected resistance

¹⁰ Paul Roger and Benjamin Zala, *The "Other" Global Security Challenges: Socioeconomic and environmental realities after the War on Terror*, RUSI Journal, August-September 2011, Vol 156, no.4, pp26–33

¹¹ Cases taken from: Oxford Research Group Monthly Global Security Briefings, *Al Qaida: The Potency of an Idea and Al Qaida and the wider Jihadist Phenomenon* by Global Security Consultant Paul Rogers, available at: http://www.oxfordresearchgroup.org.uk/publications/monthly_briefings

from jihadist paramilitaries. Chadian troops lost 24 killed and around 50 wounded on a single day (22 February). Paramilitaries even infiltrated the town of Gao, there was a suicide bomb attack in Kidal and a number of harassing attacks that contrast strongly with expectations that jihadist paramilitaries are restricted to a few remote mountainous areas. France still plans to withdraw most of its forces during April, but there are serious doubts that units from several West African countries, now slowly arriving in Mali, will prove to have the capacity to enhance security.

East Africa and Yemen: Despite some improvements in security, those areas of Somalia that experience radical Islamist influence continue to connect with other zones of conflict, with indications that Boko Haram paramilitaries have established connections. Meanwhile, significant developments in neighbouring East African countries include an unexpected undercurrent of Islamist influence further south. The main locations so far have been the Kenyan port city of Mombasa, together with Dar es Salaam on the Tanzanian coast and the island of Zanzibar. In all three cases, Islamist elements are building on perceptions of marginalisation to increase their influence. The individual developments along the East African coast have not merged into any kind of sustained and coherent radical Islamist movement, but they all feed on perceptions of marginalisation and consequent resentment, with (in Kenya's case) anger at sustained corruption. While it is therefore unwise to talk of a new "front" for radical Islam as part of an al-Qaida re-awakening, the conditions exist for movements to develop rapidly and unexpectedly. This connects with the underlying factors that enable Boko Haram in Nigeria to maintain its support—relative marginalisation combined with determined suppression by security forces.

The radical Islamist movements described above form part of a post 9/11 phenomenon and are increasing in intensity, geographical reach and distribution. There appear to be informal linkages, made easier by modern communications technologies, which allow connections with developments in South West Asia and the Middle East.

2.9 The experience of the last eleven years shows us that terrorism and violent radicalisation can only be effectively countered by targeting the conditions that allow extremist groups and ideologies to prosper. This does not mean making simplistic correlations between conditions of poverty and the use of terror as a political instrument, but instead taking seriously the marginalisation of large parts of the population in key areas of the "Global South". The ideology of al-Qaida is nothing without the individuals willing to carry out attacks in the movement's name. These individuals come from social and political circumstances in which violence appears to them to hold greater promise of achieving their ends than peaceful participation in political and social life. The process towards the next SDSR must take these hard learnt lessons into account to devise approaches that can counter the roots and conditions of security threats such as international extremism.

3.0 THE UTILITY OF FORCE

3.1 As stated in paragraph 2.9, the last decade of the War on Terror has shown that force has limited use in countering terrorism and violent extremist. The need for protracted campaigns in the hybrid conflicts in Afghanistan and Iraq, and the resilience of al-Qaida ideas in a new wave of jihadism, show that radicalisation must be targeted with more nuanced approaches than simply the application of force. Recent analysis makes a strong case that while abject poverty may not inevitably be a factor, relative deprivation and marginalisation most certainly can be.¹² It is clear from the continued spread of extremist groups in the face of costly military campaigns against them, that solutions for the "next generation" of Islamist extremism must include non-military approaches to address the circumstances that allow for violent ideologies to take hold.

3.2 Non-traditional threats: Many analysts are increasingly concerned that the world currently faces the confluence of two large-scale trends which have important impacts on global security—growing socio-economic divisions between a rich, transnational elite and poor and marginalised non-elite and severe global environmental constraints, particularly climate change.¹³ Both are discussed in the Ministry of Defence's own report on "Global Strategic Trends—Out to 2040"¹⁴ as "ring road issues" (what the report describes as "a driver that is so pervasive in nature and influence that it will affect the life of everyone on the planet over the next 30 years"), but the 2010 SDSR gave little thought to how these issues can be addressed at source. Military force is of little use to preventing the increase of greenhouse gases in the atmosphere or reducing the gap between a global elite and a disenfranchised global underclass. **Yet if the next SDSR is to be a coherent policy response to the trends that have the potential to threaten the UK's national security, it must find a way of incorporating non-military solutions to these issues.** Given the novelty and complexity of this task, the 2015 SDSR process will need to devote considerable time to these issues.

3.3 There have been a number of promising steps towards a whole-of-government approach to security threats, particularly in BSOS and the International Defence Engagement Strategy, both of which signal a shift towards a preventive security agenda, acknowledging that "*our prosperity and security is intertwined with*

¹² Atle Mesøy, *Poverty and radicalisation into violent extremism: a causal link?*, Norwegian Peacebuilding Resource Centre (NOREF), January 2013, available at <http://www.peacebuilding.no/var/ezflow_site/storage/original/application/e60a8a679f48427d592a1906daf569d4.pdf>

¹³ On this combination, see Christian Parenti, *Tropic of Chaos: Climate Change and the New Geography of Violence*, Nation Books: New York, 2011 and Fathali M Moghaddam, *The New Global Insecurity: How Terrorism, Environmental Collapse, Economic Inequalities, and Resource Shortages Are Changing Our World*, Santa Barbara, CA: Praeger 2010.

¹⁴ Ministry of Defence, *Global Strategic Trends—Out to 2040*, 4th Edition, London: The Stationery Office, January 2010.

*peaceful development and security across the globe*¹⁵. We welcome the focus on upstream conflict prevention present throughout BSOS and many of the activities outlined for non-combat defence engagement in fragile and post-conflict states, such as counter-terrorism capacity building and security sector reform, and applaud plans to work in concert with diplomatic and development programmes. We therefore encourage the Committee to assess how these approaches can be drawn into national security and defence strategy to become an integral part of the UK's approach to twenty-first century threats.

4.0 THE STRATEGIC BALANCE BETWEEN DETERRENCE, CONTAINMENT, INTERVENTION AND INFLUENCE

4.1 Based on threat environment outlined above, there must be a rebalance in these elements of defence and security strategy. Indeed several of these concepts require reflection. While some traditional state-based threats may still exist—in which older ideas about containment, deterrence and intervention remain relevant—recent, current and the most likely future UK military operations all point to the need for an alternative framework which shifts the balance towards a greater role for conflict prevention.

4.2 **Intervention:** As discussed in sections 2 and 3, lessons of military undertakings over the past decade show the limits of the utility of force in the face of complex modern conflict dynamics. Yet, as evidenced in current efforts in Mali, UK approaches still prioritise military assistance and there is little sign that the UK government is asking serious questions about how the root causes of the conflict in Mali could have been addressed at an early stage and what the lessons can be learnt for the region. However, as the resurgence of al-Qaida transnational ideology has shown, military approaches to security threats will have limited use in countering violent extremism. Again, we urge the Committee to reflect in further detail the options for a better integration of non-combat approaches such as those outlined in BSOS and the International Defence Engagement Strategy.

4.3 **Prevention:** The final concept that needs to be considered in this mix is prevention. It is clear that many of the most important trends in global security, including the increasing importance of “revolts from the margins” and the implications of climate and energy insecurity, can only be addressed at source. Traditional military responses are by their very nature reactive. The 2010 SDSR states: “Our approach recognises that when we fail to prevent conflict and are obliged to intervene militarily, it costs far more.”¹⁶ Yet serious questions remain about the extent to which a focus on conflict prevention is being constrained by over-reliance on somewhat out of date ideas about containment, deterrence etc. The National Security Council (NSC) has clearly been unable to focus as much on prevention as it has on specific reactions to various global crises since its creation in 2010. In its report of 11 February 2013, the Joint Committee on the National Security Strategy stated that it was

“...not convinced that the NSC has maintained its strategic focus since completing the NSS and SDSR in 2010. It appears to have focused on operational matters and short-term imperatives. We have continued to look for evidence of the NSC considering long term and blue skies topics and have found little.”¹⁷

The next SDSR is a very important opportunity to shift the balance in concrete policy terms towards the tackling of “threats at source”¹⁸. Examining the specific ways this can be done must become a top priority.

5.0 THE DEFENCE SELECT COMMITTEE AND THE SDSR

5.1 We question whether the Committee, in its Inquiry, will be able to properly assess what balance is required between deterrence, containment, intervention and influence given the current heavy budgetary weighting towards deterrence. The limitations become clear when you consider that the MOD budget in 2012 was an estimated £34 billion¹⁹, yet it would cost *at least* £25 billion to replace the current Trident system over the next two decades²⁰ (and whole life costs are estimated to be in excess of £100 billion²¹).

As it becomes increasingly clear that a like-for-like replacement for Trident is fiscally unsustainable and unsuited to modern security needs, the need for a comprehensive public debate on the future of the deterrent becomes overwhelming. In a much-discussed interview with *The Guardian*, Chief Secretary to the Treasury and lead of the Cabinet Office-led Trident Alternatives Review, Danny Alexander MP, stated:

“When budgets are under pressure, and when the assumptions that our current approach are based on are very much cold war assumptions, and we are in the 21st century and the world

¹⁵ BSOS, 2011, p. 8.

¹⁶ SDSR, 2010, p. 3.

¹⁷ House of Lords-House of Commons Joint Committee on the National Security Strategy, Second Report of Session 2012–13: The work of the Joint Committee on the National Security Strategy in 2012, HC 984, p.4, available at <<http://www.publications.parliament.uk/pa/jt201213/jtselect/jtnatsec/115/115.pdf>>.

¹⁸ SDSR, 2010, p. 44.

¹⁹ *Armed forces fear more manpower cuts* by James Blitz, *The Financial Times*, 7 December, 2012, available at <<http://www.ft.com/cms/s/0/47b9ba8c-408e-11e2-8f90-00144feabdc0.html#axzz2JZjEmLO>>

²⁰ p8, *Beyond the Trident Alternatives Review*, Dr Nick Ritchie, British American Security Information Council, April 2013

²¹ *Trident: no need for like-for-like replacement, says Danny Alexander* by Nick Hopkins, *The Guardian*, 22 January 2013, available at <<http://www.guardian.co.uk/uk/2013/jan/22/trident-replacement-danny-alexander>> See also: *Trident is no longer key to Britain's security* by Des Browne and Ian Kearns, *The Telegraph*, 5 February, 2013

is changing, that this is absolutely the right time to have a serious, considered objective look at the way in which this policy is constructed”.

The only way the SDSR can genuinely review the role of deterrence in the UK defence posture and whether it is balanced with other approaches is to treat the outcome of the current Trident Alternatives Review seriously. This and the final report of the independent, cross-party Trident Commission set up by the British American Security Information Council (BASIC),²² are likely to come up with a number of serious alternatives to the continuous-at-sea deterrence approach of a like-for-like Trident replacement which could, in principle, allow for some serious discussions within the SDSR process of the role of deterrence in British defence policy.

5.2 We note the exclusion of an important line of inquiry set to be explored in “Towards the next Defence and Security Review”. The Committee’s announcement of 10 December, 2012, specifically included the following inquiry to be carried out, either as part of an over-arching inquiry or as a more specific one:

“...the effect of changes in the interpretation of the law on the prosecution of operations, and the use of remotely piloted aircraft (RPAs, commonly known as ‘drones’)”

ORG questions the removal of this line of inquiry and whether it has been removed for a separate inquiry or completely excluded. If this inquiry has been removed to pursue more specific investigation, we would urge the Committee to also consider investigation *within* the overarching Inquiry, given the significant role of unmanned aerial vehicles (UAVs) in a shifting approach to modern warfare.

The increasingly prolific use of surveillance and armed drones by the UK and other states is part of a wider shift in the character—and perhaps nature—of 21st century warfare. This new mode features increased use of armed drones, special operations forces, privatised military companies, rendition—a concept increasingly referred to as “remote control”.²³ Understandably, this has given rise to concerns that a shift towards “war-lite” leaves room for decreased accountability of states for their actions in conflict, lower thresholds of military engagement and greater scope for controversial action. This could be one of the most important shifts in defence thinking since the end of the Cold War and should therefore be a subject for sustained public discussion. The Committee could play a central role in this discussion in the lead up to, and during, the SDSR process.

For this reason, **ORG urges the Committee to include use of UAVs within its overarching Inquiry** towards the next Defence and Security Review as it significantly relates to considerations of the legitimacy of the use of force, the utility of force, and the relationship between hard and soft power.

5.3 The 2010 NSS committed the government to producing both a new NSS and SDSR every five years.²⁴ This means that to some extent, the questions about what needs to go into the 2015 NSS are just as important as the questions the Committee is considering about the 2015 SDSR. The NSS should be “a hard-headed reappraisal of our foreign policy and security objectives and the role we wish our country to play, as well as the risks we face in a fast-changing world.”²⁵ In the Committee’s Sixth Report on Session 2010–12 (released in 2011), it noted that the NSS should “enable the SDSR to take informed resourcing decisions.”²⁶ If this is to be the case, the timing of the updating of both documents is crucial. In our previous submission to this Committee we noted:

“The revised NSS released in 2010 includes some very complex and, to a certain degree, unprecedented (at least in terms of scale and immediacy) security threats. Dealing with these threats will require significant shifts in defence thinking and strategic planning and in some cases recalibration of personnel and force structures... Therefore, if UK defence and security policies are to keep up with these changes, the NSS should be reviewed (probably over a slightly longer time period than was the case between May-October 2010) and then announced before the SDSR so that the latter can be a truly coherent and strategic response to the NSS.”²⁷

We urge the Committee to do everything it can to encourage the Government to prioritise the updating of the NSS over the period of 2013–14 so that this document can genuinely inform the 2015 the SDSR and give it a strong strategic rationale. We also urge the Committee to work with the Joint Committee on the National Security Strategy to consider the important questions of which principles, frameworks and objectives are to be included in the updated NSS as part of its work over the next few years, and to ensure that the SDSR process is treated as a separate exercise to the updating of the NSS.

²² See British American Security Information Council (BASIC) Trident Commission, available at <<http://www.basicint.org/tridentcommission>>. For a good summary of some of the realistic approaches to continuous-at sea-deterrence see Nick Ritchie, *Beyond the Trident Alternatives Review*, BASIC, April 2013, available at <http://www.basicint.org/sites/default/files/basic_ritchie_beyond_trident_report.pdf>.

²³ As an introduction to the concept of “Remote Control” please see *Remote control: a new way of war*, by Paul Roger, openDemocracy, 18 October, 2012, <http://www.opendemocracy.net/paul-rogers/remote-control-new-way-of-war>. For in-depth exploration of the concept, please see *Network for Social Change pilot project “Remote Control—Examining Changes in Military Engagement”*. Initial information available at: <http://www.oxfordresearchgroup.org.uk/publications/news/new_org_hosted_project_remote_control_examining_changes_military_engagement>

²⁴ NSS, 2010, p. 11.

²⁵ NSS, 2010, p. 9

²⁶ House of Commons Defence Committee, *The Strategic Defence and Security Review and the National Security Strategy*, Sixth Report of Session 2010–12, HC 761, p.5.

²⁷ Oxford Research Group, *Written Evidence to the Defence Select Committee Inquiry into the Strategic Defence and Security Review & the National Security Strategy*, February 2011, available at <<http://www.publications.parliament.uk/pa/cm201012/cmselect/cmdfence/761/761vw32.htm>>

Oxford Research Group is an independent non-governmental organisation and registered charity which works to promote a more sustainable approach to global security. ORG has been building trust between policy-makers, academics, and the military and civil society since 1982. ORG and its internationally recognised consultants combine detailed knowledge of security issues, together with an understanding of political decision-making, and many years of expertise in facilitating constructive dialogue.

More information can be found at: www.oxfordresearchgroup.org.uk

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Dr Benjamin Zala and Zoë Pelter

April 2013

Written evidence from the Campaign Against Arms Trade

1. The Campaign Against Arms Trade (CAAT) in the UK was established in 1974 and works to end the international arms trade. It believes that large scale military procurement and arms exports only reinforce a militaristic approach to international problems.

2. The 2015 Strategic Defence and Security Review (SDSR) presents a real opportunity for a break from past policy. Even though most of the threats identified by the 2010 National Security Strategy (NSS) are not military in nature, to date the Government's response has been predominately grounded in military thinking.

3. A strategy based on matching action and resources to the real challenges would bring far greater security than at present, as it would be less likely to exacerbate the threats. As a starting point "security" needs to be disassociated from the military approach, which has, misleadingly, become known as "defence". Resources need to be reallocated to address the problems which underlie insecurity, UK military spending reduced, support for the arms trade ended and overseas military interventions removed as a policy option.

RISKS

4. The Annual Report on the NSS and SDSR published in November 2012 looked at the major risks to UK security identified by the 2010 NSS and how far they had materialised during the previous year. Only two of the fifteen risks, or threats, identified involved a military attack by another state on the UK—this, of course, had not happened.

5. Only three other potential threats have any military component at all and force had, thankfully, not been used in response. The other seven are non-military and include cyber attack and terrorism as well as energy security and natural disasters. However, the resources allocated to the threats neither match the severity of the tiers to which they were originally allocated within the NSS nor to their occurrence subsequently. It is impossible to know the future, but this does not justify the overwhelmingly military emphasis of the resource allocation.

6. Global threats stemming from climate change, resource depletion and income inequality would be far more effectively addressed by fully committed, preventative action rather than relying on containing outcomes. National threats such as crime (including cyber attacks and terrorism) and natural hazards do not require armed forces. The emphasis should be on building-up civil services to more specifically address the identified threats and providing genuinely preventative measures for the wider international threats.

PRESSURE FOR MAINTAINING THE STATUS QUO

7. The status quo suits the armed forces and arms companies which can claim new threats to justify their funding. They have successfully argued for military spending of 2% of Gross Domestic Product without explaining how such spending will enhance security. NATO countries which do not reach this spending level are chided.

8. The arms companies and ex-military personnel have an enormous influence on decision-making which it is hard for outsiders to question. This influence comes about, primarily, through the day-to-day contacts involved in procurement for the Ministry of Defence (MoD) and export promotion. These contacts take place at all levels, sometimes formally, sometimes informally. The former includes a plethora of joint government-military industry bodies which typically include Ministers and industry leaders.

9. There is also the stream of former politicians and civil servants who move into private companies—the reports of the Advisory Committee on Business Appointments show that many of these are military. According to “The Guardian” (15.10.12), the figures show 231 jobs went to former officials and senior military personnel in 2011–12, a rise from the previous year’s total of 101. Over 3,500 jobs had been approved since 1996.

10. The cumulative effect of the movement from the public sector to commercial bodies inevitably reinforces the relationship between the two and predisposes decision-making, by way of their lobbying and contacts, towards solutions that involve spending on military equipment, rather than on non-military alternatives. UK policy is stuck in a rut that is advantageous to the arms companies, but which exacerbates the threats to UK security.

EXACERBATING THE THREATS

Intervening militarily

11. If military action and preparedness continue to be prioritised as a means of addressing problems, it will certainly lead the UK down a path that fosters instability and insecurity. The ventures in Afghanistan and Iraq are appalling illustrations of this. They have resulted in the loss of hundreds of thousands of civilian lives as well as hundreds of lives of UK military personnel (and thousands more seriously injured), have wasted billions of pounds of taxpayers’ money each year, increased the threat of terrorism in the UK, and left governments wondering how to extricate themselves from the mess.

12. Even when the military intervention has ostensibly been undertaken with a view to protecting civilians, such as in Libya, the chaotic outcome leaves a profound insecurity, not only in the country or region concerned, but also provides a breeding ground for terrorist groups with a potential impact on the UK.

Supporting repressive regimes

13. Global peace and security has been undermined as successive UK governments have failed to give consistent support to democratic institutions, and have instead provided backing to authoritarian regimes. The UK has armed several regimes it has subsequently gone to war with. The military interventions against Argentina in the Falklands/Malvinas, Iraq and Libya were costly in human and monetary terms. Campaigners had long pointed out the repressive nature of these regimes, but were ignored as UK governments and military companies continued to pursue arms sales.

14. Even where UK-supplied military equipment is not later used against UK military forces, it does undermine the Government’s stated policy on promoting human rights. The Committees on Arms Export Controls (CAEC) July 2012 Report urged the Government to acknowledge that: “there is an inherent conflict between strongly promoting arms exports to authoritarian regimes whilst strongly criticising their lack of human rights at the same time.” Unfortunately, the Government did not accept that recommendation.

15. The promotion and sale of UK arms conveys a message of international acceptance and approval. As an example, Saudi Arabia is identified by the Foreign and Commonwealth Office as a country of major human rights concern. It is ranked at 163, where the worst country is 167, on the Economist Intelligence Unit’s “Democracy Index 2012”, which reflected the situation in December 2012. By courting the Saudi Royals to sell arms to Saudi Arabia on behalf of BAE Systems, criticism of its human rights record is muted. This opens the UK to criticisms of hypocrisy and provokes despair among those campaigning for human rights.

16. Some agreements also reinforce the message that military collaboration and arms sales trump human rights. An example is the October 2012 Defence Cooperation Agreement with Bahrain. This has been followed by trips to Bahrain by Foreign Office Minister Alistair Burt and by the Senior Military Advisor to the UK government’s arms sales unit. While human rights issues may have been raised by the former visitor, their importance would have been totally undermined by the latter.

Providing excuses for terrorism

17. Close relationships with human rights abusers has led to antagonism to the UK and increased the terrorist threat. A Fatwa issued by Osama bin Laden in 1996 (“Declaration of War against the Americans Occupying the Land of the Two Holy Places”) cited corruption in Saudi Arabia and arms purchases by the Saudi government as justifications for the call for a Jihad.

Proliferating nuclear weapons

18. Nuclear weapons threaten the lives of billions. They are immoral. There is no credible threat that they counter. Even if not used, there is a huge opportunity cost. Spending the same amount of money on non-military security as well as the health service, education, the arts, infrastructure and the like would do far more to protect UK citizens’ way of life than the spending on nuclear weapons.

19. In addition, attempts by the UK to limit nuclear proliferation are hampered by the UK’s retention and renewal of its nuclear weapons. To renew Trident, for example, invites the charge of hypocrisy on a basic intuitive level, when, for instance, the UK challenges Iran or North Korea on the issue. It is also at odds with

the UK's Non-Proliferation Treaty obligations which states that each party should "pursue negotiations in good faith.... on a treaty on general and complete disarmament".

PRIVATISING WAR

20. Personnel employed by "corporate mercenaries", otherwise known as Private Military and Security Companies (PMSCs) are taking on many tasks previously undertaken by members of national armed forces, including those of the UK. The growth of piracy in the Indian Ocean has also seen the increased use of armed guards on commercial shipping travelling through those waters.

21. While many of the activities of PMSCs are innocuous, others present dangers, particularly when taking place in unstable areas of the globe. In September 2010, the Government asked the arms industry's trade association ADS to develop UK national standards for PMSCs—this is no substitute for Government regulation. Additionally, an International Code of Conduct for Private Security Service Providers has been developed under the auspices of the Swiss government. This latter may help transparency, but again falls far short of proper accountable regulation. Without this, there is a continuing danger of incidents that alienate the local population where the PMSCs are operating.

Killing without trial

22. Unmanned aircraft are being increasingly used both for reconnaissance and offensive action. "Drones" can have legitimate civilian uses, but their military use is spreading and gives rise to many issues. Certainly, they should never be used for "targeted assassination", the imposition of the death penalty without even a trial. Such action is also responsible for the deaths of wrongly-targeted people as well as bystanders. Drone use embitters many in the countries where they are used.

Increasing security

23. The opportunity presented by the SDSR should be taken to look at all aspects of the UK's security with no preconception that these are military. The Government needs to consciously set vested interests to one side, with military and arms company input limited to that accorded other viewpoints.

24. Putting support for human rights at the heart of the UK's foreign policy will alleviate many of the threats to UK security. The UK government needs to remove its official backing for arms proliferation as a vital first step in reducing the suffering caused by the global arms trade, as well as the anger engendered by the UK sales to, and military support of, repressive regimes. To this end the 150-strong arms sales unit, the UK Trade and Investment Defence and Security Organisation, should be shut and export credit support for military goods ended.

25. To address the specific threats to the UK outlined above, firstly it is vital that the UK adheres to its Nuclear Non-Proliferation Treaty commitments and that UK nuclear weapons be decommissioned and not replaced.

26. Secondly, the UK government should introduce proper national regulation of PMSCs, which should certainly include a ban on all combat activities. It should also promote international regulation.

27. There is also a need to look again at international agreements with respect to drones. For instance, the 1987 Missile Technology Control Regime should be strengthened to take account of technological developments and include, for example, components.

Tackling real threats and enjoying economic benefits

28. The NSS recognises energy security as a threat. This can be addressed by investing resources in renewables. This could bring economic benefit to the UK. It could also meet the concerns of those who are worried about the employment implications of a reduction in military spending.

29. The introductory paragraph for a Jane's conference on Energy, Environment, Defence and Security that took place in May 2011 explained: "The defense market worldwide is worth a trillion dollars annually. The energy and environmental market is worth at least eight times this amount. The former is set to contract as governments address the economic realities of the coming decade; the latter is set to expand exponentially, especially in the renewables arena."

30. Robin Southwell, president of ADS told The Observer on 15 April 2012: that the arms industry "is flat lining at best." Exports are no way out for UK companies he continued: "The trouble is, everybody is exporting."

31. The arms industry, and the jobs in it, depends on taxpayer spending and as the Financial Times pointed out on 2 September 2009: "Spending on defence is no better at creating jobs than support for other sectors. Defence R&D may produce spin-offs, but so too may R&D with civilian applications."

32. Many of those employed in the arms industry are skilled engineers, and there is a generally acknowledged shortage of these. One sector that could benefit from these skills is renewable energy. Since energy security is

an identified threat it would seem to be a win-win situation to use the skills of current arms industry workers as well as those seeking employment to address this. Talking of MoD budget cuts, Barry Warburton, the Chief Executive Officer of the West of England Aerospace Forum said: "This is a perfect opportunity for diversification and renewable energy presents a massive new market ... A turbine blade is not dissimilar to a helicopter blade. It's electrical and mechanical engineering... What is an aircraft made of? What are components of a vehicle made of? When you think about it the technology in the defence industry is very value added and is very flexible." (Insider, 1 November 2010)

April 2013

Written evidence from Drone Wars UK

EXECUTIVE SUMMARY

The rise in the use of armed Unmanned Aerial Vehicles, commonly known as drones, over the past decade has been extraordinary. While there were a total of nine air strikes from UAVs between 2004 and 2007, figures released by the USAF and RAF recently show that there have been over 1,400 UAV airstrikes in Afghanistan over the past five years, with armed UAVs now carrying out a quarter of all air combat air sorties within Afghanistan.

The expansion in use of unmanned systems was anticipated in the 2010 Defence and Security Review and no doubt their continuing evolution will mean their development and use will be a significant part of the next Defence and Security Review. Drone Wars UK believes however that the use of armed UAVs and indeed, the concept of remote "risk-free" warfare, is a perilous military escalation which endangers global peace and security.

In this submission we detail five particular legal and ethical concerns relating to current use of armed UAVs and two specific concerns about future developments. Concerns about current use include whether armed UAVs are lowering the political costs of military intervention, expanding the use of targeted killing and creating international instability rather than security. With regard to future use we detail concerns about moves to develop autonomous unmanned systems as well as arming smaller surveillance UAVs.

As well as making some specific recommendations in relation to these concerns, this submission makes a plea for greater transparency in relation to the use of armed UAVs by UK armed forces. Arising out of its five years of armed UAVs operations, the UK has a great deal of pertinent information and data that could go a long way to answering some of the serious ethical and legal questions surrounding their use. As one of only three countries that have used armed UAVs in combat, we believe the UK has a specific responsibility to address these concerns and to take the lead in helping the international community grapple with the rise in use of armed unmanned systems before they proliferate further.

ABOUT DRONE WARS UK

Drone Wars UK is a small British NGO, founded in the Spring of 2010, to undertake research, education and campaigning on the use of Unmanned Aerial Vehicles and the wider issue of remote warfare. Drone Wars UK has become recognised internationally as a credible and reliable source of information on the use of drones and unmanned technology. The research and information produced by Drone Wars UK is used by journalists, NGOs, lawyers, human rights organisations, campaigners and the general public. Drone Wars UK has been one of the key voices publicly expressing serious concerns about the expansion of this new way to wage war.

TERMINOLOGY

Various terms are used to describe the platforms discussed in this submission including Remotely Piloted Air Vehicles or Systems (RPAS), Unmanned Aerial Vehicles (UAVs) and drones. While we would normally use the commonly accepted term "drone", to avoid prejudice and for the sake of clarity we will stick in this submission to the term Unmanned Aerial Vehicle (UAV).

A. BACKGROUND

1. In early 2001, the United States Air Force (USAF) undertook the first successful firing of a missile from a remotely piloted Unmanned Aerial Vehicle (UAV) at Nellis Air Force Base in Nevada.²⁸ In the dozen years since, the use of armed UAVs has risen dramatically with the UK, Israel and, in particular, the US using UAVs to launch airstrikes. Recent figures released by the USAF and the RAF show that US and UK forces have launched over 1,400 weapons from UAVs in Afghanistan in the past five years.²⁹ Analysis of these figures by the Bureau of Investigative Journalism shows that more than a quarter of all armed Coalition air sorties in Afghanistan are now carried out by armed UAVs.³⁰

²⁸ The test took place on 21st February 2001. See www.globalsecurity.org/intell/systems/armed-predator.htm

²⁹ Chris Woods and Alice K Ross, Revealed: US and Britain launched 1,200 drone strikes in recent wars, *The Bureau of Investigative Journalism*, 04.12.12; www.thebureauinvestigates.com/2012/12/04/revealed-us-and-britain-launched-1200-drone-strikes-in-recent-wars. Note some US strikes include use of multiple weapons.

³⁰ Ibid.

2. The UK acquired its armed UAV capability after signing a contract with General Atomics for three Reaper UAVs under an urgent operational requirement in October 2006. Reaper UAV operations began in Afghanistan in October 2007 with the first kinetic operation believed to have taken place at the end of May 2008.³¹ Since then the UK has continuously operated armed UAVs over Afghanistan with a total of 365 weapons launched up until 31st January 2013.³²

3. RAF 39 Squadron currently operates the UK's five Reaper MQ-9 UAVs from Creech Air Force base in Nevada. In October 2012, RAF 13 Squadron was "stood up" at RAF Waddington to operate a further five Reaper MQ-9's ordered in December 2010 by David Cameron. It is not publicly known if Reaper operations have begun from RAF Waddington.

4. As well as the armed Reaper UAVs, UK forces also operate four other types of UAVs—all unarmed. These are the Black Hornet nano-drone; the T-Hawk, the Desert Hawk III and Hermes 450 (due to be replaced by the Watchkeeper UAV in 2013). Although we have some concerns about the use of military surveillance UAVs, for the sake of brevity this submission concentrates on the use of armed UAVs.

B. CONCERNS ABOUT THE CURRENT USE OF ARMED UAVS

5. Drone Wars UK believes that the growing use of armed UAVs, or drones as they are commonly known, and the concept of remote, so called "risk-free" warfare, is a perilous military escalation which endangers global peace and security. We would like to briefly highlight some of the legal and ethical issues associated with the growing use of armed UAVs.

Enabling military intervention

6. A primary concern is that the advent of armed unmanned systems has made the option to resort to the use of military force much easier. The risk to one's own forces and the potential of TV footage of grieving families awaiting returning coffins of young men and women sent to fight overseas is a real restraint on political leaders. Take away that potential political cost by using unmanned systems however, and it makes it much easier for political leaders to opt to use lethal military force as a "quick fix" rather than engage in the difficult long-term task of trying to solve root causes. We believe that this is a real and significant danger to global peace and security.

7. While the UK has so far only used its armed drones in Afghanistan (although RAF aircrew flew US Predators during the Libyan conflict³³), there were serious calls for the UK to deploy its armed drones to support French forces currently fighting in Mali.³⁴ The deployment of UK armed UAVs to Mali appears only to have been prevented by the Secretary of State for Defence insisting that the UK's Reapers were needed in Afghanistan.³⁵ Once the UK has acquired more armed UAVs it may be harder to resist the call to deploy these systems each time a crisis develops as there is no perceived cost to doing so.

8. The US and Israel are the only two other countries besides the UK known to have used armed drones. The US which has more than 240 armed UAVs in service has undertaken airstrikes using UAVs in at least six countries since 2007: Iraq, Afghanistan, Pakistan, Yemen, Somalia and Libya.³⁶ There is also evidence that the US has also undertaken armed strikes using UAVs in the Philippines and Mali although this has not been confirmed.³⁷ Israel has reportedly used armed UAVs to undertake air strikes in Egypt and Sudan as well as the occupied territories.³⁸ There are also regular reports of Israel flying UAVs over Lebanon.

9. It is suggested by proponents that armed UAVs are in effect, no different from other forms of long range strike capabilities such as cruise missiles. However a key difference is the ability of UAVs to loiter for long periods of time looking for targets rather than the "one-off" shot of a cruise missile. It is the ability of armed unmanned systems to be persistent as well as operated remotely that makes them different from other capabilities. It is very difficult to imagine, for example, that the US would have undertaken the more than 360 air strikes it has launched from UAVs in Pakistan by using cruise missiles or manned strike aircraft.

³¹ Craig Hoyle, UK cheers the Reaper UAV, *Flight International*, 16.06.08 www.flightglobal.com/articles/2008/06/16/224622/uk-cheers-the-reaper-uav.html

³² FoI response from PJHQ to Chris Cole, Drone Wars UK dated 31 March 2013. Weapons launched have been broken down into 314 Hellfire missiles and 51 GBU-12's.

³³ Nick Hopkins, British pilots flew armed US drones in Libya, MoD reveals, *The Guardian*, 26.07.12; www.guardian.co.uk/world/2012/jul/26/british-pilots-drones-libya

³⁴ See Tom Coghlan, Jerome Starkey and Michael Evans, Drones and spy planes on standby to fight al-Qaeda in Mali, *The Times*, 14.01.13; www.thetimes.co.uk/tto/news/world/africa/article3656703.ece

³⁵ *Hansard* 29 Jan 2013 : Column 794

³⁶ For details of US UAV inventory see Jeremiah Gertler, *U.S. Unmanned Aerial Systems*, Congressional Research Service, 03.01.12; www.fas.org/spp/crs/natsec/R42136.pdf. For details of US armed UAV use see 'Covert Drone War' website by Bureau of Investigative Journalism; www.thebureauinvestigates.com/category/projects/drones/

³⁷ Chris Cole, Drone strikes widening? Mystery airstrikes reported in Mali and the Philippines, *Drone Wars UK*, 20.06.12. www.droneWarsuk.wordpress.com/2012/06/30/drone-strikes-widening-mystery-airstrikes-reported-in-mali-and-the-philippines

³⁸ See Gil Ronen, Israeli UAV Kills Jihadi in Sinai, *Israel National News*, 26.08.12, www.israelnationalnews.com/News/News.aspx/159294#.UWLEzGZwblU and *Gaza Airstrikes Violated Laws of War*, Human Rights Watch, 12.02.13; www.hrw.org/news/2013/02/12/israel-gaza-airstrikes-violated-laws-war

Enabling the expansion of targeted killing

10. Perhaps the most controversial use of armed drones has been their use by the United States for targeted killing of suspected terrorists and insurgents outside of Afghanistan. Legal scholars define targeted killing as the deliberate, premeditated killing of selected individuals by a state who are not in their custody. Where International Humanitarian Law (IHL) applies, as is the situation currently in Afghanistan, the targeted killing of combatants may well be legal. Outside of IHL situations, International Human Rights Law applies and lethal force may only be used when absolutely necessary to save human life that is in imminent danger. This does not appear to be the case for many of the US UAV airstrikes that have been carried out in Pakistan and Yemen.

11. The United States insists it has lawful authority for such strikes under the Authorization for Use of Military Force Act (AUMF) passed in the days after 9/11 as well as in the inherent right of self-defence under the UN Charter.³⁹ However many legal experts and scholars, not least the former and current UN special rapporteurs on extra-judicial killings, disagree strongly with the US position.⁴⁰

12. While the United States' use of armed UAVs for targeted killing is highly controversial, the longer it continues, the more it becomes normalised and accepted. It is now possible, perhaps even likely, that other states will follow the US example and use UAVs to undertake their own targeted killing programme of "suspected terrorists".

13. There have been reports that UK intelligence agencies have supplied information to the US to help identify and locate drone targets in Pakistan.⁴¹ These allegations have already led to one High Court case as well as the independent reviewer of terrorism legislation, David Anderson QC, suggesting that the UK has facing "a wave" of compensation claims over the sharing of intelligence for such activity.⁴²

14. Within Afghanistan, it appears that the UK may have used its Reaper UAVs to carry out targeted killings although due to the lack of transparency surrounding the use of British armed UAVs it has not been possible to confirm this. We know from published RAF operational updates that UK Reapers have tracked "high value" targets for many hours before finally launching weapons.⁴³

15. Although the use of force in Afghanistan has been authorised by the UN and International Humanitarian Law therefore applies, insurgents in Afghanistan are not members of uniformed armed forces and their status as combatants under IHL remains unclear. As Noam Lubell writes

*"Generally speaking, it appears unlikely that individuals belonging to non-state actors... could be considered combatants as defined in international law, since this status in most cases rely on them in fact fighting within a state structure."*⁴⁴

16. While individuals fighting in Afghanistan are not legally combatants under IHL, legally they therefore remain civilians who may only be targeted while directly participating in hostilities.⁴⁵ After much debate on this issue, in 2009 the International Committee of the Red Cross (ICRC) put forward interpretative guidance suggesting that member of armed groups have a "continuous combat function".

*"While members of organized armed groups belonging to a party to the conflict lose protection against direct attack for the duration of their membership (ie, for as long as they assume a continuous combat function), civilians lose protection against direct attack for the duration of each specific act amounting to direct participation in hostilities. This includes any preparations and geographical deployments or withdrawals constituting an integral part of a specific hostile act. In order to avoid the erroneous or arbitrary targeting of civilians, parties to a conflict must take all feasible precautions in determining whether a person is a civilian and, if that is the case, whether he or she is directly participating in hostilities. In case of doubt, the person in question must be presumed to be protected against direct attack."*⁴⁶

17. The lack of clarity surrounding who may be targeted and when, combined with the secrecy surrounding UAV strikes is extremely troubling. Residents of areas in which armed UAVs are operating simply do not know what kind of conduct or relationships could put them at risk. Offering indirect support to militants such as food or quarter or political or ideological support would not formally qualify under international norms as

³⁹ Tabassum Zakaria, *White House: U.S. drone killings legal to combat threats*, Reuters, 30.04.12. <http://www.reuters.com/article/2012/04/30/us-obama-drones-idUSBRE83TOTN20120430>

⁴⁰ Owen Bowcott, *Drone strikes threaten 50 years of international law, says UN rapporteur*, The Guardian, 21.06.12. <http://www.guardian.co.uk/world/2012/jun/21/drone-strikes-international-law-un>

⁴¹ Ian Cobain, *UK support for US drones in Pakistan may be war crime, court is told*, The Guardian, 23.10.12. <http://www.guardian.co.uk/world/2012/oct/23/uk-support-us-drones-pakistan-war-crime>.

⁴² Tom Whitehead, *Terror watchdog warns of wave of compensation claims over drone strikes*, The Telegraph, 20.06.12. <http://www.telegraph.co.uk/news/uknews/defence/9342396/Terror-watchdog-warns-of-wave-of-compensation-claims-over-drone-strikes.html>

⁴³ See for example RAF Update report of 18 February 2012; www.raf.mod.uk/rafoperationalupdate/opsupdate/opsupdate25feb2012.cfm

⁴⁴ Noam Lubell, *Extraterritorial Use of Force Against Non-State Actors*, OUP, Oxford, 2011. P139. Chapter 6 Status of Individuals and the Regulation of force is very helpful on this whole question.

⁴⁵ Ibid.

⁴⁶ Direct participation in hostilities: questions & answers, ICRC, 02.06.09. www.icrc.org/eng/resources/documents/faq/direct-participation-ihl-faq-020609.htm. It should be noted that several legal scholars and the UN special rapporteurs have argued against the ICRC interpretative guidance.

direct participation in hostilities. However, it is entirely possible that people may be being targeted owing to their relationships to known militants, when they are legally civilians.⁴⁷

18. Although the ICRC guidance is not legally binding, it would be helpful to know—perhaps particularly in relation to its use of armed UAVs—if the UK is abiding by the ICRC interpretative guidance.

19. While UK Rules of Engagement are secret, it should be possible for the UK to confirm or deny whether it has carried out targeted killings in Afghanistan, particularly if the UK believes it has the legal authority to do so under IHL. In addition the UK should make clear to the US that intelligence provided by the UK must be used in accordance with international law norms.

The “PlayStation Mentality”

20. A further concern about the use of armed UAVs is whether the geographic and psychological distance between those operating armed UAVs and potential targets leads to a lowering of the significance of such lethal operations. Rather than seeing flesh and blood, all that is perceived, perhaps, are pixels on a screen. As Philip Alston, former United Nations Special Rapporteur on extrajudicial, summary or arbitrary executions noted, this could be particularly true for armed UAV operators who play video games, leading to what he dubbed “the PlayStation mentality”.⁴⁸

21. Drone Wars UK understands the counter arguments made by the Ministry of Defence in relation to this suggestion, namely that RAF Reaper crews are professionals who take their responsibilities seriously and that as they are under the authority and control of senior commanders they are constrained in their ability to launch weapons without due authorisation. Nevertheless our concerns remain.

22. While some dismiss the idea of such a “mentality” out of hand, there is some evidence for it. In 2010 an airstrike involving armed UAVs led to the deaths of 23 Afghan civilians in Uruzgan province. A USAF inquiry into the tragedy concluded that a significant contributing factor to the deaths was that the USAF Predator aircrew at Creech had “a propensity/bias towards kinetic action”.⁴⁹ Indeed, a USAF Captain observing at Creech told the investigators that “there was a ‘Top Gun’ mentality amongst the Predator Crews.” While one incident of course can never be conclusive, it does suggest that further exploration is necessary.

23. More information about how armed UAVs are operated on a day-to-day basis would enable a proper and informed conclusion to be reached on the idea of a PlayStation mentality. We have for example requested information about the balance of weapon launches from the UK’s Reaper UAVs under daily tasking orders (ie pre-planned) and those launched under dynamic tasking procedures (ie during missions) but again such information has been refused.

Precision strike and civilian casualties

24. The MoD argues that the Reaper UAV is capable of precision strike—the term “pinpoint accurate” is repeatedly used by journalists in media reports—but it is unclear exactly what that means.⁵⁰ Requests for information about the variants of Hellfire missiles and GBU-12 bombs used in UK Reaper strikes, their blast radius and details about how often they have landed outside their given Circular Error Probability have been refused.⁵¹

25. In its most recent annual report, the United Nations Assistance Mission in Afghanistan (UNAMA) reported that the number of weapons released by drones in Afghanistan jumped from 294 in 2011 to 506 in 2012, a 72% increase.⁵² UNAMA documented five incidents of drone strikes which resulted in 16 civilian deaths and three injuries, during 2012, an increase from 2011 when UNAMA documented only one incident. However as UNAMA states “the number of civilian casualty incidents from drone strikes may be higher as UNAMA is not always able to confirm which type of platform was used during an aerial operation (fixed-wing, rotary or remotely-controlled) that resulted in civilian casualties.”⁵³

26. Out of 365 weapons launches from British Reaper UAVs in Afghanistan the MoD insists that only 4 civilians have been killed.⁵⁴ However there are no public figures available for total numbers of people

⁴⁷ See Christopher Rogers, *Civilians in Armed Conflict: Civilian Harm and Conflict in Northwest Pakistan*, *Campaign for Innocent Victims in Conflict*, 2010.

⁴⁸ Philip Alston and Hina Shamsi, A killer above the law, *The Guardian*, 2nd August 2010

⁴⁹ A summary of the full 2,100 page report released by US Central Command is available at <http://cryptome.org/2012/03/creech-savagery.pdf>. See also David S. Cloud, Anatomy of an Afghan war tragedy, *Los Angeles Times*, 10.04.11; <http://articles.latimes.com/2011/apr/10/world/la-fg-afghanistan-drone-20110410>.

⁵⁰ See ‘Reaper: Roles and Specifications’ on RAF website: <http://www.raf.mod.uk/equipment/reaper.cfm>

⁵¹ Hansard 4 Mar 2013: Column 850W. Circular Error Probability (CEP) is the radius of a circle, the boundary of which is drawn around the landing points of 50% of rounds fired during tests.

⁵² UNAMA, *Afghanistan: Annual Report on Protection of Civilians in Armed Conflict: 2012, February 2013*; p33/34; <http://unama.unmissions.org/LinkClick.aspx?fileticket=K0B5RL2XYcU%3D&tabid=12254&>

⁵³ *Ibid.*

⁵⁴ Nick Hopkins, *Afghan civilians killed by RAF drone*, *The Guardian*, 05.07.11. <http://www.guardian.co.uk/uk/2011/jul/05/afghanistan-raf-drone-civilian-deaths>

killed. The MoD states that “for reasons of operational security we are not prepared to comment on the assessed numbers of insurgents killed/wounded in Reaper strikes.”⁵⁵

27. By coincidence the number of US airstrikes across the border in Pakistan (366) is almost exactly the same number as UK Reaper airstrikes in Afghanistan (365).⁵⁶ Credible reports show that between 2,537 and 3,581 have been killed in US UAV strikes in Pakistan of which between 411 and 884 have reliably been recorded as civilians.⁵⁷ Given that the US and the UK are operating similar armed UAVs in the same part of the world in apparently similar ways, there is, to say the least, a remarkable difference in reported civilian casualty figures.

28. In January 2013, the UN announced that it was holding an inquiry into the impact of armed UAV strikes on civilians, led by London-based UN Special Rapporteur on Counter-Terrorism and Human Rights, Ben Emmerson QC.⁵⁸ It is to be hoped that this inquiry make an important contribution to our understanding of the use of armed UAVs and we assume that the UK MoD will fully cooperate with Mr. Emmerson and his team.

Creating instability rather than security

29. The stated aim of UK military action in Afghanistan (and presumably any military action) is to create long term peace and security. Increasingly however there is a growing understanding that the use of armed UAVs may be doing just the opposite. As Kurt Volker, the former US Permanent Representative to NATO put it recently,

*“Drone strikes allows our opponents to cast our country as a distant, high-tech, amoral purveyor of death. It builds resentment, facilitates terrorist recruitment and alienates those we should seek to inspire. Drone strikes may decapitate terrorist organizations, but they do not solve our terrorist problem. In fact, drone use may prolong it. Even though there is no immediate retaliation, in the long run the contributions to radicalization through drone use may put more lives at risk.”*⁵⁹

30. Volker is not alone. Many others counter terrorism experts are now raising similar concerns. In a recent issue of the Chatham House journal, Professor Michael Boyle, former counter terrorism adviser to President Obama has outlined how use of armed UAVs is directly conflicting with other long term counter-terrorism initiatives and doing real damage.⁶⁰ Yet again, Robert Grenier, who headed the CIA’s counter-terrorism center from 2004 to 2006 and was previously CIA station chief in Pakistan said of the use of armed UAVs in Afghanistan and Pakistan:

*“We have gone a long way down the road of creating a situation where we are creating more enemies than we are removing from the battlefield. We are already there with regards to Pakistan and Afghanistan.”*⁶¹

31. As well as these direct concerns from counter terrorism experts, a number of recent reports have detailed how the use of armed UAVs, and in particular their use of loiter over particular areas for long periods of time before launching attacks, is causing severe mental trauma to the local populations,⁶² disturbing children’s education,⁶³ and disrupting food production all of which may be leading to the radicalization of local populations.

Specific recommendations relating to current use of armed UAVs

32. Having detailed the above concerns we would make the following specific recommendations:

- The UK government should publish details of the numbers of individuals it believes to have been killed or injured in UK Reaper airstrikes in Afghanistan, their status as civilians or combatants, and affiliation to any armed group if known. The UK should also improve its casualty recording and reporting in general.
- The UK government should clarify if it is abiding by the ICRC interpretative guidance on civilians directly participating in hostilities.

⁵⁵ Defence in the Media [Official UK MoD New blog] 19 June 2012; http://www.blogs.mod.uk/defence_news/2012/06/page/4/. In December 2010 The Telegraph reported that David Cameron stated that UK Reapers had ‘killed more than 124 insurgent’. However this has subsequently been denied by the PM’s office.

⁵⁶ It should be noted however that the US figures refer to ‘kinetic operations’ in which more than one weapon may be launched. UK figures refer to individual weapons launched.

⁵⁷ See The Bureau of Investigative Journalism’s Covert War on Terror Datasets: <http://www.thebureauinvestigates.com/2013/01/03/obama-2013-pakistan-drone-strikes/>

⁵⁸ UN launches inquiry into drone killings, BBC News, 24.01.13; <http://www.bbc.co.uk/news/world-21176279>

⁵⁹ Kurt Voller, What the U.S. risks by relying on drones, The Washington Post, 26.10.12; http://articles.washingtonpost.com/2012-10-26/opinions/35500650_1_drone-strikes-drone-attacks-guantanamo-bay

⁶⁰ Michael Boyle, The costs and consequences of drone warfare, *International Affairs*, January 2013. Available at www.chathamhouse.org/sites/default/files/public/International%20Affairs/2013/89_1/89_1Boyle.pdf

⁶¹ Paul Harris, Drone attacks create terrorist safe havens, warns former CIA official, *The Guardian*, 05.06.12; www.guardian.co.uk/world/2012/jun/05/al-qaida-drone-attacks-too-broad

⁶² See Living Under Drones, Stanford International Human Rights & Conflict Resolution Clinic, September 2012, www.livingunderdrones.org/wp-content/uploads/2012/10/Stanford-NYU-LIVING-UNDER-DRONES.pdf

⁶³ See ‘Drones: No Safe Place for Children’, Reprieve, March 2013; www.reprieve.org.uk/media/downloads/2013_04_04_PUB_drones_no_safe_place_for_children.pdf

- The UK government should clarify whether it has carried out the targeted killing of any individuals using Reaper UAVs within Afghanistan and if so, provide details.
- The UK government should seek assurances from the US that intelligence provided will not be used for targeted killing contrary to international law norms.
- The UK government should release information about the accuracy and precision of weapons released from UK Reapers, including details of when munitions have fallen outside their given CEP on operations in Afghanistan.
- The UK government should carry out a review, available for public scrutiny, examining the impact of armed UAVs on the stabilisation of Afghanistan and including reference to assertions of increased radicalisation, political instability, and a reduction in socio-economic activity.

C. CONCERNS ABOUT FUTURE UAV DEVELOPMENT

33. While not the main focus of this submission, we wanted to highlight two concerns in relation to future use of armed UAVs: the push towards autonomy, and the increasing weaponisation of small UAVs.

The push towards autonomous UAVs

34. While the current generation of armed UAVs are remotely controlled by pilots from the ground, the generation currently under development will fly autonomously, with minimal supervision from the ground. UAVs such as Mantis and Taranis being developed by BAE Systems can take off by themselves, flying pre-programmed missions before returning and landing, all without the intervention of a human pilot. Some argue that this is merely an extension of the “auto-pilot” currently in use on most aircraft, while others see the growing autonomy of armed drones as a dangerous step towards autonomous weaponry.⁶⁴

35. The UK MoD has stated that it “currently has no intention to develop systems that operate without human intervention in the weapon command and control chain” but they are “looking to increase levels of automation where this will make systems more effective.”⁶⁵

36. However, the MoD is taking what can be called a “maxim” approach to the definition of autonomy. For example in *The UK Approach to Unmanned Aircraft Systems*, they state:

*“Autonomous systems will, in effect, be self-aware and their response to inputs indistinguishable from, or even superior to, that of a manned aircraft. As such, they must be capable of achieving the same level of situational understanding as a human.”*⁶⁶

This would be a substantially different definition of “autonomy” than is being used by many scientists and companies involved in developing autonomous systems as the MoD document itself recognizes.

37. The commonly held consensus is that under IHL, a human must be “in the loop” when it comes to launching weapons. The MoD’s assurances that they are not *currently*, as they put it developing autonomous weapon systems, while at the same time blurring the distinction between “autonomous” and “automated” is unhelpful. This together with the fact that exploration into the “the technological challenge” to achieve such a capability appears to be continuing is extremely worrying.⁶⁷ It would be helpful if the MoD simply, clearly and unambiguously ruled out the idea of the UK developing and/or using autonomous weapons.

Arming of Smaller UAVs

38. A second concern in relation to future development of UAVs is the increasing weaponisation of small UAVs that are currently being used for surveillance. Various manufactures including Raytheon, General Dynamics, Thales and MBDA have reported that they are developing weapons for small UAVs. Raytheon, for example says that it is working on a baby Paveway for small surveillance drones that has a warhead that “weighs only 7lb but has over 2,000 fragments.”⁶⁸

39. While it is argued that smaller bombs on surveillance UAVs will mean less collateral damage, the reality is that it will mean air strikes in areas that would have previously have been out of bounds because of the presence of civilians. In other words we will see armed UAVs yet again expanding the battlefield. In addition arming small UAVs will massively increase the overall number of armed UAVs in operation. While the US currently has approximately 240 armed UAVs in its inventory, moves to arm the Shadow UAV could increase its armed UAV capacity by more than 250%.

⁶⁴ Tracey McVeigh, Killer robots must be stopped, say campaigners, *The Guardian*; www.guardian.co.uk/technology/2013/feb/23/stop-killer-robots

⁶⁵ *The UK Approach to Unmanned Aircraft Systems* (Joint Doctrine Note 2/11), MoD Development, Concepts and Doctrine Centre, paragraph 508. www.gov.uk/government/uploads/system/uploads/attachment_data/file/33711/20110505JDN_211_UAS_v2U.pdf

⁶⁶ . *Ibid.* Paragraph 206b.

⁶⁷ . See for example Tony Gillespie & Robin West ‘Requirements for Autonomous Unmanned Air Systems set by Legal Issues’, *The Intentional C2 Journal*, Vol.4, No.2, 2010. The authors both worked for the British MoD at the time of writing. www.dodccrp.org/files/IC2J_v4n2_02_Gillespie.pdf.

⁶⁸ Dave Majumdar, Raytheon develops small bombs for UAVs, *Flight Global*, 09/07/12: www.flightglobal.com/news/articles/farnborough-raytheon-develops-small-bombs-for-uavs-373910/

Specific recommendations relating to future development of UAVs

40. With regard to future developments in relation to armed UAVs we would make the following recommendations:

- The UK government should make a clear and unambiguous commitment not to develop autonomous weapon systems and to take part in efforts to build an international treaty to ban the use of these weapons.
- The UK government should investigate carefully the implications of arming smaller surveillance UAVs before it takes any steps to do so.

D. THE NEED FOR GREATER TRANSPARENCY

41. As we have tried to detail, there are a number of concerns and questions about the growing use of armed UAVs, ranging from how armed UAVs could lower the threshold for launching lethal military force to how they create instability rather than create security. All of these questions, and more, need to be debated openly and honestly and require careful analysis and clear-headed judgement based on evidence. Unfortunately that evidence is being kept strictly under wraps and requests for more information about the use of armed UAVs are regularly refused.

42. While it may be necessary to keep some information secret, we do not believe it is appropriate, or legitimate to refuse to disclose practically all information about the circumstances of the use of Reapers over the past five years.

43. In addition to the lack of transparency with regard to use of UAVs currently in service, information about the development of future UAVs is also less than opaque. When contracts were awarded to develop the Watchkeeper UAV for the Royal Artillery in 2005, the in-service date was estimated as being September 2010. Now some two and half years late, there is no indication when Watchkeeper will come into service. Most recently the delay has been attributed to the need to gain airworthiness certification for Watchkeeper to fly within UK airspace as recently as July 2012 the MoD stated it had no requirement to operate military UAVs in UK civilian airspace.⁶⁹

44. In relation to the Scavenger programme too there is a complete lack of public information.⁷⁰ In February 2012 the UK and France announced that they were to jointly develop a new armed MALE UAV, with BAE systems and Dassault Aviation expecting contracts to be signed at the 2012 Farnborough Air show to develop their Telemos UAV to fulfil the requirement. However with the change of administration in France this proposal appears to have ground to a halt and it is unclear whether a new MALE UAV is to be procured or not.

45. The lack of transparency about the use and development of UAVs leads to a sense that public discussion on this issue is being curtailed, if not manipulated. This sense has been fuelled by a 2011 MoD internal briefing on Remotely Piloted Aerial Systems (RPAS) which stresses the need for the MoD to develop a “communication strategy” to win over public opinion in support of armed UAV with the suggestion that the MoD should “stress the equivalence of RPAS to traditional combat aircraft.”⁷¹ We now have to decide if material provided by the MoD about Reapers is objective information, or if it is part of a “communication strategy” meant to persuade us of the efficacy of using armed drones.

46. We believe that greater transparency from the MoD on the wider strategic policy of using armed UAVs, their day-to-day use within Afghanistan, and future procurement and development of armed UAV is essential in order for decision makers and the public to make up their minds carefully about the legal and ethical issues surrounding the use of armed UAVs. It should be noted that the MoD themselves acknowledge these concerns in their publication *The UK Approach to Unmanned Aircraft System* which states:

*“It is essential that, before unmanned systems become ubiquitous (if it is not already too late) that we consider this issue and ensure that, by removing some of the horror, or at least keeping it at a distance, that we do not risk losing our controlling humanity and make war more likely.”*⁷²

The passage concludes “what is needed is a clear understanding of the issues involved so that informed decisions can be made.” This clear understanding can only be aided by greater transparency about how UAVs are actually being used in Afghanistan.

Specific recommendations relating to transparency on armed UAVs

47. The UK Government should commit to a more open approach to Parliamentary Questions and Freedom of Information requests on the use of armed UAVs, which would lead to the achievement of the objective set out in the MoD’s Joint Doctrine Note on the need for a public debate on this technology.

⁶⁹ Hansard, 12 July 2012 : Column 381W

⁷⁰ For details of the Scavenger programme see ‘UK approach to UAS’, Para 408

⁷¹ See ‘Internal MoD briefing on British drones reveals push to capture public opinion’, 04/07/11 <http://dronewarsuk.wordpress.com/2011/07/04/internal-mod-briefing-on-british-drones-reveals-push-to-capture-public-opinion/>

⁷² The UK Approach to Unmanned Aircraft Systems, Joint Doctrine Note 2/11, DCDC, Ministry of Defence, April 2011. Para. 517

E. CONCLUDING REMARKS

48. Arising out of its five years of armed UAVs operations, the UK has a great deal of pertinent information and data that could go a long way to answering some of the serious ethical and legal questions surrounding their use. As one of only three countries that have used armed UAVs in combat, we believe the UK has a specific responsibility to address these concerns and to take the lead in helping the international community grapple with the rise in use of armed unmanned systems before further they proliferate further.

49. Finally, Chris Cole of Drone Wars UK would of course be happy to brief the Committee further on these issue in person if it would be helpful.

SUMMARY OF OUR RECOMMENDATIONS

50. The following is a summary of our specific recommendations made in this submission:

- The UK government should publish details of the numbers of individuals it believes to have been killed or injured in UK Reaper airstrikes in Afghanistan, their status as civilians or combatants; and affiliation to any armed group if known. The UK should also improve its casualty recording and reporting in general.
- The UK government should clarify if it is abiding by the ICRC interpretative guidance on civilians directly participating in hostilities
- The UK government should clarify whether it has carried out the targeted killing of individuals using Reaper UAVs within Afghanistan and if so, provide details.
- The UK government should seek assurances from the US that intelligence provided will not be used for targeted killing contrary to international law norms.
- The UK government should release information about the accuracy and precision of weapons released from UK Reapers, including details of when munitions have fallen outside their given CEP on operations in Afghanistan.
- The UK government should carry out a review, available for public scrutiny, examining the impact of armed UAVs on the stabilisation of Afghanistan and including reference to assertions of increased radicalisation, political instability, and a reduction in socio-economic activity.
- The UK government should make a clear and unambiguous commitment not to develop autonomous weapon systems and to take part in efforts to build an international treaty to ban the use of these weapons.
- The UK government should investigate carefully the implications of arming smaller surveillance UAVs before it takes any steps to do so.
- The UK Government should commit to a more open approach to Parliamentary Questions and Freedom of Information requests on the use of armed UAVs, which would lead to the achievement of the objective set out in the MoD's Joint Doctrine Note on the need for a public debate on this technology.

April 2013

Written evidence from Paul Rogers, Professor of Peace Studies, University of Bradford

INTRODUCTION

1. In addressing the next Defence and Security Review it may be helpful to establish a context relating to experience from the defence postures and operations of recent years. This could usefully involve recognition of deficiencies, especially those that may limit capabilities for operations in the future.

2. It is also appropriate to reflect on broadly-based developments in the evolution of the world-wide security environment in relation to Britain's limited but still significant potential for contributing to a more peaceful world.

3. In terms of the experience of recent years it is convenient to summarise issues under three headings—acquisition, deployment and operational experience.

ACQUISITION

4. There remains an enduring and deep-seated problem in the area of defence equipment development and acquisition which has led to entirely unacceptable performances, cost overruns and cancellations, the Nimrod MRA4 experience being the best-known example. There is perhaps an understandable assumption that when a scandal such as the MRA4 breaks, corrections are then put in place which prevent or at least greatly limit future problems. Whether this is actually the case would be well worth exploring, including the inviting of evidence from appropriate sources of expertise. A starting point might be an exploration of the pervasive "revolving door" process of senior uniformed and civilian R&D and procurement officials moving after retirement to second careers in the defence industries.

DEPLOYMENT

5. Decisions relating to deployment and posture affect all the services, but the Royal Navy presents a particular circumstance. The effect of past decisions on naval equipment means that by early in the 2020s the Royal Navy will essentially be a “two-ship navy”—it will be able to deploy a single SSBN on continuous at sea deterrence (CASD) and a carrier task group centred on a *Queen Elizabeth*-class boat. Very little else of substance will be possible. Given the heavy capital and recurrent expenditures on these two programmes it is far from clear, for example, that funds will be available to replace current amphibious capabilities at a similar level of activity.

6. Ensuring an SSBN/CASD system, bearing in mind the expensive requirements for deterrence support (SSNs etc) will involve the new generation SSBN programme and much else besides. Cost estimates for Trident replacement are, to put it kindly, somewhat opaque and rarely include deterrence support costs, nor do they take in AWE capital and running costs that are reported to exceed £1 billion p.a.

7. The decision to build two very large fleet carriers and contribute to the F-35 development was a huge mistake at the time and it is regrettable that no government has subsequently felt able to face up to this. As the carrier programme evolves, with its own costly changes and at a time of continuing financial constraints, it will come to dominate the capabilities of the surface navy. A deployed carrier task group will require escort/auxiliary/SSN support that will utilise much of the limited resources the Navy will have by that time, not least because of the rapid decline in numbers of deployable escorts.

8. The next DSR should, as a matter of urgency, review both programmes including the possibility of cancellation or seriously radical revision, there being interesting and relevant options in both case.

9. Linked to the carrier programme should be a review of the overall F-35 programme and its potential cancellation and replacement by available alternatives.

OPERATIONAL EXPERIENCE

10. Operations over the past decade have involved two substantial but disastrous long-term deployments, in Iraq and Afghanistan. It should be stressed that by no means all the responsibility for these operations lies with the MoD and the serving military since the decisions in both cases were essentially political. At the same time, questions should be raised concerning the responsibility of the defence community to “speak truth to power” when high level political leadership is proposing and ordering inadvisable military operations.

11. The forceful and rapid termination of the Taliban regime in 2001 was followed by a catastrophic failure to listen to sound advice on post-conflict stabilisation and peace-building, in spite of the availability of first-class expertise. As a result a bitter and protracted insurgency was able to develop which has resulted in a war lasting well over a decade. A politically necessary withdrawal is now in progress with an uncertain outcome but one that is very likely to involve a Taliban role in Afghan governance.

12. The forceful and rapid termination of the Saddam Hussein regime was followed by the early development of armed and violent opposition hugely complicated by deep inter-confessional violence which the occupying forces singularly failed to address despite treaty obligations. Iraq remains in a state of serious instability while the influence of Iran in the region has actually increased, heightening the impact of the Saudi/Iranian proxy element in the Syrian war which is hugely limiting international efforts to contain that conflict.

13. While the termination of the Gaddafi regime in Tripoli was widely welcomed there has been little recognition of three problems that have arisen:

- the rise of the militias within the country,
- the export of conflict to Mali, and
- the impact of the termination on WMD proliferation.

14. In relation to the third point, opinion formers in Tehran and Pyongyang have seen their states described by the world’s sole superpower as members of an axis of evil threatening that superpower which has the right to pre-empt such threats. They then saw regime termination in Iraq where no WMD was found, followed Libya, the latter having earlier renounced its WMD programme.

15. Afghanistan and Iraq both require a much more hard-headed acknowledgement of the outcomes. Even the generally supported NATO actions in Libya are worthy of analysis as to their untoward and apparently unforeseen consequences.

16. The motivation for the Afghanistan and Iraq operations was primarily to destroy the al-Qaida movement and by 2010, and in spite of continuing violence in Afghanistan and Iraq, many analysts took the view that the al-Qaida movement was so diminished that it was of very little significance.

17. It can be argued that this was a thoroughly inadequate and premature analysis. In the past three years it has become clear that while a narrowly hierarchical and closely structured al-Qaida entity in Pakistan has been weakened and dispersed, the al-Qaida idea has retained a potency that attracts support in a number of states.

18. Current activity is at a low level in Pakistan but involves significant groups in Iraq and Yemen. A related movement in Somalia has recently experienced some reversals but still controls substantial rural areas while the “Swahili coast” in Kenya and Tanzania has experienced a rise in Islamist support.

17. In West Africa, Nigeria is experiencing a complex and violent uprising centred primarily on the Boko Haram and Ansaru movements, there is an ongoing conflict in Mali and activity in Niger and Mauretania.

18. Perhaps most significant of all is the major role that jihadist paramilitaries are now playing in the Syrian civil war where their undoubted combat skills mean that they are disproportionately significant in gaining territory and even in leading less radical elements of the insurgency. It is ironic that some jihadists fighting the Assad regime gained their combat experience against coalition forces in Iraq in the mid-2000s.

19. Given these experiences there is a strong case for a single, thorough and wide-ranging review of the experiences of the period since 2001 involving a robust analysis of the reasons for the failures so that lessons might be learnt in preparation for the forthcoming DSR. In particular there still seems virtually no recognition of the eschatological nature of the al-Qaida movement, a result being that short-term policy making with regard to the movement is thoroughly inadequate.

NEW CHALLENGES

20. Studies by DCDC and by independent think tanks (such as Oxford Research Group and New Economics Foundation) suggest that the most significant challenges facing global security stem from the interaction of socio-economic divisions and environmental constraints, the most important of the latter being climate disruption.

21. Socio-economic divisions and the rise of knowledgeable but relatively marginalised majorities are leading to clear examples of “revolts from the margins” such as the Naxalites in India and Boko Haram in Nigeria. These are the results of current trends before climate disruption begins to have major effects. As that happens, existing radical and often extreme social movements may rapidly become some of the most serious threats to international peace and security as heavily populated regions become even more marginalised.

22. It is at first sight reasonable to see this evolving world disorder as a threat which must be met with appropriate defences, but unless climate disruption is prevented, not least by moving rapidly to ultra-low carbon economies, then defences are essentially short-term responses that are of little relevance in the long term. The fundamental problems will just get worse and therefore must be addressed.

23. Responding to new security challenges properly falls within the remit of the DSR but understanding them goes much further than conventional security analysis. It requires thoroughly integrated multidisciplinary analysis and policy formulation that requires cross-government coordination of a kind which does not currently exist.

24. There are good analytical teams in the MoD, FCO and DfID, but insufficient cross-fertilisation of analysis. Furthermore, they work primarily in terms of short timescales, with much of their time spent in necessarily responding to immediate ministerial requirements.

25. Furthermore, there is even less in the way of inputs from other branches of government concerned with economic and environmental issues. While the Cabinet Office has a consistently impressive staff, as do the intelligence agencies, they all tend primarily to focus on the short term, measured in weeks, months or years rather than decades.

26. There is an urgent need for a new policy mechanism that goes beyond what is currently available within government, and this should also be reflected in the work of Parliamentary Select Committees. There is thus a case for any consideration of the DSR to be undertaken, at least in part, by a specially convened Committee drawn from existing memberships of Select Committees.

CONCLUSION

27. The Committee might wish to consider a special committee intended to undertake a wide-ranging study of the security environment as it relates to the DSR. While this should feed into a broad analysis which might make recommendations across government, the Defence Select Committee might subsequently examine the recommendations in relation specifically to the Ministry of Defence.

28. As well as encouraging a much more robust control of the development of new projects the Committee might also consider taking a hard look at the SSBN programme, the carrier programme and the F-35. It is difficult to see how any of these relate sufficiently to the security challenges that the UK and its allies are likely to face in the next two to three decades.

Written evidence from Admiral Sir John Woodward GBE KCB

This Submission is supported by:

- **Admiral Sir Michael Layard KCB, CBE.**
- **Major General Julian H A Thompson CB OBE Royal Marines.**
- **Rear Admiral Jeremy Larken DSO.**

SUBJECT

This Submission will address the following Areas of Interest iterated by the Committee:

- A. The strategic balance between deterrence, containment, intervention and influence.
- B. The utility of force.
- C. The legitimacy of force, including the political/military interface, and the changing legal environment.
- D. Lessons learned from current and recent operations.
- E. The relationship between hard and soft power in terms of influence.

Having done so it will briefly address:

- F. The “end game”: how do current Government Policies and procurement plans contribute to the effective projection of British political and military power and influence?
- G. The broader implications of failing to invest more efficiently in Maritime power in the context of reacting to instability in the wider region.

EXECUTIVE SUMMARY

(i) The Defence Committee new Inquiry: “Towards the next Defence and Security Review” is understood to embrace cost as well as operational effectiveness. This Submission provides an objective assessment of each measure of effectiveness regarding the specific Areas of Interest raised and proposes a way ahead that would significantly increase capabilities (over current plans), cost-effectiveness and Armed Forces efficiency with respect to the projection of military power overseas.

(ii) This Submission:

- (a) Examines the cost-effectiveness and the significance to future Defence assumptions of the planned way ahead for our new carriers, indicating any penalties of cost to the Nation and/or of declining Defence capabilities. (A change in course away from the troubled F-35 Lightning II Joint Strike Fighter option would save the defence budget approximately £20 billion and increase capability markedly.)
- (b) Relates comment to the stated government assumption that “our new strike carriers are at the heart of our Strategic Defence Policy”.

(iii) Analysis of each of the five areas of interest presents a persuasive argument for a balanced and better-resourced Fleet including a well-equipped air group for each of our new strike carriers.

(iv) It provides a compelling operational and fiscal case for completely revising:

- (a) The planned carrier flight deck configuration; and
- (b) The choice of strike aircraft for each air group.

(v) It recognises that responses to the Committee’s specific areas of interest must also express wider arguments concerning the state of UK’s Armed Services consequent upon SDSR 2010 and subsequent decisions.

(vi) It concludes that under current circumstances and plans, Britain will be unable to effectively Deter, Contain, Intervene against or Influence some of those that would do us harm. Without the Hard Power and latent Force represented by a genuine Carrier Strike Capability, the projection of effective British political influence and military power on the world stage will not be as effective or potentially possible and we shall not be able to protect our vital Maritime interests—including our energy supplies.

INTRODUCTION

1. The Committee is wise to undertake this review of the wider implications of SDSR 2010 and subsequent related decisions.

2. Hitherto, the British Armed Services have had robust resources to deploy flexibly and effectively on a global basis, adapting to the special circumstances. It is now questionable whether the UK has retained such capabilities.

3. That neither Libya nor the so-called “Arab Spring” (instability across the Middle East) were predicted as Strategic Assumptions by SDSR 2010 poses grave questions of the National Security Strategy (NSS) planners

who apparently chose to ignore such hidden risks. It calls into question the very basis of the SDSR and most crucially its decision to place the Armed Forces effectively “in limbo” until 2020.

4. It is therefore, respectfully submitted that the Committee will wish to note the fundamental importance of degraded national Defence capabilities and expectations.

5. A further question that over-arches the specific areas of review is: “How can we ensure a more cost-effective and operationally effective global capability for our Armed Forces in the future?”

THE AREAS OF INTEREST

A. *The strategic balance between deterrence, containment, intervention and influence*

The Objective

6. It is assumed that the Committee’s reference to “strategic balance” takes into full account the fundamentals of cost and capability for the effective protection of the National Interest.

7. Historically, the four factors Deterrence, Containment, Intervention and Influence have reflected Britain’s ability to deploy effective and visible military power on a global basis. One of the major weapons platforms through which this has been achieved has been the aircraft carrier and associated naval forces. (See Annex A for a history of such effectiveness) The other effective weapons platform is, of course, the SSBN/Nuclear Deterrent.

Deterrence

8. If properly equipped, Britain’s Armed Forces can deter the actions of those that would do us harm through the visible presence of military power and prevent escalation into military combat/war fighting.⁷³

9. In the eyes of rogue States and militant/terrorist groups, military force/power that is not evident within the theatre of dispute is most frequently ignored/disregarded. The most recent evidence of this was when Iran threatened to close the Strait of Hormuz. The land-based strategic bombing force of the United States appeared to have had no deterrent value to the Iranian government. However, as soon as one US Carrier Battle Group (CBG) entered the Arabian Gulf and a second stationed itself in the Gulf of Oman, Iran immediately recanted and called for diplomatic negotiation.

10. This ability to deter effectively will be available to Britain when our two new *Queen Elizabeth* class aircraft carriers are in service but **only if they are properly equipped with a balanced air group that can provide full strike carrier capability**.⁷⁴ The embarkation of the F35B STOVL aircraft in our carriers WILL NOT provide Britain with this full carrier strike capability and, through the abnormal configuration of the flight deck with its ramp, would prohibit the embarkation of other vital air group assets such as Air to Air Refuelling, Airborne Early Warning and last but not least Defence Suppression. (See Annex B for justification of this statement.)

Cost and Capability Implications: Deterrence

11. The avoidance of military action through visible military power/deterrence provides for major defence budget and contingency fund saving and at the same time obviates the sacrifice of our armed services’ personnel in combat. It is a “win, win” situation.

12. In seeking to realise such savings, the government would do well to:

- (a) Revise the currently planned investment in military aircraft that is weighted heavily towards land-based aircraft that are non-carrier capable (Typhoon programme cost—at least £57 billion:⁷⁵ carrier programme cost—less than half that figure).
- (b) Carefully review the decision to procure the F-35B STOVL aircraft for our new carriers (on cost and capability grounds—See Annex B—a probable saving of £20 billion or more can be realised by changing course—as well as achieving a true carrier strike capability).
- (c) Take the strategically important decision that, in future, Britain should procure only fighter aircraft that are capable of embarking in our aircraft carriers. The provision of a Joint Strike Fighter that cannot embark in our carriers would be illogical, non-cost-effective and would have little deterrence value.

13. Of the four factors of interest being addressed by the Committee, effective Deterrence of those that would do us harm would appear to be deserving of top priority investment in that the right investment provides for the solution to the other three factors: Containment, Intervention and Influence.

⁷³ A classic case of this would be Belize, 1976—see Annex A.

⁷⁴ Britain’s ownership of 100 non-carrier capable land-based Typhoon aircraft would arguably have virtually no deterrence value in circumstances such as this.

⁷⁵ Programme cost up to 2011, £22 billion. Public Accounts Committee estimate of future expenditure, “at least £35 billion”.

Containment

14. It is a logical *sequitur* that if one can provide Deterrence through the projection of visible effective military power, the containment of a threat to our global National Interests can best be addressed and achieved through the same military means, ie naval forces including submarines and surface warships centred on a strike carrier battle group.

Intervention

15. Although it is quite unlikely that Britain will wish to place “boots on the ground” in trouble spots that threaten our trade, energy supplies and national interests, *the availability of the capability to do so rapidly and effectively* is likely to deter the need for such intervention or, at worst, enable the rapid and effective implementation of such intervention.

16. This is why Britain needs a strong deployable force (Royal Marine Corps) and a substantial capability for amphibious operations which we do not presently enjoy. The threat of Intervention posed by these capabilities to those that would do us harm acts as a further significant deterrent and will often prevent the need for escalation into combat/war fighting.⁷⁶

17. **Note.** There is a logical picture emerging here that centres upon Britain enjoying the services of effective Maritime military forces rather than land-based air power and ground forces. The existence of the latter two elements of our military capability is not being questioned: but the balance of investment in these elements rather than in flexible and versatile maritime force most certainly is of questionable merit.

Influence

18. Political and military influence on the global stage results from the capability to take effective action to protect one’s national interests. It is not enough to enjoy significant military power without at the same time demonstrating that one is willing to deploy that power when it is needed (as China is doing today). The rapidly changing topography of world politics and diplomacy has created circumstances in which it is clearly unwise to rely totally on an Alliance with others for the projection of that influence.

19. A sobering reminder of this is becoming relevant with respect to the *Entente Cordiale*. France has a different perspective and different needs from Britain. She is a continental power that does not rely upon the sea for the provision of her trade and energy supplies to the same extent that we do as an Island Nation. That she should now be considering Draconian cuts to her Maritime capability is clear evidence of this and is a timely warning that when Britain needs to project power and influence, the French are unlikely to be able to provide material support. (See Annex D: “*Cross-decking Fixed Wing Aircraft Between Aircraft Carriers*”, Nov 2010.)

20. Providing that one does enjoy the available power projection capability of Strike Carrier Battle Groups, a further form of supportive and beneficial influence is provided by the continuous deployment of individual warships (destroyers, frigates and/or corvettes) throughout the oceans of the world—whether conducting goodwill missions, disaster relief, anti-piracy and anti-drug patrols, etc.

Discussion of the Strategic Balance

21. Deterrence, Containment, Intervention and Influence all depend upon the ability to project visible military power in a timely and flexible manner. The Secretary of State has stated that such a capability is based upon our emerging carrier strike capability. Which will be “toothless” given the current plans.

22. Whereas this statement is fundamentally correct for the projection of visible/overt military power, the unseen/covert deterrence and military power of our Hunter-Killer submarines (SSNs) and our nuclear deterrent (SSBNs) is equally important for the deterrence of action against our interests by more developed nations (as opposed to rogue nation states).

23. It is therefore critical to the effective defence of our National Interests that Britain enjoys the services of a balanced Fleet. “Paying lip-service to this vital need” for a credible force and capability will not impress or deter those that would do us harm. Failing to attend to this issue of great National import is tantamount to saying to our enemies that “We are ripe for the taking!”

B. *The utility of force*

Key points

24. “Force” cannot be respected unless it can be brought to bear effectively when needed.

25. Britain, as an Island Nation, relies upon the sea for its global trade, its energy supplies and its continued prosperity. There is therefore a firm need for Britain to be able to show and apply Maritime force on a global basis in the direct protection of these interests.

⁷⁶ See Annex A: successful interventions by Maritime force.

 Discussion

26. The utility of force therefore depends upon:

- (a) Where it may need to be applied; and
- (b) How flexibly and effectively it can be applied (from an operational and a cost point of view).

27. Such force cannot be reliably projected globally by land-based air power. Basing rights, over-flight rights and logistic support are the Achilles heels of the latter. The reliable and flexible projection of such power remains the prerogative of a balanced Fleet (see again, Annex A).

28. Our new *Queen Elizabeth* class aircraft carrier represents a major weapons platform that is globally mobile and therefore satisfies paragraph 26 (a), above.

29. However, current procurement plans for the carrier air group (just the F-35B STOVL) operating from a ramp-fitted deck:

- (a) Preclude 24/7 operations in hot climates and foul weather (See Annex B, paragraphs 33 and 34).
- (b) Do not provide any Defence Suppression capability (thereby placing task force personnel and weapons platforms at high risk unnecessarily). (See Annex B, paragraphs 45 to 55.)
- (c) Lack Airborne Early Warning (denying the Command vital early warning of the ingress of enemy aircraft and/or anti-ship missiles). The Hawkeye “mini AWACS” would provide for this comprehensive capability. Although the F-35 radar is sophisticated and modern, it is directional in operation and does not have the broad reach and 360° Task Force area of interest coverage that is vital in a hostile combat environment.
- (d) Lack Air to Air Refuelling support (without which safe all-weather deck operations and/or extended combat missions cannot be conducted). (See Annex B, paragraphs 29 to 31).
- (e) Provide for very limited radius of action thereby precluding any Deep Strike Capability and any realistic Air Space Denial Capability (the latter resulting in inadequate protection and support of ground forces onshore).

30. There is an alternative to this “very limited capability” planned way ahead in the form of **the F-18 Super Hornet family of aircraft. It has none of the disadvantages presented by the F-35 STOVL/F-35C aircraft and, along with the Hawkeye AEW aircraft will provide our carriers with the required full carrier strike capability.** (See Annex B, Executive Summary and main body of text.)

31. Without a change in course, our new carriers will therefore suffer from the same major operational limitations and deficiencies experienced by the *Invincible* class carriers with Sea Harrier air groups (which led directly to unnecessary loss of life and warship platforms in the Falklands war). With the currently planned air group and flight deck, these new carriers will lack the flexibility and effectiveness expected from a properly equipped Strike Carrier.

C. *The legitimacy of force, including the political/military interface, and the changing legal environment*

The subjective and the objective viewpoint

32. The legitimacy of force has been a matter of discussion throughout the ages and has generally been subordinated to the interests of the nation applying that force. Legitimacy may be viewed subjectively or objectively.

33. Al Qaeda and its sympathisers take the subjective view that the militant/terrorist actions represent legitimate force because they are supported by the tenets of their religion. It is a twisted viewpoint because, for example, the Koran and Islam does not support or promote the slaughter of innocent men, women or children.

34. At the other end of the scale, Britain took an arguably objective view that she had every right to use force to recover the Falkland Islands after the military invasion by Argentina in 1982. That “objective view” was based on established sovereignty rights and, of particular importance, the right of the Falkland Islanders to self-determination. This view was supported by the United Nations.

35. In a nutshell, it is reasonable to suggest that individual nations should judge the legitimacy of force in the context of self-defence, survival and the right to self-determination.

The political/military interface

36. Military commanders ultimately must carry out the political objective, or resign if they are not prepared to do so; but make it perfectly clear that if the means are not provided, it may fail. A good example is the decision to proceed with the landings in the Falklands without having achieved air superiority. When it became apparent that we would not achieve air superiority before landing, Major General Julian Thompson sent a letter back from Ascension Island to Northwood expressing his concern (see 3 Commando Brigade in the Falklands: No Picnic, Pen & Sword 2007, bottom of page 31 and top of page 32). Having registered his concern, he then got on with the task as ordered. (See also the minutes of the Defence and Overseas Policy Committee (DOPC) meeting of 18 May 1982 (this was D minus three), attached at Annex E.)

37. Before a campaign begins, the military leaders must make it clear what the risks are. (See points a. and b., page 5 of 7, DOPC Minutes.) When the action starts, the military may have to calm the fears of the politicians, and be as upbeat as possible without minimizing the seriousness of the situation.

The Changing Legal Environment

38. Winds of change are sweeping the world with major power shifts and uncertainty. One can argue that as a member of NATO, one can interpret the legality of the use of force in accordance with the NATO charter. The same is true for membership of the United Nations and the European Community. Each Organisation can have a different view of the legality of the use of force in a particular situation.

39. It therefore obliges individual nations to judge the legality of the use of force based almost entirely upon their inalienable right to self-defence and self-determination.

D. *Lessons learned from current and recent operations*

Libya, Afghanistan and the “Arab Spring”

40. Libya operations were initially misguidedly proclaimed a successful vindication of the SDSR 2010 Defence cuts. All that they demonstrated was the UK’s *limited* ability to deploy force within the European NATO area. It did not demonstrate any ability to project force/influence on a global basis including East of Suez and the South Atlantic.

41. SDSR 2010 seems to have had two over-riding considerations:

- (a) To sustain Afghanistan at all costs and then to inflict a further swathe of Defence cuts; and
- (b) To justify the reduction of all non-Afghanistan essential forces by skewing Defence Assumptions to the least likely—so as to allow Ministers to claim that the nation has retained armed forces sufficient to respond to all reasonable risks—until 2020.

42. Libya and the Arab Spring have quickly and embarrassingly demonstrated the false premise of the SDSR that UK could safely reduce its Armed Services to a bare minimum (until 2020) and that the risks were acceptable.

43. Libya has further demonstrated that the UK does not have the capacity to act unilaterally or even effectively in the Nation’s interests—albeit where these are shared—nor can reliance be placed upon allies. A main plank of Defence Strategy appears to have been the acceptance not so much of allied assistance as a force multiplier but of *near total reliance upon allied military assets*. The altogether unreliable response of some NATO partners in Afghanistan ought to have forewarned Defence Planners of this delusion; further proof of this unjustifiable reliance is the possible withdrawal of the French carrier *Charles de Gaulle* and its Rafale fighters from service in the on-going attempts to save the French economy. This completely destroys the Defence planning assumption that the French carrier will be a credible alternative for UK power projection in the absence of RN sea-air capabilities (until 2020).

44. The SDSR has created significant and serious gaps in the national defence structure of the armed forces (on top of 13 years of persistent cuts and reductions already suffered). It would have been surprising if such deficiencies had not restricted political and military options in Libya, degrading UK’s response and resulting in very significant increases in cost implications.

45. Further, the Libya Operation demonstrated that land-based air power:

- (a) Is vastly more expensive to deploy overseas in support of military operations than sea-based air—even within the NATO area. Notwithstanding the government’s contrived claims to the contrary, this Operation cost the British taxpayer approximately £1 billion over a six-month period.
- (b) Is not as responsive or effective as sea-based air for initial (First Echelon) Expeditionary Force/Peacekeeping combat operations. (As demonstrated by the US Fleet F-18 Growler Defence Suppression aircraft which destroyed Libyan Air Defences thus enabling the more poorly equipped (or less capable) British aircraft to then fly into Libya. The entire campaign was not possible without (US) Naval Forces completing the hard work of initial strikes and removing/destroying the Libyan Integrated Air Defence System.)
- (c) Is not as flexible or as effective as sea-based air for the continued support of Ground Force operations because of its distance from the active combat zone and the difficulties it faces in coordinating diverse land-based air assets for the efficient conduct of tactical strike missions.

46. As a result of the SDSR, it is evident that the UK is rapidly becoming a different nation by default and one less likely to be respected by friends and foes alike. Our strategic reach has been severely curtailed because we will no longer be able to support the United States militarily in the key way which the UK has done for decades. This might put in doubt our position as a Permanent Member of the UN Security Council if we become unable even to protect our own dependent territories.

The Role and Configuration of UK's Land-Based Air Power.

47. It is for consideration that the role and configuration of UK's air power within Britain's National Defence Strategy should be urgently reviewed.

Physical Constraints

48. The physical constraints of UK's air power as configured today make it non-cost-effective and generally inappropriate for overseas operations. It relies entirely upon:

- (a) The availability of land bases close to the theatre of action—and such availability is questionable with Britain's diverse overseas interests (including the British South Atlantic Islands).
- (b) Over-flight and overland transit rights for its logistics support—such rights being controlled by other nations who can therefore have considerable influence upon the sovereign will and intentions of the British government (*vide* Pakistan and Russia controlling logistic support routes into Afghanistan).
- (c) Major air to air refuelling support en route to the target area and direct support of combat strike missions over the target area (Britain now has a much reduced AAR fleet of aircraft).
- (d) Air superiority and airspace denial within the combat zone in order to ensure the safe operation of refuelling tankers and supporting ISTAR assets. In Afghanistan there is NO air threat and very little anti-air threat. If there were, then land based transport aircraft, EW, AWACS and AAR aircraft would not be operating.
- (e) The safety and security of the overseas air bases to which it deploys. If we again look at Afghanistan, the three airbases that we operate from (Kandahar, Bastion and Bagram) require major resources to run and protect. Kandahar and Bastion are each similar in size to a small UK county. It is for consideration that the cost of running ONE of these airfields is no less than the cost of running a carrier battle group offshore. The United States is covering these costs. It is unlikely that Britain could afford to do so unilaterally.

49. These constraints place strict limits upon the ability of the British Government to project military and political influence overseas with land based air in support of the national interest.

Adaptability

50. It is difficult to understand why the government of the UK, aware of our proud history as an Island Nation whose prosperity will always depend upon global maritime trade, continues to procure land-based fighter aircraft that cannot deploy to or be operated from aircraft carriers.

51. The SDSR 2010 team might well have taken into account such compelling logic. Their initial recommendation (to retain the Harrier in service rather than the non-carrier capable Tornado) bears testament to this. The final decision to withdraw Harrier from service was illogical and wrong because it removed Britain's capability to project power with a flexible and versatile carrier strike capability in favour of the retention in service of an obsolete aircraft that suffers from all the constraints of paragraph 48, above.

The National Interest

52. The Committee might wish to address the root cause for this misguided SDSR 2010 final recommendation. In doing so, the Committee might also wish to investigate the logic behind the procurement of a non-carrier capable Joint Strike Fighter for the limited role of the air defence of the United Kingdom. Whilst the air defence threat is minimal at this time and likely to remain so for the time being, it cannot be disregarded in the longer term. Should an air threat against the UK become evident, robust and mobile carrier strike groups would represent a considerable deterrent; also enabling the embarkation of aircraft from airfields that may be too easily targeted.

53. In the light of Britain's global maritime interests, logic and common sense would appear to dictate that all fighter and fighter ground attack aircraft procured for the Armed Services should be capable of embarkation in and operation from the new *Queen Elizabeth* class aircraft carriers. This would allow the cost-effective and operationally effective deployment of under-utilised land-based squadrons in a time of need. We would have one type of very capable strike aircraft operating from both runways and aircraft carriers.

E. *The relationship between hard and soft power in terms of influence*

Assumption

54. It is assumed that "hard power" may be interpreted as "military power" and that "soft power" refers to non-military means of influence such as "sanctions and foreign aid".

Discussion

55. Hard Power provides the means to deter and to directly de-escalate confrontations with those that would do us harm. It also provides the means to apply effective and deadly force to oppose and overcome the actions of those that would do us harm.

56. Soft Power is arguably a much less reliable and effective form of influence and unless it has Hard Power behind it to demonstrate resolve is unlikely to produce the required result. Unilaterally applied Soft Power is even more unlikely to lead to positive results.

Sanctions

57. Recent history would suggest that sanctions take a very long time to work if indeed they ever produce the desired effect. There are numerous examples of this in the modern world, including Iran, Burma, North Korea, etc.

58. In each instance, any reluctance or failure to demonstrate the will and intention to use Hard Power if sanctions do not produce the required effect reduces the efficacy of the sanctions.

Foreign aid

59. We live in a very corrupt world where foreign aid, if provided in hard cash, is often/inevitably embezzled by those in a position of power (whether in Palestine, Egypt or elsewhere). And where there are no tight strings attached to the determinate use of such aid, the recipients often continue to metaphorically “bite the hand that feeds them”—as is the case in Pakistan, Libya and Egypt.

60. These few examples demonstrate that the giving of aid without appropriate safeguards and strings attached is totally counter-productive.

61. It is also beyond understanding why Britain should give financial aid to wealthy powers such as India, for example, when India is spending equivalent amounts of money procuring arms and weapon systems from China.

F. The “end game”: how do current Government Policies and procurement plans contribute to the effective projection of British political and military power and influence?

62. The concise answer to this question is that, for the most part, current Government Policies and procurement plans DO NOT contribute to the effective projection of British political and military power and influence.

63. It is logical for the Secretary of State to have acknowledged that our new strike carriers are at the heart of Britain’s Strategic Defence Policy. But such acknowledgement lacks integrity and credibility when the vital capability required for our new strike carriers is severely diminished by:

- (a) Allowing short-term fiscal expediency to govern flight deck configuration.
- (b) Persisting with a choice of Joint Strike Fighter that will not by any stretch of the imagination endow our new capital warships with a genuine carrier strike capability.

64. The F-35B STOVL aircraft of choice brings with it unacceptable flight safety deficiencies and operational limitations that will reduce the *Queen Elizabeth* capability to that of an Amphibious Support vessel.

65. Of equal importance, **this choice of aircraft will cost the British taxpayer and the defence budget approximately £20 billion more than the alternative.**

66. This alternative is the F-18 Super Hornet family of aircraft supported by the Hawkeye “mini AWACS” airborne early warning aircraft—which, incidentally, will provide our new carriers with the full carrier strike capability and versatility that should be expected from them. (See Annex B.)

G. Conclusion: The broader implications of failing to invest more efficiently in Maritime power in the context of reacting to instability in the wider region

67. The possible/threatened re-organisation and downsizing of the French military Armed Forces into a continental rather than Maritime stance leaves Britain without any European ally that can be relied upon to support our global, Island Nation defence interests.

68. Our only true ally that can assist in our need to protect our trade routes, energy supplies and other overseas interests is the United States. But they have made it fairly clear in this time of economic constraint that if European nations, including Britain, are unwilling to invest appropriately for the protection of their national interest and security, then the United States will not be able to provide the overarching Maritime defence umbrella that has hitherto been available.

69. Irrespective of whether the French aircraft carrier survives current defence cuts or not, the principle of relying on a French carrier for pro-British use would appear to be most unwise when:

- (a) The French may have other priorities for its use.
- (b) Their national interest in overseas events might be quite different from our own.
- (c) The embarkation of a British Air Group in a French carrier with the intent of applying deadly force might well prove “inconvenient”.
- (d) French Air Groups will not be able to embark in a British carrier fitted with a ramp and without catapults and arrestor gear.

70. Under current circumstances and plans, Britain will be unable to Deter, Contain, Intervene against or Influence some of those that would do us harm. Without the Hard Power and latent Force represented by a genuine British Carrier Strike Capability, the projection of British political influence and military power on the world stage will not be as effective or potentially possible and we shall not be able to protect our Maritime interests—including our vital energy supplies.

Annex A

ROYAL NAVY FIXED WING CARRIER OPERATIONS SINCE 1948⁷⁷

1. This paper provides a brief outline of 18 events, crises, conflicts and deterrence, in which fixed-wing aircraft carriers were successfully deployed in support of UK Government policy since 1948. They show that the availability of sea-based tactical aviation adds immensely to the nation’s overall deterrent capability. On several occasions no other form of intervention was initially possible. Most significant is the inability of potential aggressors to deter the deployment of aircraft carriers into areas supposedly dominated by land-based aircraft. The myth of vulnerability is belied by experience.

PALESTINE 1948

2. Naval aircraft from HMS *Ocean* covered the final evacuation of British forces from Palestine in May 1948. RAF aircraft had already been evacuated and only carrier-borne naval aircraft were capable of providing the protection required.

KOREA 1950–53

3. HMS *Triumph* joined the USS *Valley Forge* to strike at North Korean targets shortly after N Korea attacked the South in June 1950. The British aircraft carriers *Triumph*, *Theseus*, *Glory* and *Ocean* provided all the UK’s tactical strike and fighter operations throughout the three years of the war. RAF involvement was limited to transport flights into safe airfields and some flying-boat MPA patrols in the open ocean off Japan. RN carrier aircraft flew thousands of effective sorties.

SUEZ 1956

4. This was a combined assault on Egypt by British and French carrier-borne and land-based aircraft. In the British operations, the RN deployed three fixed-wing carriers, *Eagle*, *Albion* and *Bulwark* plus two helicopter carriers, *Ocean* and *Theseus*. Because of their ability to gain better position the strike carriers reacted more quickly to calls for offensive air support than RAF aircraft in distant Cyprus and Malta. Despite only having one-third of the total British strike fighters embarked, RN strike fighters flew two-thirds of the strike sorties and their aircraft spent longer over the target area. RAF aircraft had long transits from their bases, carried less weapons and could spend little time on task, most of that at high level to conserve fuel.

LEVANT 1958

5. US/UK assistance sought to protect Lebanon and (land-locked) Jordan against Iraqi aggression. *Eagle* provided support for airborne and amphibious forces deployed into theatre. RAF transport aircraft flying British troops into Jordan were protected by carrier-borne fighters since RAF fighter bases were too far away for their aircraft to be effective.

KOREA 1960

6. UN forces including an RN carrier deployed to the Yellow Sea on exercises aimed at deterring the North from launching a renewed attack on the South. Deterrence succeeded. There was no RAF involvement since no land-bases were close enough.

KUWAIT 1961

7. British forces deployed to Kuwait to defend it against threatened Iraqi aggression. HMS *Bulwark* arrived with 42 RM Commando within 24 hours (since good intelligence had put her in the right place) and used its helicopters to deploy and support them. British troops were flown into Kuwait by RAF transport with only what they stood up in—they had to requisition vehicles and wait for RN amphibious shipping to bring in more. Strike carrier *Victorious* took several days to arrive with her battle group from the South China Sea but brought

⁷⁷ David Hobbs, Crail, 2011

the “complete package of power” that subsequently dominated the area. A single RAF Hunter squadron had deployed to Kuwait from Bahrain but lacked fuel, ammunition, spares and most of all GCI radar coverage other than that provided by *Bulwark*. RAF transport was being used to fly in troops and so none was available to support the Hunters which left once *Victorious* arrived. The need for the RN to support land-based aircraft led to the second commando-carrier, *Albion*, being fitted with better surveillance radar (Type 965).

CONFRONTATION WITH INDONESIA 1963–66

8. Britain and the Commonwealth supported the Malaysian Government against Indonesian aggression and deployed forces from all three Services. The Far East Fleet provided a considerable deterrent against Indonesian escalation and the presence of its strike carriers posed a threat that Indonesia could not counter. Carrier and air group transits of high-visibility international waters such as the Sunda Strait added to their deterrence value. Land-based air could not provide such a visible deterrent.

9. A decisive role in support of the Royal Marines and Army was played by the Navy’s Commando Helicopters flying several thousands of hours operating from *Albion* and *Bulwark* in succession and mostly from Forward Air Bases ashore in unusually demanding conditions over a period of four to five years.

10. The Air Force had a presence of Whirlwind and Belvedere helicopters and Twin Pioneers. But the RAF’s refusal to delegate operational control of helicopter tasking to the Ground Commander and the strict observance of RAF aircrew duty time or monthly aircraft flying hours limits were great obstacles to their effectiveness. In contrast Naval helicopter squadrons had great rapport with the Army and Royal Marines and applied practical exceptions to such limitations.

11. The Commando Ship gave invaluable back up for the aircraft deployed ashore and incidentally was the main form of lift for RAF helicopters from Singapore to Borneo.

EAST AFRICAN MUTINIES 1964

12. Following a mutiny by Tanganyikan Army units in January 1964, Britain was asked to provide assistance. HMS *Centaur* was at Aden and embarked 45 RN Commando, 16/5 Lancers with their vehicles and two RAF Helicopters in addition to her normal air group. The subsequent assault was “a model of how flexible carriers are and how quickly they can act”. (Another example of RAF being taken into action by an RN carrier.) *Centaur* was capable of launching her normal air group although at times it would have been a “squeeze”.

DEFENCE OF ZAMBIA 1965

13. Following UDI by Rhodesia, the Zambian Government requested air defence arrangements from the UK. HMS *Eagle* was positioned from 23 November to 7 December 1965 pending the arrival of RAF fighters.

BEIRA PATROL 1965–66

14. Followed on from Zambia assistance above. Britain undertook to enforce UN sanctions preventing tankers from entering Beira with oil for Rhodesia. Only carriers could search the vast areas of sea involved in the months it took the RAF to build up an MPA base and deploy aircraft to it. *Eagle* and *Ark Royal* both involved for considerable periods at sea.

ADEN 1967

15. British forces were evacuated from Aden in November 1967 covered by an RN task force off shore. RAF aircraft were among the forces evacuated and therefore relied on RN carrier-borne aircraft for their defence while they did so.

BELIZE 1972

16. A show of strength by Buccaneers from *Ark Royal* prevented a threatened invasion of British Honduras (Belize) by Guatemala. Land-based air was too far away and could do nothing.

SOUTH ATLANTIC 1982

17. Carrier/ship-borne strike-fighters (Sea Harrier) and helicopters were fundamental to the success of the campaign which would not have been possible without them. Significantly the RAF Harrier needed carriers/*Atlantic Conveyor* to get them into action.

KUWAIT 1991

18. USN carriers played a big part in the coercive all-arms forces that drove Iraqi forces out of Kuwait; *Ark Royal 5* operated in the Eastern Mediterranean in a containment role that was not, in the event, used.

BOSNIA/FORMER YUGOSLAVIA 1992–96

19. RN and USN carriers operated in support of UN and NATO operations in the former Yugoslavia. Carriers were able to position clear of weather which sometimes limited RAF and coalition operations from land bases. The UK Government ordered one carrier to be available constantly in case it proved necessary to withdraw British forces under fire—since land-based aircraft could not guarantee to do so and did not have the valuable mix of fighters and helicopters close to the scene of action.

SIERRA LEONE 2002

20. *Illustrious* provided air support in the form of armed reconnaissance missions and a national command centre for British forces that rescued UN forces in Sierra Leone providing a secure base that could not be located or attacked by the terrorists ashore.

IRAQ 2003

21. *Ark Royal 5* operated in her alternative LPH role with Sea Kings and RAF Chinooks embarked to land RM commandoes on the Al Faw Peninsula. Later, Sea Harrier FA2 fighter aircraft assisted the U.S. Navy in enforcing the no-fly zone over Iraq.

LIBYA 2011

22. But for the withdrawal of HMS *Ark Royal* and the Royal Navy Harrier GR9 squadrons (SDSR 2010), Britain could have supplied in theatre, rapid response, fighter combat offensive air support for the Libyan Operation—as supplied effectively by the French and Italian aircraft carriers and the USS *Kearsage*. Instead, British rotary wing air power was deployed to great operational effect in HMS *Ocean* in the form of the Apache helicopters of the Army Air Corps (flown by both AAC and RN pilots) and the Sea King AEW helicopters of the Royal Navy. These resources provided the 24/7 offensive air support that was not available from land-based air situated 600 nautical miles from the theatre of action.

Annex B

THE TROUBLED F-35 “LIGHTNING” II: PROJECT SUMMARY/CRITIQUE

EXECUTIVE SUMMARY

Expected F-35 programme cost (for 80 aircraft): at least US\$46 billion (£28.75 billion).

The **serious shortfalls** in the capability of the F-35 include:

- (a) Expected limitations in the aircraft’s stealth qualities.
- (b) No buddy-buddy capability for air to air refuelling. (Flight safety hazard.)
- (c) The loss of the vertical landing capability of the F-35B STOVL aircraft. (Flight safety hazard.)
- (d) The aircraft is single-seat and will not be able to provide the exceptional defence suppression, ew/istar benefits of the e/a-18g super growler.
- (e) An expected incompatibility of the F-35C aircraft with the *Queen Elizabeth* class carrier for deck landing in “nil wind” conditions or “light airs”.
- (f) Being single-seat, the aircraft will not be suitable for the airborne control of Unmanned Carrier Air Vehicles (UCAVS). This will prevent the UK from deploying a cost-effective strategic level of deep strike capability against those that would do us harm.
- (g) If satellite services are interdicted for whatever reason, the aircraft’s ability to conduct precision deep strike missions may be severely degraded.
- (h) It is difficult to isolate any operational advantages that the F-35 has over the F/A-18 Super Hornet family of aircraft.

Expected F-18 programme cost (for 80 aircraft): approximately \$US12.9 BILLION (£8 BILLION)

The **advantages** that the F/A-18 Super Hornet family of aircraft enjoys **over the F-35 Lightning II** include:

- (a) **It is a combat proven** swing-role fighter that enjoys the full confidence of its operators, especially the United States Navy.
- (b) It provides embarked air-to-air tanking capabilities **at no extra cost**.
- (c) Its deck-landing approach speed is compatible with the *Queen Elizabeth* class carrier.
- (d) Its E/A-18G Super Growler variant provides its Carrier Battle Group with a sophisticated, **state of the art, Defence Suppression/EW/ISTAR capability**.
- (e) **Royal Navy pilots are already gaining valuable operational experience** flying the Super Hornet from the decks of US carriers.
- (f) **It is available now** with an associated training aircraft (see paragraph 70, below).

- (g) It will endow our new carriers with a **full carrier strike capability**. (Allowing the embarkation of AEW aircraft.)
- (h) **Operational disadvantages are not evident.**

INTRODUCTION

1. The UK F-35 Lightning II Project is the third major collaborative fast jet project that Britain has been party to in the last 40 years. The other two are the MRCA/Tornado Project and the Eurofighter/Typhoon Project. Each of these two major projects has experienced considerable problems including:

- (a) A marked lack of cost efficiency; and
- (b) Considerable tardiness in achieving full role-effectiveness (a capability that the Tornado Fighter never actually realised).

2. The UK F-35 Lightning II Project is showing all the signs of suffering from the same problems.

3. **Development problems have plagued the Project resulting in an ever increasing cost, lower than expected performance and a significant delay in the expected In Service Date of the aircraft.**⁷⁸

PROGRESS TO DATE/THE HEALTH OF THE PROJECT

Cost Developments

Procurement Cost

Table 1
COST PROGRESSION—F-35 PROGRAM

<i>Year</i>	<i>Comment</i>	<i>Unit Cost</i>
2002	Initial Target Fly Away Cost	\$60,000,000
2002	Initial Target Cost—Inflation Linked	\$75,000,000
2011	Current Estimated Fly Away Cost ⁷⁹	\$190,850,000*

4. It is likely that the total number of aircraft to be ordered will be cut and this will, as a result, further increase the unit cost of each aircraft.

5. 80 F-35 aircraft would cost the taxpayer **not less than US\$15.28 billion**.

6. A mix of 68 F/A-18 Super Hornet aircraft at US\$58 million per unit and 12 E/A-18G Super Growler aircraft at approximately US\$90 million per unit **would cost the taxpayer US\$5.02 billion—a saving of US\$10 billion or £6.27 billion. This saving will be markedly greater when project support and in life costs are calculated as in Table 2, below.**

Cost per Flying Hour

7. US Naval Air Systems Command:

- (a) US\$30,700 or £18,700 per flying hour for the F-35.
- (b) US\$22,000 or £13,400 per flying hour for the F/A-18.

8. Over a 20 year period this would equate to a **further saving of £9.16 billion**.

Table 2

F-35 LIGHTNING II VERSUS F/A-18 SUPER HORNET BASED AIR GROUP COST COMPARISON

Assumption:

An R.N./RAF establishment of 80 aircraft to service two carrier air groups and an operational conversion unit/Headquarters Squadron.

Costs in US\$ millions

<i>Aircraft</i>	<i>number of aircraft</i>	<i>unit Fly Away cost*</i>	<i>subtotal</i>	<i>in life cost **</i>	<i>Total</i>
F-35 Lightning II	80	\$191	\$15,280	\$30,560	\$45,840
F/A-18A Super Hornet	68	\$60	\$4,080	\$6,120.0	\$12,900
E/A-18G Super Growler	12	\$90	\$1,080	\$1,620.0	

⁷⁸ From The Economist 16 July 2011. "The future of the Joint Strike Fighter": Deliveries of operational aircraft were meant to begin in 2010.

⁷⁹ DEPARTMENT OF THE NAVY FISCAL YEAR (FY) 2012 BUDGET ESTIMATES. Page 58.

* As given in DEPARTMENT OF THE NAVY FISCAL YEAR (FY) 2012 BUDGET ESTIMATES.

** Lockheed Martin (F-35) has demonstrated higher in life support costs than Boeing (F/A-18). Therefore it has been assumed that in life cost of the F-35 will be double the procurement cost whereas the Boeing F/A-18 in life costs will be 1.5 times the procurement cost. This fits with Naval Air Systems Command projection that the cost per flying hour of the F/A-18 will be 40% less than that of the F-35.

9. The F/A-18 Super Hornet alternative would **save the taxpayer** and the long-term defence budget **some US\$32.9 billion or £20 billion**.

F-35 Maintenance and Support

10. The F-35 is entirely reliant upon the Autonomic Logistics Information System (ALIS) operated by Lockheed Martin. **It is not possible to operate the aircraft without access to ALIS.**

11. Important subjects which need to be addressed are:

- (a) the necessary extent and, therefore, **cost of ALIS participation to the UK taxpayer;**
- (b) the extent to which the UK could use the F-35 in operations that are not supported by the US Government (**a question of sovereignty**) and
- (c) the potential **cost of re-writing ALIS software to include UK-only weapons, procedures and tactics.**

Operational Developments

12. The F-35 has serious problems and limitations that presently remain unresolved.

Stealth

13. **The stealth qualities of the aircraft are likely to deteriorate in the salt-laden environment of carrier operations.**

Compatibility with the Queen Elizabeth class Carrier

14. The F-35A is not capable of operating from any carrier deck.

15. **The F-35B "STOVL" cannot recover on board vertically in hot climates.**

16. The F-35C Lightning II (and the F/A-18) requires catapults and arrestor gear for deck operations and cannot operate from a ski jump/ramp-fitted ship.

17. **Exaggerated estimates from BAE Systems and a certain MoD departments indicated the cost of reverting to a flat deck with catapults and arrestor gear would be in excess of £2 billion.** Extracts from the article at Annex C by Lewis page, dated 6 February 2013, provide some clarification of the muddled fiscal and contractual waters surrounding this estimate. At best, it paints a picture of misleading information and unacceptably poor fiscal accountability within the contractual process.

18. This flawed estimate led to the Government committing the U-turn of returning to the F-35B STOVL option for our carriers (NB paragraph 16 above). **This short-term expediency will result in a seriously diminished operational capability and excessive long-term air group costs.**

19. As a fundamental precept, it would be cost-effective and efficient to ensure that any future fast jet combat aircraft this country procures is capable of both sea-borne and land-borne operations.

Shortfalls in aircraft capability that may well have escaped the attention of the Government

Stealth

20. The stealth qualities of the aircraft are likely to deteriorate in the salt-laden environment of carrier operations.

21. F-35 X-Band Radar Absorbent Material is only effective against a certain wave-band. The Russians and the Chinese are already successfully working on air to air radars in other than X-band.

22. **The Americans will be operating the F-35C Lightning II in conjunction with the F/A-18 Super Hornet: relying upon the F/A-18 and E/A-18G Super Growler aircraft to provide Air Superiority and Defence Suppression for any combat operations.**

23. **This raises the question of the applicability of the F-35 Lightning II in isolation as an appropriate choice for the United Kingdom armed services.**

Stealth Combat Experience to Date

24. The F-117 and the B-2 have both conducted successful air-to-ground combat missions in recent conflicts including the Bosnian crisis, the Iraq crisis and Afghanistan. But air supremacy within the theatre of action has been maintained largely by non-stealth fighters launched from aircraft carriers—notably the F-18 Hornet/Super Hornet.

25. Clearly, the stealth factor is still in its infancy.

26. It can be deduced from the above that stealth in its own right is not a panacea for the successful conduct of all air warfare operations.

Suitability of the UK F-35 Lightning II

27. So what capability will the UK be getting? And what is the operational justification for such procurement?

Capability

Stealth—Limitations

28. In the context of Expeditionary Force offensive air support operations there will be **further serious operational limitations** and these should be recognised:

- (a) If opposed by a fighter/missile air threat, the F-35 Lightning II will have to use its air-to-air radar and the aircraft's stealth cover will be broken.
- (b) External carriage of air-to-air missiles will not be possible if the aircraft's stealth qualities are to be maintained. **This must be classed as a major limitation.**
- (c) **The F-35 cannot provide the vital Defence Suppression capability** of the EA-18G Super Growler. Such a capability is essential for the Queen Elizabeth carrier air group in order to counter/diminish all threat air-to-air, surface-to-air, surface-to-surface and ground-to-air weapon systems.

Air-to-Air Refuelling Limitations

29. The F-35 Lightning II does not have its own inbuilt “buddy-buddy” air-to-air refuelling capability. This will

- (a) Reduce the already limited combat range; and
- (b) Restrict safe operation of the aircraft in all but the most benign weather conditions.

30. A carrier air group needs the availability of an embarked air-to-air refuelling capability on a 24/7 basis and especially for emergency use in poor weather conditions/by night—when landing on board can be extremely difficult/hazardous.

31. The lack of such a capability in the F-35 Lightning II is a **severe flight safety limitation**. The F-35B STOVL aircraft cannot be fitted with buddy-buddy air to air refuelling. **This should automatically debar the STOVL aircraft from consideration for UK carriers.**

Reliance upon Satellite Information

32. The F-35 depends to a considerable extent upon the availability of satellite positioning information and intelligence for effective combat operations.⁸⁰ The United States Navy has recognised this as a latent operational problem and that is why it is now concentrating resources upon the full development of the combined F/A-18F & X-47 UCAV⁸¹ strike system. The latter combination will be able to maintain some operational functionality at times when the F-35 Lightning II would be impaired.

VERSATILITY OF THE F-35B STOVL AIRCRAFT IS IN DOUBT

33. The very description of this aircraft indicates a capability for Short Take Off and Vertical Landing. The increase in weight of the aircraft during development has had a severe detrimental effect upon its power/weight ratio and **it will not be able to land vertically back on board a carrier or other ships when in a combat configuration and in hot climates**. This will be exacerbated in service because all jet engines suffer a gradual deterioration in engine power during their lifetime. It is pertinent to note that **the Sea Harrier FA2 was withdrawn from service precisely because of this problem—which was “too expensive to fix”**.⁸²

34. The UK F-35 project team are now looking at a standard recovery on board that is not “vertical” and is described as, “A Ship Rolling Vertical Landing” (SRVL). This **unproven** standard recovery procedure

⁸⁰ “The F-35 will be the first fighter to possess a satellite communications capability that integrates beyond line of sight communications throughout the spectrum of missions it is tasked to perform”. Lockheed’s own words.

⁸¹ Operationally this aircraft would become the QA-47.

⁸² See minutes of Defence Select Committee, 8 May 2002.

represents a **most severe Flight Safety Hazard** in its own right and is likely to result in catastrophic accidents on deck and loss of life.

Discussion: F35 Shortfalls

35. If operated in isolation the F-35 Lightning II will not provide the full capability required for safe and effective carrier borne operations.

36. Further, it requires the significant support of other aircraft types and this was not envisaged when the UK opted for the aircraft as its future Carrier-Capable Strike/Air Defence Aircraft.

37. In the United States Navy, Unmanned Carrier Air Vehicle (UCAV) platforms control and operation will be less susceptible to any loss of satellite functionality because they will be able to be controlled during their missions by airborne manned aircraft—the F/A-18F (the two seat variant of the F/A-18 of the Super Hornet), E/A-18G Super Growler and the E-2D Hawkeye (this is certainly the expectation of the US fleet).

38. The single-seat F-35 Lightning II will not be able to perform this function.

39. In the light of all the above (including the high cost) it is clear that **the F-35 Project has not come up to expectations and will fall well short of providing the necessary operational flexibility and utility required for a Carrier Air Group consisting of just one type of embarked fighter aircraft.**

Conclusion on Capability

40. **The F-35 is not an acceptable choice** for fully effective operations from our new *Queen Elizabeth* class carriers.

Operational Compatibility of the F-35 Lightning II with the Queen Elizabeth class Strike Carrier

Introduction

41. This section will review the compatibility of the F-35 Lightning II with the Queen Elizabeth class carrier in the context of:

- (a) Independent/unilateral Carrier Battle Group Expeditionary Force operations,
- (b) The shortfalls that may exist in such compatibility, and
- (c) The cost implications of such shortfalls.

42. It will draw on the opinions and data provided earlier in this paper.

43. It will highlight **the many advantages that would accrue from the procurement of the F/A-18 Super Hornet family of aircraft in lieu of the F-35 Lightning II** either as an interim or a permanent measure.

Independent Carrier Battle Group Expeditionary Force operations

Deterrence—The Requirement

44. There can be “visible deterrence” as with a carrier battle group (CVBG) and/or an Amphibious Task Force and “invisible deterrence” as with hunter killer submarines armed with torpedoes and Tomahawk missiles. Different scenarios may require either or both; but for deterrence to work it must be backed up by the ability to escalate into successful and immediate military action.

Military Action—The Requirement

Air Superiority and Airspace Denial

45. Rapid escalation into military action is where the CVBG becomes the vital asset for the projection of military power. The first step to be taken in any military confrontation is the establishment of “air superiority” and “airspace denial”. Without full local control of the combat area airspace, the safety and survival of naval or ground forces and logistic air resources is placed at considerable risk.

46. A CVBG must have the capability to:

- (a) Detect, attack and destroy the threat air defence infrastructure including air defence radar systems, surface-to-air missile sites and radar systems, etc.
- (b) Detect and destroy fighter and fighter attack aircraft and missiles that represent a threat to the task force (naval and ground forces).
- (c) Detect, Identify and destroy other weapons platforms whether land or sea-based that present a missile threat to the task force.

Sustained Operations

47. In the sustained operations, the CVBG must have the capability to:
- (a) Police the combat area airspace with continuous air patrols (24/7) in order to detect the ingress of threat platforms and destroy them.
 - (b) Provide any amphibious force with comprehensive (24/7) air defence, particularly during the approach and landing phase of operations.
 - (c) Conduct effective and overwhelming offensive air support strike missions against threat ground forces.

The Queen Elizabeth class Air Group

48. It is currently planned that the F-35 Lightning II should be procured as the single aircraft type for the Queen Elizabeth class air group. However, the F-35 will not have the specialised Growler capability and will not therefore be able to accomplish 47, a) & c), above.

49. With the probability of 24/7 operations in foul weather, the lack of a “buddy-buddy” refuelling version will be a severe operational limitation: restricting flying operations, particularly at night, and this will reduce the aircraft’s effectiveness at 47 and 48, above. If it can’t do all of paragraphs 46, 47 and 48, it is unlikely to be an effective deterrent as at paragraph 45.

50. The uncomfortable fact is that on its own, the F-35 can’t conduct all these tasks effectively without substantial additional expense.

Detect, Attack and Destroy Threat Air Defence Infrastructure

51. The single-seat F-35 Lightning II is expected to be a very competent air-to-air and air-to-ground weapons system but it cannot provide the defence suppression capability of the twin seat E/A-18G Super Growler.

Detect and Destroy Threat Fighter and Fighter Attack Aircraft and Missiles

52. The F-35 Lightning II will be perfectly capable of engaging and destroying threat fighter and fighter attack aircraft and missiles ingressing towards own forces. But it will still rely upon AEW for the detection of all threats and when it uses its air to air radar will forfeit some of its stealth qualities.

53. This places the aircraft on a par with the air-to-air capabilities of the F/A-18 Super Hornet.

Detect, Identify and Destroy other Weapons Platforms

54. The detection and identification of many other weapons platforms that pose a missile threat to the Expeditionary Force is arguably beyond the capability of the F-35 Lightning II. Such capability can be efficiently provided by the E/A-18G Super Growler and/or the E-2D Hawkeye AEW (the latter being well-known and applauded as a “mini AWACS”).

55. A full AEW capability is an essential part of an effective CVGB—it must not simply be dismissed. The savings to be realised from going the F/A-18F route would make procurement of the E-2D Hawkeye entirely feasible; and again a joint RN/RAF force could be procured which would provide for Land-Based AEW requirements as well.

Summary of F-35 Problems

The Health of the F-35 Lightning II Project

56. The F-35 Project continues to suffer from major delays, a large number of high-technology development problems and is high-risk.

The Expected Cost of this Project

57. Project costs continue to rise significantly.

58. The expected “Fly Away” procurement cost per aircraft has risen to at least US\$190 million—and it is still rising.

59. As given at Table 2, above, the projected total cost of this Project (for just 80 aircraft) is at least US\$46 billion (£28.75 billion).

60. The United States Department of Defense has already cut the size of its procurement program as have foreign customers. With each reduction in planned production, the unit cost of each aircraft rises.

61. The provision of a “buddy-buddy” air-to-air tanking system for this aircraft would cost the UK at least a further US\$1.6 billion. (That is enough cash to procure 27 of the F/A-18 Super Hornet aircraft.)

62. The long-term financial cost of the Autonomic Logistics Information System (ALIS) operated by Lockheed Martin **and the associated “loss of sovereignty”** concerning the operation of this aircraft is a matter of considerable concern.

Shortfalls in F-35 Capability

63. The serious shortfalls in the capability of the F-35 include:

- (a) Expected limitations in the aircraft’s stealth qualities.
- (b) No buddy-buddy capability for air to air refuelling. (Flight safety hazard).
- (c) The loss of the vertical landing capability of the f35b stovl aircraft. (Flight safety hazard).
- (d) The aircraft is single-seat and will not be able to provide the exceptional Defence Suppression, EW/ISTAR benefits of the E/A-18g super growler.
- (e) An expected incompatibility of the F-35C aircraft with the *Queen Elizabeth* class carrier for deck landing in “nil wind” conditions or “light airs”.
- (f) Being single-seat, the aircraft will not be suitable for the airborne control of Unmanned Carrier Air Vehicles (UCAVS). **This will prevent the UK from deploying a cost-effective strategic level of deep strike capability against those that would do us harm.**
- (g) If satellite services are interdicted for whatever reason, the aircraft’s ability to conduct precision deep strike missions may be severely degraded.

Operational Advantages of the F-35 Lightning II over the F/A-18 Super Hornet

64. **It is difficult to isolate any operational advantages that the F-35 has over the F/A-18 Super Hornet family of aircraft.**

The F/A-18 Super Hornet Option

The Health of this Program

65. The F/A-18 Super Hornet family of fighter aircraft has accumulated approximately one million hours of effective operation. It has been procured by several nations⁸³ and enjoys a worldwide network of efficient support. It being procured by the United States Navy in sufficient numbers to support active combat operations up until the year 2035.

The Cost of this Program

66. As given at Table2, above, the projected total cost of this project (for just 80 aircraft) is expected to be \$US12.9 BILLION (£8 BILLION). The procurement of the F/A-18 family of aircraft instead of the F-35 Lightning II would **save the taxpayer** and the defence budget some US\$32.9 BILLION (£20.56 BILLION).

Operational Advantages of the F/A-18 Super Hornet over the F-35 Lightning II

67. The advantages that the F/A-18 Super Hornet family of aircraft enjoys over the F-35 Lightning II (from a UK perspective) include:

- (i) **It is a combat proven** swing-role fighter that **enjoys the full confidence of its operators**, especially the United States Navy.
- (j) It provides embarked air-to-air tanking capabilities **at no extra cost**.
- (k) Its deck-landing approach speed is understood to be compatible with the *Queen Elizabeth* class carrier.
- (l) Its **E/A-18G Super Growler** variant provides its Carrier Battle Group with a sophisticated, state of the art, Defence Suppression/EW/ISTAR capability.
- (m) **Royal Navy are already gaining valuable operational experience** flying the Super Hornet from the decks of US carriers.
- (n) **It is available now** with an associated training aircraft (see paragraph 70, below).
- (o) **It will endow our new carriers with a full carrier strike capability.** (Allowing the embarkation of AEW aircraft.)

68. Operational disadvantages are not evident.

⁸³ Savings would accrue in maintenance, training and spares which are plentiful as variants of the aircraft are operated by the USN, USMC, Canada, Australia—who are buying a customised F/A-18F variant http://www.dsca.mil/pressreleases/36-b/2007/Australia_07-13.pdf, Spain, Finland, Kuwait, Malaysia and Switzerland.

Planned U.S. Navy Carrier Air Groups

69. For information, the planned configuration of future US Navy carrier air groups for 2020 is as follows:

- (a) 40–50 strike fighters (a combination of F/A-18C Hornets, F/A-18E single-seat Super Hornets and F/A-18F twin-seat Super Hornets, (with F-35C Lightning IIs* eventually replacing the F/A-18Cs)
- (b) 4–6 EA-18G Super Growlers replacing EA-6B Prowlers
- (c) 4–6 E-2D Advanced Hawkeyes
- (d) 2 C-2 Greyhound
- (e) 10 MH-60R Seahawks, including detachments on Strike Group escort ships
- (f) 12 Unmanned Combat Air Vehicles (UCAV).

* The U.S. Navy plan to operate F-35 alongside but not in place of the Super Hornet.

Training Aircraft

70. The T-45 Goshawk built by BAE and McDonnell Douglas⁸⁴ and based upon the Hawk is specifically designed for F/A-18 Super Hornet training including carrier deck qualifications and is built in the UK.

Conclusions

1. The F-35 Lightning II represents a high-risk, high-cost and only partial solution to the U.K.'s need for a Carrier Capable Strike/Air Defence Aircraft.

2. In the light of current fiscal constraint and the projected “black hole” within the UK defence budget, continued participation in the F-35 project would appear to be unwise when there is a low-risk and low-cost alternative available (the F/A-18 Super Hornet) that can satisfy the full operational requirement including Defence Suppression, AEW and Air to Air Refuelling.

3. The F/A-18 Super Hornet family of aircraft does more than cater for all JSF fast jet roles including those prescribed for Typhoon and provides for significant cash savings that will enable the procurement of the AEW aircraft essential to full maritime Strike Carrier operations.

4. From a military and fiscal point of view, the F-18 Super Hornet family of aircraft, together with the E-2D AEW aircraft, represents the logical choice for Britain's joint strike fighter/carrier air group needs. Continued investment in the F-35 (and the Typhoon) project is tantamount to “throwing good money after bad”.

Annex C

THE TRUTH ON THE NAVY CARRIER DEBACLE? INDUSTRY GOT AWAY WITH MURDER

Extracts from the article by *Lewis Page* | 6th February 2013

Sold “adaptable” ships which couldn't be adapted

ANALYSIS

(1) The Ministry of Defence is in the pillory again today, being corporately pelted for the recent unedifying sequence of events in which the Coalition government decided in 2010 to fit the Royal Navy's new aircraft carriers with catapults—and then abruptly changed its mind in 2012, reverting to the former plan which will see them able to carry jump-jets and helicopters only.

(2) The new thing today is the issue of a report by the Parliamentary Defence committee....

(3) ... The MPs of the committee also take time out in particular to lambast the ministry and the government over the carrier volte-face. They write:

The decision in 2010 to change to the carrier variant of the Joint Strike Fighter was the largest single procurement decision in the [strategic defence review of that year]. It is clear that the decision was rushed and based upon incomplete and inaccurate policy development ... We urge the MoD to learn the lessons of this closed, rushed and flawed decision of 2010.

(4) Regular readers will recall the basics of the story. The ability to add catapults and arrestor gear to the ships had been specified from the earliest stages of their design. The only difficulty in doing so was that the vessels have gas-turbine propulsion, not nuclear, in order to reduce costs. Gas propulsion cannot furnish the steam required by normal naval catapults. Cash-strapped Blighty also felt itself unable to cough up to develop new electric catapults, and so it was planned that at least to start with the ships would have no launch or recovery kit beyond a “ski-jump” ramp and would carry jumpjets and helicopters only.

⁸⁴ For further information on this program please go to:

<http://www.boeing.com/defense-space/military/t45/index.htm>

<http://www.defenseindustrydaily.com/us-carrier-pilots-t45-training-system-updated-03022/avhawk.html#m4>

<http://www.vectorsite.net/>

(5) But by 2010 the US had invented electric catapults to put on its next supercarrier, now nearing completion, and was happy to sell some to old Blighty. In perhaps the only good call in the entire 2010 defence review, the Prime Minister and the MoD team decided that they would purchase the US electromagnetic aircraft launch system (EMALS) and fit it to at least one of the British carriers.

(6) This would mean that the associated F-35 stealth fighter buy would need to change from the F-35B jumpjet version to the F-35C catapult type, and this change generally dominated the headlines. In particular, when the government later swerved back to the jumpjet plan, it was pointed out that the F-35C, not being as far along in test and development as the F-35B, would probably not reach the British fleet until 2023 or later—so extending the long wait for restored carrier air capability.

(7) But that was rather to miss the point. Britain having idiotically got rid of its small remaining fleet of Harrier jumpjets, the only aircraft which could possibly be obtained to fly from non-catapult ships would be the F-35B, as it is the only jumpjet now being made. It is also the most complex combat aircraft ever built, the first and only plane to combine stealth, supersonic speed and vertical thrust all in one. It is well known that, while it may arrive a little sooner than the F-35C, F-35B will be more expensive to buy and run and less capable in the air.

(8) In truth, both F-35 variants are likely to be so expensive that Britain will never be able to afford very many of them: certainly not enough to maintain a 40-strong air group with the fleet. If we only buy F-35s, our big new carriers will sail the seas largely empty, carrying 12 jets at most.

(9) But with a catapult ship, none of that matters as it would then be possible to use many other kinds of plane. In particular a big fleet of F-18 [Super] Hornets, as used today by the US Navy and many others, could be bought or leased very cheaply as large numbers of F-18s are already in service. The tricky question of fleet radar aircraft also becomes simple to solve once you have catapults: the Hawkeye pocket AWACS as used by the US and France becomes an option, as opposed to custom built—so, expensive—and not very capable whirlybird solutions.

(10) Once you had a catapult carrier, the case for F-18 (or perhaps Rafales from France) would be irresistible. The ships will be there for 50 years or more, visibly cruising around more than half empty, so sooner or later some administration would be bound to cave in and buy some nice, cheap, modern non-F35 jets to fill their empty decks—if this was possible.

(11) And as the F-18 (or Rafale) is better than any other plane now in British service for all likely missions (and perfectly good in the unlikely case of serious air-to-air combat against any plausible enemy), this would be an excellent thing all round. The carrier jet could perfectly well operate from land bases if required. The MoD might then reconsider the wisdom of keeping its current ruinously expensive-to-run and not very good Eurofighter (aka Typhoon) and Tornado fleets—certainly the aged, crappy Tornado and probably a lot of the Eurofighters too would be marked for the chop. The MoD would surely not bother expensively upgrading the Eurofighter for ground attack as it currently plans to, with the F-18 (already an excellent strike plane) on hand and a fistful of far more sophisticated F-35Cs for tricky jobs on the way.

(12) So the catapult decision was pretty much a no-brainer once EMALS appeared. The puzzler was why on Earth it later got rescinded, on the grounds that putting catapults into the ships was not going to cost £900 million—as the 2010 review had estimated—but actually £2 billion for the Prince of Wales and maybe £3 billion to the Queen Elizabeth. This would be to double the projected price of the two ships.

How is it “adaptable” if adapting it costs as much as buying a new one?

(13) This astonishing cost jump is what the MPs of the Defence Committee have been looking into. There was some foolish talk in the appendices to their report of “price-gouging by General Atomics”, the makers of the EMALS. Mr Bernard Gray, mandarin in charge of defence kit, was happy to let the MPs get the impression that General Atomics had done something bad and this had caused most or all of the price increase. He told them:

On the component parts that build up the change, the cost—in particular of the catapult system—proved, on further dialogue with the US, to be significantly higher. I cannot remember the exact figure for that component, but it was of the order of 50% higher than the original estimate for that piece of equipment.

(14) The original estimate was US\$200 million, so that would be an extra £130 million-odd. Mr Gray went on:

There was also a significant component of additional technical advice, which the contractors in the US were recommending was required. That was of the order of over £150 million.

(15) So now the cost is up by £280 million—just another £3,800 million or so of cost increase to account for. General Atomics tacked on still more, Mr Gray tells us:

Additional aircraft launch and recovery equipment was required, on top of the cats and traps, which had not been included in the original estimate. The cost of going through the FMS [Foreign Military Sales] purchasing route and some inflation adjustments were further components.

(16) This last simply can't have been a big deal, as the original US\$200 million was to include all this:

Electromagnetic Aircraft Launch System/Advanced Arresting Gear (EMALS/AAG). The EMALS long lead sub-assemblies include: Energy Storage System, Power Conditioning System, and Launch Control System. The AAG includes: Power Conditioning, Energy Absorption Subsystems, Shock Absorbers, and Drive Fairleads. Also proposed are other items for Aircraft Launch and Recovery Equipment, spare and repair parts, support equipment, personnel training and training equipment, publications and technical documentation, software support, U.S. Government and contractor engineering, technical, and logistics support services, and all other related elements of program support. The estimated cost is \$200 million.

(17) But Mr Gray sought very hard to suggest nonetheless that the four billion pounds plus in cost increases were down to General Atomics in some way. He went on, explaining why nobody in the MoD knew the price of the carriers had almost doubled until last year:

We did not get updated prices from General Atomics until February 2012 to start to plug into the total map ... there was a long debate going on through the back end of last year about what the appropriate price should be. It was not until we got numbers from General Atomics in February that we were in any kind of position to be clear about that.

(18) Minister Peter Luff was a bit more honest. He said:

I want to make it quite clear ... there was some increase in the cost of the equipment, but that is not actually the total picture of the cost. The cost is also a reflection of various other issues ... the cost of the conversion itself was the real issue ...

(19) In other words the huge bulk of the cost increase didn't come from General Atomics and EMALS. Instead it came from the British shipyards who would have to put the US equipment into the ships. Luff went on to explain that in fact the carriers had not been designed to accept catapults and arrester gear at all.

(20) **The fundamental misunderstanding that many of us had was that these carriers would be relatively easy to convert and had been designed for conversion and for adaptability. That is what we were told. It was not true. They were not.**

(21) Mr Arbuthnot, reasonably enough, asked:

Having been "designed for conversion", and conversion having proved far more expensive than we expected, do we have any comeback against those companies that did the design?

(22) Mr Gray answered:

Because the decision to go STOVL [that is the initial decision for jumpjets] was taken in, from memory, 2002, no serious work had been done. It had been noodled in 2005, but no serious work had been done on it. It was not a contract-quality offer; it was a simple assertion that that could be done, but nobody said, "It can be done at this price", and certainly nobody put that in a contract.

(23) This is a very strange position to take. The decision that was taken in 2002 was not to "go STOVL". It was to choose the design option then referred to by the government as the "adaptable CVF Delta design", with "adaptable" specifically to mean that catapults and arrester gear could be added to the ships—not just during construction, but afterwards. A STOVL [jumpjet] only, non-adaptable design was also considered, and the "adaptable" design cost a hell of a lot more. In 2002, Parliament was told:

The estimated cost based on a STOVL [only] design was around £2 billion ... The estimated procurement cost of the future aircraft carriers using the innovative, adaptable design is around £3 billion.

(24) The "innovative, adaptable" ships are now projected by the National Audit Office to cost £5.35 billion, so it's plain that around a third of that, some £1.8 billion, comes from them being "adaptable" rather than STOVL-only. Except that it turns out they aren't adaptable at all—fitting them with catapults and arrester gear would, apparently, cost as much as buying two entire new ships.

(25) That has to be a colossal contract violation by the builders: there's no way it can't be, provided the word "adaptable" is actually on the contract somewhere (this is a secret of course, like all MoD contracts). No matter what, the shipbuilders cannot realistically claim that the MoD didn't specify that it should be easy to put in catapults and arrester gear, and they cannot realistically claim that there is any adaptability at all in a ship which costs as much to adapt as it would to just buy a new ship. But the MoD just bends over and bites the pillow held out for it.

(26) This is not even to mention that the builders have a serious conflict of interest here, in that they stand to lose a lot of money if the Royal Navy gets catapult ships and Britain gets some F-18s or Rafales—as it more or less certainly would in the end, once we had mostly empty catapult ships sailing around (the Royal Navy even had pilots flying F-18s with the US Navy in preparation). But the carrier shipyards are mainly owned by BAE Systems plc, the US-centred but UK-headquartered multinational which also made and lucratively maintains the Eurofighter and the Tornado—the jets we would seldom bother using and in many cases might not bother even having, if we had some F-18s.

(27) This is all especially distressing, as Mr Bernard Gray is widely believed along Whitehall to be a defence procurement genius. A former Financial Times journalist and later a Labour defence “spad”—special adviser—he has now been brought in to the civil service proper and put in charge of defence kit specially to sort out the horrific mess of the MoD’s equipment programme and get some value for money for Britain’s cash-strapped forces.

(28) But it turns out he’s just as supine toward BAE, and just as keen to obscure that reality by slippery testimony, as all his predecessors.

Annex D

THE FRENCH ACCORD—CROSS-DECKING FIXED WING AIRCRAFT BETWEEN AIRCRAFT CARRIERS

[Dated November 2010—prior to the “F-35B STOVL reversal”.]

“We have no eternal allies and we have no perpetual enemies. Our interests are eternal and perpetual, and those interests it is our duty to follow.”

Lord Palmerston, House of Commons, 1848.

EXECUTIVE SUMMARY

(i) This paper briefly discusses the manner in which the new UK-France Defence Accord could be developed to provide cost savings in defence expenditure whilst retaining the necessary military capability that is required to satisfy national strategic objectives.

(ii) It then examines in detail the utility of cross decking carrier aircraft and/or Carrier Air Groups to French aircraft carriers.

(iii) It addresses the advantages to be gained from a short term/emergency cross decking capability (which are proven through experience and provide for a useful element of flight safety) and then looks at the considerations, limitations and implications of the longer term transfer of one nation’s Carrier Air Group to the deck of another nation’s aircraft carrier.

INTRODUCTION/DISCUSSION

1. The recent UK–France Defence Accord or the “*porte-avion entente cordiale*” would appear to be a useful step towards the closer integration and mutual support of European military assets. It appears to have been spawned by a desire to reduce national defence costs by sharing these assets.

2. This raises the important question of which assets can be reasonably shared without losing any overall national defence capability. As a vehicle for fiscal efficiency, the Accord should indeed prove advantageous in the longer term provided that operational considerations and global national interests are not forgotten.

3. Within the context of existing and planned UK military forces and national defence strategy, it will be important to define what roles can be shared efficiently and how this would affect our national military capability. It is therefore for consideration that the starting point for “sharing” should be an in-depth look at where our national defence imperatives are the same as those of the French. Having isolated these as the “areas for sharing”, a logical assessment of whether “sharing” will be operationally advantageous and cost-efficient can be made.

4. Arguably, there are three areas in which the sharing of responsibilities and assets could be realistically and cost effectively realised (this paper presents these for consideration but does not address them in detail):

AIR DEFENCE OF THE HOMELAND BASE

- Although there is no military air threat perceived against either the United Kingdom or France, each nation invests considerable sums of money and arguably a disproportionate share of national defence budgets in the procurement of land-based air defence fighters. A mutual reduction in the numbers of these fighters could be justified and achieved under the Accord with, for example, Britain concentrating its attention on the North and the North West approaches and France concentrating its attention on the West and the Southern approaches. A co-ordinated UK/French international military airspace would reduce the task of the individual air forces and merit a reduction in the overall number of fighters needed to satisfy the joint National need.

THE MAINTENANCE OF ADEQUATE LAND FORCES TO DETER ANY AGGRESSION AGAINST EUROPE

- The overall strength of both nations’ land forces could be refined particularly in those areas where mutual support would be advantageous from a cost and operational point of view.

THE POLICING OF THE WORLD’S MARITIME TRADE ROUTES

- Although each nation has differing offshore interests and responsibilities, the allocation of active or latent trouble points to individual navies would reduce the operational commitment and stretch of each Navy. For example, the French Navy could be allocated the piracy zone immediately to the east of Suez and the Royal Navy could be allocated the Far East and the South Atlantic.

5. National defence imperatives would suggest that the two nations have differing responsibilities and perceptions concerning offshore operations; such as defending overseas territories and essential food, fuel and material supplies. It is in these key areas that any thought of “sharing” must be carefully considered in relation to maintaining a full capability for independent action.

6. It is in the latter context that this paper addresses the suggested “sharing” of Carrier Battle Group assets through the medium of cross decking between each nation’s aircraft carriers.

ASSUMPTIONS

7. It is assumed that:

- British National Defence Strategy will not be driven by this agreement.
- British National Defence Procurement Strategy will not be driven by this agreement.

In either instance, that would be “putting the cart before the horse” and prejudicing our sovereignty.

8. Britain’s Defence Strategy will continue to include:

- The ability to conduct effective and independent Expeditionary Task Force Operations.
- The protection of our Sea Lines of Communication and Trade and our other offshore interests, notably our overseas territories.

9. For the purposes/intent of this paper, “Cross-decking” refers specifically to the operation of conventional take-off and landing manned fighter aircraft (although many of the issues discussed can be read across to other aircraft types, including helicopters).

GENERAL CONSIDERATIONS, LIMITATIONS AND IMPLICATIONS

10. The Royal Navy’s ability to conduct effectively national maritime strategy rests on being properly equipped with reliable ships and weapon systems to do the job demanded of it. Historically, our aircraft carrier/ naval aviation capability has been underfunded as a result of the strategies adopted during the Cold War. In spite of this and with limited assets, it has responded to the national need effectively and reliably whenever called upon to do so—as have the Royal Marines.

THE CHARLES DE GAULLE AND FRENCH NAVAL AIR POWER

11. If we are to continue operating effectively with limited resources, it will be necessary to be able to rely upon all elements of core naval forces; including naval air power. The in service history of the *Charles de Gaulle* aircraft carrier gives little confidence that it could be relied upon “when Britain needs it most”, ie when rapid deployment of visible British force is required.

12. In September 2007, it underwent a major 15 month overhaul including the refuelling of its nuclear power plant (a necessary step after six years in service). The ship required major modifications to allow operation and maintenance of the new Rafale F3 fighter and associated weapons and weapons systems. Shortly after completion of this refit, the carrier had to return to Toulon for in-depth repairs following technical problems. In October of this year, a four-month planned deployment was cut down to a single day when the ship suffered further technical problems (an electrical fault in its propulsion system). Beset with problems, it is not an aircraft carrier that can be safely relied upon to be available when we need it. The next planned prolonged absence from service of the carrier will be from 2015 until at least 2017. In the light of its record to date, it seems likely it may well be out of service for considerable periods between now and 2015.

13. One could be forgiven for assuming that, as France is not an island nation with total dependence upon the sea for its trade and economic prosperity, its carrier battle group capability does not benefit from any priority over other more close to home French defence assets.

14. This should be borne in mind when considering sharing Britain’s offshore responsibilities with the French Navy.

CROSS DECKING WITH THE FRENCH NAVY

15. There are two types of cross-decking to be considered:

- The short term/emergency contingency.
- Sustained operational embarkations/detachments.

SHORT TERM/EMERGENCY CROSS-DECKING

16. Within the modern NATO navies of the world, it is normal practice for a carrier of one nation to provide a “spare deck” for the aircraft of another nation’s carrier particularly when no land-based airfields are available for emergency use. This type of operation does not require any substantial support from the host carrier of the cross decking aircraft. However, for it to be possible at all, it does require:

- Common aircraft catapult configuration and arrestor gear compatibility.
- Common refuelling capability.
- Common aircraft start-up capability; including electrical supplies, etc.
- A common language for the safe direction and understanding of aircraft and personnel on the flight deck.

17. This practice represents a sensible flight safety capability—providing a diversion for airborne aircraft when their own deck cannot receive them. When the host carrier is ready to receive its aircraft back, the aircraft will return for a normal turnaround including refuelling, re-arming and scheduled/fault rectification maintenance.

18. The availability of this facility is extremely useful in the context of operating in conjunction with United States Navy carriers that maintain an almost continuous presence close to the various trouble spots around the world. The likelihood of a British carrier operating in conjunction with a French carrier is arguably remote⁸⁵ even under the terms of the Anglo-French agreement. Therefore, equipping our carrier air groups for the latter contingency rather than for operating with U.S. Navy carriers would be counter-productive.

SUSTAINED OPERATIONAL CROSS-DECKING EMBARKATIONS/DETACHMENTS

Relevant Experience to Date

19. For sustained operational cross decking embarkation/detachments, there are a multitude of considerations, limitations and implications to be addressed. This can be exemplified by recent experience within the Royal Navy when the Sea Harrier was withdrawn from service and our *Invincible* class carriers had to be modified/reconfigured to support properly a different type of Harrier, the GR7/9. This was an expensive procedure in spite of each aircraft being of the same generic VSTOL type. It is understood that the cost to the taxpayer for converting *Invincible* class carriers for Harrier GR7/9 use was in excess of £120 million.

20. Each aircraft had completely different weapon system and flight system (including navigation) configurations which meant that the engineering support spaces and equipments had to be significantly modified and re-equipped to cater for the new version of the aircraft. Ordnance supply and storage facilities also had to be re-assessed/modified.

21. *De facto*, such considerations and others (please see below) have prevented any sustained operational cross decking embarkations/detachments between NATO Navy carriers in the past and, for the most part, militate against their realisation in the future.

ATTEMPTING SUSTAINED EMBARKATIONS/DETACHMENTS

22. Further to the requirements for short-term/emergency cross decking given above, there are significant considerations, limitations and implications attached to sustained cross decking operations, particularly during active combat operations or during the graduated response build up to such operations.

THE NATIONAL INTEREST

23. The Royal Navy Fleet Weapon System is geared to worldwide rapid response to international situations/developments that might threaten any of Britain’s global interests. This Fleet Weapon System has been developed from decades of successful combat and peace-keeping experience and is made up of many inseparable and interdependent parts, all of which need full integration in order to be effective.

24. For years, we have heard of the “indivisibility of air power” which was the phrase used by the old Air Ministry to lend credence to the existence of the Royal Air Force (rather than the latter being subsumed by the Army and the Royal Navy). That phrase transfers directly to the fleet weapon system today—it too is generally “indivisible” although occasional departures can be accommodated. It behoves us now to understand more clearly “the indivisibility of sea power”.

25. The proposed embarkation of a British Carrier Air Group in a foreign naval vessel (such as the French carrier *Charles de Gaulle*) for sustained periods of time is a strictly political strategy that appears to pay little attention to the need for such a Group to be fully integrated into that foreign navy’s fleet weapon system in order to achieve full operational effectiveness (please see Logistic and Training section below). It also transfers sovereignty over that air group to the host nation. This immediately presents a significant conflict of interest

⁸⁵ If the plan is to share our Carrier Battle Group resources and only have one carrier available for operations from both nations, then short term cross decking does not apply. If we are to have fully independent Carrier Battle Group resources, then our diverse national interests will probably dictate operations in separate parts of the world.

that will come to the fore whenever the two participating nations have different views on the manner in which their Navy can or cannot commit to the resolution of an international incident.

26. Of the many different threat scenarios facing the UK, probably the most realistic would be a second Falklands conflict.⁸⁶ Arguably, the French or any other Navy might well withdraw its air group from a British carrier if the latter was dispatched in a task force to oppose an invasion of the Falklands by Argentina. In the same vein, a French carrier with a British air group on board would probably be withheld from supporting such an operation.

LOGISTICS AND TRAINING

27. The term, Logistics and Training, covers a myriad of topics/issues that are appropriate to this discussion.

28. Some of these are:

Engineering

29. Designated carriers would require a complete set of engineering workspaces, hangar and flight deck equipment tailored to the needs of the embarking aircraft. Each carrier would be required to hold on inventory a complete set of air stores for servicing the aircraft need: from electronic weapon system parts through to spare engines and associated jigs. A formal interface between each ship's Air Engineering Officers and the embarking Squadron Air Engineering Officers would need to be established and agreed. (Each set of air engineers is essential for the proper running of the carrier and the Squadron.) This is likely to be a complex and unrewarding exercise that would be particularly compounded by any language barrier and by differences in supervisory roles, standards and regulations. Achievement of operational efficiency in such circumstances would be prejudiced. Further, additional Royal Fleet Auxiliary support and capability may well be required at additional cost.

Ordnance

30. Designated carriers would need to embark and store the ordnance required by the embarking aircraft for its role-specific operations. Carriers usually have a defined air weapons storage capacity and this would be likely to limit the number of weapons to be embarked for use by the visiting air group. Further, more ordnance would have to be held in total inventory to satisfy the extra logistic need of possible cross decking—again at additional cost. A formal interface between each ship's Gunnery/Ordnance Department and the embarking Squadron/Air Group would need to be established and agreed. As with engineering, this is likely to be a complex and unrewarding exercise that would be particularly compounded by any language barrier and by differences in supervisory roles, standards and regulations. Achievement of operational efficiency in such circumstances would be prejudiced.

Security

31. Many of the UK's air weapons are highly classified. Advanced Air to Air Missiles have highly secret parts (example: radar systems, warhead, fusing, inertial navigation platforms etc). Most of our "smart" air-to-ground weapons are also highly secret (guidance sensors, crypto loads, warhead/fuse). Storing munitions like this on a foreign vessel poses problems that could be insurmountable. It requires the "store man" to understand what you can and cannot do with them, how they should be moved and so forth. Munitions do not always get stored in one completely made up unit; instead they are put together from highly sensitive and component parts when required for use. Despite being partners in Afghanistan with (for example) France, the Americans are unlikely to share technology with us if we leave that technology unattended on a foreign (or French) warship. Indeed, we might also have our own restrictions as would indeed the French. The French CAG may wish to bring with them their "first strike" nuclear and cruise missiles—the ASMP-A nuclear missiles and SCALP EG cruise missiles. It is more than likely that there will be political difficulties in making our carriers "nuclear capable" (and deciding who would have the final control of any suggested launch of a nuclear missile).

Language and Aircraft/Equipment Control Routines

32. Although French air traffic controllers are obliged to be able to communicate with all air traffic in English, this is not necessarily the case with naval Direction Officers and Approach Control Officers. Difficulties with understandable speech communication between a carrier and aircraft airborne on operations have the potential for disastrous mistakes and misunderstanding that could threaten the safety and survivability of all concerned: particularly when stress levels are very high eg by night and in bad weather during combat operations. The same is true for the congested operations that take place on the flight deck where poor communication can be directly related to "an accident waiting to happen".

⁸⁶ It would be politically and militarily naïve to ignore the possibility of posturing and even a second invasion in the South Atlantic. Like it or not, Britain has moral and legal obligations to protect the Islands and their British inhabitants. It should also be noted that the latent wealth of the Falkland Islands and our Antarctic overseas territories continues to increase—becoming a prize worth fighting for.

Security

33. Modern aircraft use classified mission planning computer hardware and software. Even if there was enough equipment available in our inventory to be left on a foreign vessel this would pose more security problems. Typhoon is not capable of landing on an aircraft carrier but presents an example of how secret their mission planning equipment is: it is Secret UKEO (UK Eyes Only), and on a need to know basis. In other words if you are British but not in the Typhoon force then you cannot have access to it. There are other secret and highly classified avionics systems on modern fighter aircraft such as GPS crypto loads, IFF and SIFF and other transponder codes, radars, secure radio crypto, etc. All of these must be safeguarded.

Flight safety, Search and Rescue and Ship-Borne Safety

34. The preservation of life and the prevention of loss or accident to expensive weapon systems (including aircraft) is of paramount importance and even more critical on-board a carrier than at a land base. Any form of language or procedural miscommunication mitigates against such flight safety considerations. There is also the question of commonality in equipment and training for search and rescue (recovering a ditched pilot from the sea) and the need for all the ship's company, including visiting air groups, to be fully familiar with the ship and its damage control routines.

Interdependency

35. Essentially, prolonged embarkations by a British Carrier Air Group in a French carrier will require a level of interdependence that goes beyond the established NATO procedures and protocols. For the Anglo-French agreement to work it would mean the effective merging of the British and French carriers into a single fighting force. This would prejudice national political and operational freedom of action.

Rules of Engagement (ROE)

36. Rules of Engagement for a military force conducting combat operations are the prerogative of the national government and different nations' governments have different views on such rules. Changing British rules to accommodate French government requirements would represent a clear abdication of responsibility and sovereignty. Nor would it be easy to find international agreement upon them.

The Nuclear Option

37. The French Rafale F3 carrier borne fighter aircraft is fitted "for and with" the ASMP-A nuclear missile. Part of the *Force de Frappe*, in French nuclear doctrine it is the last-resort "warning shot" prior to a full-scale employment of strategic nuclear weapons. Would Britain be content to allow a sustained embarkation of a French carrier air group with this weapon and its associated strategic/political implications? If not, this implies that such embarkations would be subject to differing national defence policies and aims. This leads to the question of what other restrictions might the French wish to place on the roles and intent of any British carrier air group embarked in their carrier. To all extents and purposes, this could result in the political will of the French government deciding where and how British military forces may be engaged in our national interest.

38. The list above is not comprehensive but highlights some of the difficulties and the expense that would be incurred with the prolonged embarkation of a British fixed wing carrier air group in a French carrier. In peacetime, these difficulties might be overcome at the cost of overall operational efficiency in the conduct of flying operations. In a combat situation, many of these difficulties would be politically and militarily unacceptable.

FURTHER CONSIDERATIONS

39. As an island nation that is for the most part totally dependent upon merchant ships and trade, Britain should and does have an entirely different national defence perspective to that of a continental nation such as France. The majority of our vital energy supplies are delivered by sea and any interruption in such supplies would be devastating to our economy. This is not the case for France where much reliance is placed upon nuclear energy and land lines of supply, such as natural gas from Russia.

40. Therefore, although Britain and France both have commitments within NATO and a desire for a stronger, more integrated European Union defence capability (with less reliance upon the United States), Britain's predominant global defence interests are clearly different from those of France and its continental neighbours. In order to secure these, our fleet weapon system and its integrated carrier battle groups must remain independent of the sovereign will of any other nation, including France. Our national defence focus should therefore be on the maritime sphere first and land-based assets second: this will ensure sufficient resources are available to avoid any disruptive and unworkable carrier sharing agreement with France.

41. If we are to link our integrated fleet weapon system and global maritime strategy to that of another nation, it would be prudent and sensible to choose a nation that actively pursues its global interests through a permanent and robust maritime presence: that is to say, the United States. The latter maintains a strategy of global maritime presence which is entirely in accord with Britain's need to protect its trade routes, its overseas territories and to support our allies and Commonwealth.

42. Procurement/lease of the F-18 Super Hornet for our new carriers would ensure a compatibility with the U.S. Navy that would prove of considerable benefit on a global basis to our perceived maritime strategy and that would make the sustained embarkation of a carrier air group a more practical and realistic proposition. Such a way ahead would prevent the need for any further investment in carrier workspaces, etc and would therefore be extremely cost-effective—not least because the F-18, at \$57 million per unit is markedly cheaper than any alternative.

POLITICAL WILL

43. What will determine the success or failure of the recent UK–France Defence Accord/*Porte-Avion Entente Cordiale* is the political will of the governments of Britain and France.

44. The agreement—and the political statements accompanying it—glossed over, to a certain extent, the issue of political will but political will could have massive implications for the success of the arrangement even if the training, logistics, and operational issues could be sorted by aviation specialists from both navies, which is doubtful. The problem is straight forward; what will be the political fallout if, once the carrier sharing is up and running, either Britain or France refuses to allow its share of the force to be used in support of an action that the other deems of vital national interest? Not only would such a decision have potentially terminal implications for the political future of the other government, but it would also prove to be a devastating blow to the morale and confidence of the joint UK/France carrier force.

45. Unfortunately, there is little that can be done to strengthen political trust between Britain and France; it is a commodity that is based as much on the personalities of senior politicians as it is on shared interests or a proven ability to make the sharing concept work operationally. Even if trust can be manufactured at a political level to the point where either country will guarantee to allow its naval aviation forces to be used as required by the other, a change of government could undo months, years or decades of work. The agreement will succeed therefore, not on the amount of trust Britain or France has in each other's governments, but whether they feel that they will be able to work with the next government, and the one after that. This is a truly massive undertaking.⁸⁷

SUMMARY

46. Short term/emergency cross decking is a useful and well-practised flight safety option for fighter aircraft conducting non-diversion flying operations at sea.

47. Sustained cross decking embarkations/detachments of a Carrier Air Group to another nation's carrier that does not have a commonality of equipment, spares, ordnance, language and operational routines has not been practised in the past because it can raise very significant problems in terms of:

- (a) Cost.
- (b) Sovereignty considerations and national defence priorities.
- (c) Engineering support.
- (d) Ordnance Supply.
- (e) Security implications for stores and avionics systems.
- (f) Language and Aircraft Control Routines.
- (g) Flight safety, Search and Rescue and Ship-Borne Safety.
- (h) Interdependency.
- (i) Rules of Engagement.
- (j) The Nuclear Option.

48. Sustained cross decking embarkations/detachments of a British or French fixed wing Carrier Air Group to another nation's carrier with a commonality of equipment, spares, ordnance, language and operational routines would be feasible if backed by sufficient political will to allow its operational use by the "host" nation.

CONCLUSION

49. Whilst the Anglo-French Accord represents a positive way ahead and may in principle pave the way for better Anglo-French relations in terms of broad defence policy within NATO and Europe, it is clear that the suggestion of sharing the use of each other's aircraft carriers for other than short-term/emergency cross decking procedures would be neither cost-effective nor operationally sound. It will not provide the same global operational capability that is available from independent Carrier Battle Groups. The national sovereignty associated with Britain's "political will" will be tainted.

March 2013

⁸⁷ When Tony Blair and Jacques Chirac last launched an Anglo-French defence initiative in St Malo in 1998 it came unstuck when France refused to back the invasion of Iraq.

Annex E

DEFENCE AND OVERSEAS POLICY COMMITTEE MEETING MINUTES OF 18 MAY 1982.
(ATTACHED)

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Copy No 15

OD(SA)(82) 37th Meeting

CABINET
DEFENCE AND OVERSEA POLICY COMMITTEE SUB-COMMITTEE
ON THE SOUTH ATLANTIC AND
THE FALKLAND ISLANDS
MINUTES of a Meeting held at
10 Downing Street On
TUESDAY 18 MAY 1982 at 9.30 am

PRESENT

The Rt Hon Margaret Thatcher MP Prime Minister

The Rt Hon William Whitelaw MP
Secretary of State for the
Home Department
The Rt Hon John Nott
Secretary of State for DefenceThe Rt Hon Francis Pym MP Secretary of State
for Foreign and Commonwealth AffairsThe Rt Hon Cecil Parkinson MP Chancellor of
the Duchy of Lancaster and Paymaster General

THE FOLLOWING WERE ALSO PRESENT

The Rt Hon Michael Havers QC MP
Attorney GeneralAdmiral of the Fleet
Sir Terence Lewin
Chief of the Defence StaffAdmiral Sir Henry Leach
Chief of Naval Staff
and First Sea LordGeneral Sir Edwin Bramall
Chief of the General StaffAir Chief Marshal Sir Michael Beetham Chief of
the Air StaffSir Antony Acland
Foreign and Commonwealth OfficeSir Michael Palliser
Cabinet Office

SECRETARIAT

Mr R L Wade-Gery
Mr R L L Facer
Brigadier J A C G Eyre

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1. MILITARY ISSUES

THE CHIEF OF THE DEFENCE STAFF briefed the Sub-Committee on the latest military situation.

THE PRIME MINISTER said that the Sub-Committee now faced a major political decision: whether to authorise the military repossession of the Falkland Islands, provided that this was militarily feasible and that no acceptable diplomatic settlement could be negotiated. The possibility of a peaceful settlement would be exhausted if Argentina had not accepted the final British proposals before the given deadline expired at 5 pm.

London time on 19 May. It was for the Chiefs of Staff to advise on military feasibility. At their military briefing before their meeting on 14 May the Sub-Committee had been informed of the Force Commander's plans for a landing and subsequent repossession. Under this plan the landing could take place on the night of

20/21 May—or as soon thereafter as weather and other local factors permitted—provided that it was authorised by the Sub-Committee at their present meeting. The Sub-Committee now needed to have the professional military advice of the Chiefs of Staff on whether repossession of the Falklands was militarily feasible and whether the Force Commander's plan was the best means of achieving it and had a good chance of success.

THE CHIEF OF THE DEFENCE STAFF said that the Chiefs of Staff had been providing the military options against which diplomatic efforts to obtain a negotiated settlement could continue. It now seemed that a satisfactory settlement could not be negotiated. The next option they recommended was a landing to repossess the Islands, in accordance with the Force Commander's plan. They supported his view that a long blockade was not viable and they therefore recommended that the landing should go ahead as soon as practicable. Once British forces were ashore they should press ahead in order to achieve either satisfactory conditions for a ceasefire and withdrawal or the surrender of the Argentine garrison. There were of course risks; from the Argentinian fleet, including submarines, and especially from air attack. Attrition of Argentine forces had been less than had been hoped, because they had stayed in or close to their bases. But the Chiefs of Staff and the Force Commander believed that the risks were militarily acceptable, as were the losses which could reasonably be expected; and that once ashore the landing force would have a very good chance of success. They were therefore seeking political authority to proceed with the landing. If this were given at the present meeting, the latest moment at which it could be countermanded would be the afternoon (London time) of 20 May. Unless the weather imposed delays, the landing forces would by then be inside the Total Exclusion Zone (TEZ); the ships involved would be heavily loaded for the landing, and if authority to proceed were suspended for any significant period at that stage they would need to withdraw and regroup.

THE CHIEF OF THE AIR STAFF said that, in the absence of a negotiated Argentine withdrawal, military force had to be used. The Force Commander was clear that it would be difficult to sustain a long blockade. Therefore the only option was a landing. His major concern about a landing arose from the Argentine Air Force not having so far committed themselves in any strength. They had suffered losses, but they had certainly not been neutralised. They still had significant numbers of Skyhawk, Super Etendard and Mirage aircraft. They had overcome the problem of locating British ships on the move, to the extent that they had sunk one such ship and almost sunk another. Once the landing began their task would be easier; British ships would be within range and in known positions. If they launched an all-out air effort, as their commander had now publicly threatened to do, full air defence of British forces could not be guaranteed; some aircraft were likely to get through and more British ships could be lost. Since British ships would be at their most vulnerable during the landing phase, the Force Commander would need to minimise exposure time by taking maximum advantage of night, when the threat from the air would be much smaller. Once the landing forces were ashore and dispersed they would be less vulnerable, because air attack against them would be much harder to mount. The Argentines would also have difficulty in providing their own forces with close air support. He was therefore confident that the landing forces would achieve success.

But pockets of resistance could make total repossession protracted; and in that case British forces could have problems of attrition both on land and in enforcing the TEZ to prevent Argentine resupply. The point of decision had now been reached. Delay would be possible, but only at the risk of further losses. Although more softening up time would be an advantage, the Force Commander on balance advised against waiting. Risks would be involved, as with any military option; but they were risks which had to be taken. He believed that the landing should be authorised now, and the final timing left to the Force Commander.

THE CHIEF OF NAVAL STAFF said that he supported the Chief of the Defence Staff's appreciation. British forces would face four threats. In ascending order of severity these were Argentine forces in the Islands; naval surface forces; submarines; and aircraft, both carrier-based and shore-based. He was confident that the first two threats could be neutralised effectively. The submarine threat was more elusive and the risk from it considerably greater. But British forces had extensive anti-submarine assets and in the light of the outline plan for their use he was confident of effective neutralisation of the submarine threat, albeit perhaps with some loss. Because air superiority had not yet really been established over the operating area (though this could change before the landing took place) some losses from air attack were likely. But in his judgement the level of this threat was an acceptable war risk, given the selected beach head, British anti-aircraft assets and their planned deployment, and sensible use of darkness. Two other factors were important. The longer British forces delayed the greater would be the attrition they suffered, not least from accidental causes. And if Britain hung back now, the erosion of her national standing, both in general and as regards negotiations in the present crisis, would be profound and long-term. He concluded that the advantages which Britain stood to gain outweighed the risks and likely losses involved and that the landing should proceed.

THE CHIEF OF THE GENERAL STAFF said that he associated himself with the Chief of the Defence Staff's comments. He believed that there was now no option but to mount a landing. The attrition of Argentine assets by air and other means was very important. Once this had been given full scope and allowed to take whatever toll it could, the sooner a landing took place the better. Given luck, which would certainly be needed, the operation to repossess the Islands could turn out to be a great success.

In that event, Britain's status in the world, the respect shown to her and the strength and credibility of her own deterrent strategy would be that much more enhanced for years to come. Ultimately, whatever happened, he believed that the British forces could win through. All the actions taken up to the present moment, from the sailing of the Task Force onwards, had been appropriate and correctly calculated. The final act of repossession

did, in his judgement, produce larger risks, particularly in respect of the air threat and in the initial stages (ie the landing and build up before troops were firmly established ashore), than would normally have been considered appropriate in an operation of the present sort. Air superiority was, after all, one of the modern principles of war; and it had not yet been achieved. But he believed that in the circumstances, in the absence of any alternatives, those risks would have to be taken and any resulting casualties to troops and ships accepted. Once the decision was taken he had every confidence that the Force Commander's plan, which reduced the risks to the minimum, would be pushed through by all ranks of the British Task Force with the greatest resolution, courage and skill. Once the troops were ashore, the risks would decrease markedly. At some stage it should be possible to use what was expected to become a formidable and secure presence ashore as a means of achieving British aims and getting a lasting settlement. He hoped that this could be done without necessarily involving either major bloodshed around Port Stanley or the permanent stationing of land and naval forces in what strategically he regarded as entirely the wrong part of the world.

THE ATTORNEY GENERAL said that, since British territory was involved, the military operations now contemplated were legally compatible with the self defence provisions of Article 51 of the United Nations Charter and with Security Council Resolution no. 502. This compatibility would also extend to operations elsewhere provided they were in response to a serious threat to British forces.

In discussion, all the members of the Sub-Committee expressed their support for going ahead with the landing and repossession operations under consideration, unless by the afternoon of 20 May it was clear that an acceptable diplomatic settlement was available.

In further discussion, the following points were made:

- (a) The air threat was a more dangerous factor than was generally realised. This would need to be made clear to the Cabinet.
- (b) Casualties were impossible to predict. British public opinion would be more concerned over loss of British life than over loss of ships or equipment.
- (c) Although the Chiefs of Staff hoped that the use of military force to complete repossession of the Islands might be avoided once a landing had been securely achieved, they were satisfied that such repossession would if necessary be militarily possible.
- (d) Once landing and repossession operations began, international and other pressures for a cease fire would become intense. The longer such operations took, the harder it would become to secure the objectives desired.
- (e) Because of the crucial military importance of confining knowledge of the proposed landing to the narrowest possible circle, it would be preferable not to inform the Cabinet before 20 May.
- (f) A Ministry of Defence broadcasting operation to the Argentine garrison in the Falklands, as proposed in OD(SA)(82) 50, was likely to be publicly disowned and criticised by the British Broadcasting Corporation. But it could have a valuable psychological effect on the garrison and could therefore save British lives.

THE PRIME MINISTER, summing up the discussion, said that the Sub-Committee were unanimous in authorising the landing and repossession operations envisaged in the plan put forward by the Force Commander and endorsed by the Chiefs of Staff. The operations should therefore proceed, unless the Sub-Committee took a specific decision to the contrary not later than on the afternoon of 20 May. It would be for the Force Commander to decide, in the light of local considerations, whether the landing should be made on the night of 20/21 May or later. The proposal for broadcasting to the Argentine garrison was approved.

The Sub-Committee:

- (1) Invited the Defence Secretary to authorise the Force Commander to proceed with the landing and repossession operations he had proposed, on the basis indicated by the Prime Minister in her summing up.
- (2) Invited the Defence Secretary to arrange for the implementation of the broadcasting proposal in OD(SA)(82) 50.

2. DIPLOMATIC ISSUES

The Sub-Committee had before them notes by the Secretaries (OD(SA)(82) 53 and 54) setting out the text of the draft interim agreement which the British Representative at the United Nations, Sir Antony Parsons, had on 17 May handed to the United Nations Secretary General, Senor Perez de Cuellar; telegrams nos. 765-6 and 768 from Sir Antony Parsons reporting on the situation at the United Nations; Luxembourg telegram no. 149 reporting on the Ministerial Meeting of the North Atlantic Council; and Foreign and Commonwealth Office telegram no. 56 to Luxembourg reporting on negotiations between Foreign Ministers of the European Community.

THE FOREIGN AND COMMONWEALTH SECRETARY said that Senor Perez de Cuellar's reaction to the British draft had been reasonably encouraging. He had also been given the British side letter spelling out the exclusion of South Georgia. Senor Perez de Cuellar had since seen the Argentine Deputy Foreign Minister; but it was not entirely clear that he had handed over the text of the British document, and this was being urgently

checked. In public, Senor Perez de Cuellar had not revealed the existence of either the document or the deadline; this was welcome.

There would need to be further consultation with him about how he would proceed once the deadline had passed. So far the Argentines had not submitted any document of their own. Meanwhile the United States Secretary of State, Mr Haig, had indicated privately in Luxembourg that he could not envisage the United States acting alone to verify or guarantee an agreement; that he would consider further whether joint action with other countries, such as Brazil, Peru or France, might be possible; and that he was confident Argentina would not invade again if an agreement had once been reached.

THE PRIME MINISTER, summing up the discussion, said that at their meeting that day the Cabinet would be shown the text of the British draft agreement; they would be told that Senor Perez de Cuellar expected Argentina's reply to it not later than 19 May. In response to an approach from the Leader of the Opposition she would suggest a Parliamentary debate on the crisis on 20 May; this would focus on the British draft agreement, which should be tabled in Parliament earlier that day. She and the Foreign and Commonwealth Secretary would be the principal speakers, and no answer would be given to questions about military operations. If the Argentines had not accepted the British document she would make clear to Parliament that the offer it contained had lapsed.

The Sub-Committee:

Took note.

Cabinet Office

18 May 1982

Written evidence from the National Security Adviser, Cabinet Office

NATIONAL SECURITY SECRETARIAL STAFFING AND CAPACITY

Numbers of staff disaggregated by grade

Below are the numbers of Full time Equivalent (FTE) staff in post in the National Security Secretariat (NSS) in the first quarter of 2013–14.

These figures represent total staff and include Cabinet Office staff, and staff from Other Government Departments on both paid and free loan into Cabinet Office (and, therefore differ slightly from the figures for headcount only, provided in March to the Joint Committee on the National Security Strategy).

<i>Grade</i>	<i>FTEs</i>
Senior Civil Service	20.1
Grades A—C	181.05
TOTAL	201.15

Numbers with a military background

Around a dozen members of staff in NSS are either currently serving, or have previously served, in HM Armed Forces. Many more, including several at the level of Director and Director General, have career history in MOD; more still have extensive experience working with the military to provide strategic and operational advice.

Numbers qualified to advise on strategy

The Civil Service places a strong emphasis on the development of strategic skills. In terms of leadership, those appointed to the Senior Civil Service (more than 20 staff in NSS are at SCS grades) must have a track record of creating evidence-based strategies.

Extent to which staff numbers will rise as 2015 approaches (in order to enable production of the 2015 National Security Strategy and SDSR).

As the precise requirements of the 2015 National Security Strategy and SDSR have not been established, it is not possible to indicate the extent of the potential rise in staff numbers. However, it is envisaged that any temporary rise in staff numbers will be resourced through departmental loans and the short-term redeployment of some existing team members.

Overall budget for NSS; the effect of 2013 Spending Review on this budget.

The overall budget for NSS is approximately £19 million in FY2013–14.

The budget settlement for NSS is subject to reductions of more than 33% across the 2010 Spending Review period. Cabinet Office budget allocations for further financial years have not been finalised.

Sir Kim Darroch KCMG

2 August 2013

Written evidence from Lord Hennessy of Nympsfield, FBA, Attlee Professor of Contemporary British History, Queen Mary, University Of London

“In the cycle in which we travel we can only see a fraction of the curve.”

John Buchan, 1940

WHERE THE CURVES HAVE DEPOSITED US

The UK belongs to more international organisations than any other country. We are party to 14,000 treaties of various kinds and magnitudes. We have been an avowed nuclear weapons state since 1952, the third (after the USA and Russia) to achieve that status. We are a permanent member of the United Nations Security Council. We are one of three states with global intelligence reach (the other two are the United States and Russia—with China coming up fast) thanks to the 1946 US-UK Communications Agreement. The UK possesses other special capabilities: for example, we are one of a small number of countries that is a top-of-the-range ‘submarine nation’, capable of building SSNs and SSBNs.

THE PROSPECTS FOR ASPIRATIONAL DISARMAMENT

Aspirational disarmament is particularly tough for a country that was a world superpower until 1918, a very considerable imperial power until 1947 and determined to remain a great power at least of the second rank thereafter with all the vicissitudes and stresses between capacities and resources that continuing appetite has induced since losing a third of our wealth between 1939 and 1945—hence the eleven post-War defence reviews beginning with the Harwood Review of 1949. Perhaps aspirational disarmament on a substantial scale is undesirable (in my view it is) but the reverse is a truly stretching prospect.

Now we are to have a regular drumbeat of quinquennial Strategic Defence and Security reviews and National Security Strategies overseen by a National Security Council (a 2010 innovation that has already the feel of a permanent fixture). It might be valuable for Government, Parliament and the public if the style, pitch and range of future SDSRs and NSSs were attuned to the hand that history has dealt us, current realities and future threats and possibilities facing our nation, embracing all the Departments, Ministries, Secret Services and the instruments of soft power that have an input into the NSC’s deliberations and processes. If such an approach were thought desirable, the House of Commons Defence Committee might like to apply half a dozen tests to not just the Ministry of Defence but the span of Departments, agencies and institutions whose thoughts and fears will flow into the making of the 2015 SDSR and NSS

THE SIX TESTS

1. The UK needs a long, deep, illusion-free look at its appetite to remain a significant player in the world given its size, wealth, population, economic and technical capacities. To declare as the Prime Minister and Deputy Prime Minister did in the Foreword to the 2010 NSS that “The National Security Council has reached a clear conclusion that Britain’s National Interest requires us to reject any notion of the shrinkage of our influence” will not do in 2015 as it was an example, in Carl Sagan’s phrase, of politicians confusing hopes and facts. The Committee would do the country a great service if it persuaded HMG in 2015 to open the NSS or the SDSR with a think-piece on what our country can expect to do and, equally important, not do, in pursuit of global influence and acting as a force for good in the world. Regular application of the Sagan test would also be highly beneficial. Crucial too is substantial effort to write these documents in such a way that the thoughts and analyses will resonate with Parliament and the public and to increase the chances that at least some passages will cling to the Velcro of collective memory.

2. To buttress the analysis of Test One, HMG should set out what it regards as the foreseeable permanent demands or musts of UK defence policy. My list would be: air defence of the UK; home defence of the UK; nuclear deterrent: security of the Eastern Atlantic; NATO commitments; plus the duties owed to the Falkland Islands and Gibraltar.

3. The sustenance of top-flight diplomatic, intelligence and security services and a leanly functional and effective Ministry of Defence with solid, candid, relationships between civil servants, the military and defence scientists producing an MoD that commands high levels of respect in No 10, the Cabinet Office and the Treasury. It might also be an advantage if the Committee looked at how the National Security Council has bedded in.

4. The effective fusion of hard and soft power in the shape of the BBC Overseas Service, the British Council and the universities.

5. The capacity of the Armed Forces when required to bring aid to the civil power and the civil ministries within the UK.

6. The sustenance of capabilities for unanticipated interventions, mainly abroad, but with a set of tough and realistic tests to distinguish between “musts” and “wouldn’t it be nice to’s”.

Suffusing Tests One to Six must be an historical awareness that the very best in previous governing and serving generations have pitted their grey cells against a range of intractables; that defence review settlements tend not to be funded adequately over the years that follow; they can be rapidly overtaken by events, threats and sometimes technologies. All these factors are good for the humility but not the serenity of those who have to conduct SDSRs and NSSs, who deserve sympathy as well as scrutiny.

June 2013

Written evidence from Commodore Steven Jermy RN

SUMMARY

Britain’s security attention continues to be on the Middle East and North Africa, and related terrorism at home. Whilst these areas should be a continuing focus for the Strategic Defence and Security Review in 2015 (SDSR-2015), political and economic events elsewhere in the world may indicate that there are matters of potentially greater long-term import afoot; in particular as a consequence of an extended period of global economic stagnation, increasing energy security concerns, and early signs of climate change impacts. It would be unwise to forecast trajectories in each area, and the consequences for Britain’s security. Nevertheless, it is plausible that parallel events in all three could develop in a way that would have deleterious consequences for international security in general, and Britain’s security in particular. It is thus important that SDSR-2015 analysis be supported by plausible scenario analysis so that the implications for the potential roles of our Armed Forces be thought through and, if necessary, rebalancing initiated.

BACKGROUND

1. I, Commodore Steven Jermy RN, am a retired naval officer with experience of operations and war, at sea, on land and in the air, and at the tactical, operational and strategic levels. After leaving the Royal Navy I published a book, *Strategy for Action: Using force wisely in the 21st Century*, that sets out a framework for strategic-thinking and practical strategy-making. I now work in the marine renewable energy sector, but am also an international strategy & security consultant and visiting lecturer with particular interests in developments in climate change, energy security and international economics, how all three intersect, and the consequences for international security.

2. The run up to the SDSR-2015 will see, amongst other things, Britain’s drawdown and extraction from Afghanistan, but it is important in the preparatory policy analysis that we are not seduced by recent operations—such as Afghanistan, Iraq and Libya—into thinking that they herald the shape of geopolitical things to come. The danger, otherwise, is that we will plan to fight the last war; and if British Armed Forces are, for example, configured for further extended counter insurgency operations, they may be ill-prepared for other scenarios of potentially greater import for Britain’s national security.

3. As such, SDSR-2015 offers a critical opportunity for the defence and security community—in Westminster, Whitehall and elsewhere in Britain—to raise its vision from immediate issues of international terrorism which, although roundly to be deplored, have had little substantive impact on Britain’s overall national security when compared to, say, World War II.

INTERNATIONAL TERRORISM

4. Whilst, as we have seen as recently as last month on the streets of Woolwich, international terrorism will be part of the strategic backdrop for Britain for the years ahead, with the drawdown from Afghanistan the likelihood of it being the central security issue will probably reduce, unless there is some new ill-judged commitment of British troops in the Lands of Islam.

5. Whilst it is sometimes difficult for us to acknowledge, the events in Woolwich—and elsewhere, for example in Syria and Algeria—are linked to the deployment of the British Armed Forces in Afghanistan, Iraq and Libya. This is not to condone the un-condonable actions in Woolwich, but rather to recognise the plain and simple fact that British operations in the Lands of Islam provide a political nexus for the extreme Islamists, and a fertile cause upon which to throw their radicalising seeds. And that Britain’s homeland security has suffered as a result of the Afghanistan, Iraq and Libya interventions.

6. This is not a new conclusion. Eliza Manningham Buller, Director General of MI5 from 2002 to 2007, observed in the Iraq Inquiry in 2010 that threats to Britain’s security had increased as a result of Britain’s

operations in Iraq. Indeed, the only confusing question is how the establishment has been unable to make this causal connection, and recognise that the idea of attempting to reduce terrorism at home through large scale military operations abroad is very often oxymoronic and can have the reverse effect to that intended.

7. Fortunately, with the planned extraction from Afghanistan—and assuming that Britain is able to do the right thing, and sit on its hands rather than act unintelligently in Syria—the extraction of British troops from the Middle East and North Africa should remove the high visibility nexus around which extreme Islamists have rallied their supporters, and thus slowly reduce the terrorist threat to mainland Britain. This is as well, because other strategic issues appear to be hovering over the strategic horizon.

CLIMATE CHANGE, ENERGY SECURITY & INTERNATIONAL ECONOMICS

Climate Change

8. Matters of climate change give cause for concern, and should certainly be on the analytic agenda for SDSR-2015—not least of all because our understanding of the climate is still at such a relatively early stage, scientifically, that it is very difficult to say quite how the climate will evolve. Increased climate volatility seems likely and, with it, the continuance of more extreme climate events. And the way that the Armed Forces are shaped should include some provision for this—including, in particular, at least some recovery of an all-year-round capability to provide disaster relief to Britain’s overseas territories. But equally, it seems likely that concerning consequences of events in the spheres of energy security and international economics seem more imminent, and should probably be a more urgent focus for SDSR-2015, and given a weight at least the same as, if not higher, than international terrorism.

Energy Security

9. Britain’s energy security is an increasing concern. Four years ago, in a seminal book—*Sustainable energy—without the hot air*—the current Chief Scientific Advisor to the Department of Energy and Climate Change demonstrated that a very significant reduction in Britain’s electrical generation capacity would occur between 2015 and 2016, as a “substantial number of old coal power stations and nuclear power stations will be closing down.”⁸⁸ Since this observation, although some restorative progress has been made, it is nevertheless difficult to find a compelling narrative in government that gives confidence that our energy needs will be fully met, post 2015. This matters because, of all the resources consumed by an industrial society, energy is, as the American energy commentator Chris Martenson has regularly observed,⁸⁹ the “master resource.”

10. The issue may be doubly pressing given developments in the oil-&-gas industry (generally not well understood) and given that oil is central to the functioning of Britain’s transport infrastructure and gas will be increasingly central to Britain’s power infrastructure (with the increased planned reliance on gas-fired power stations in our future electrical generation plans).

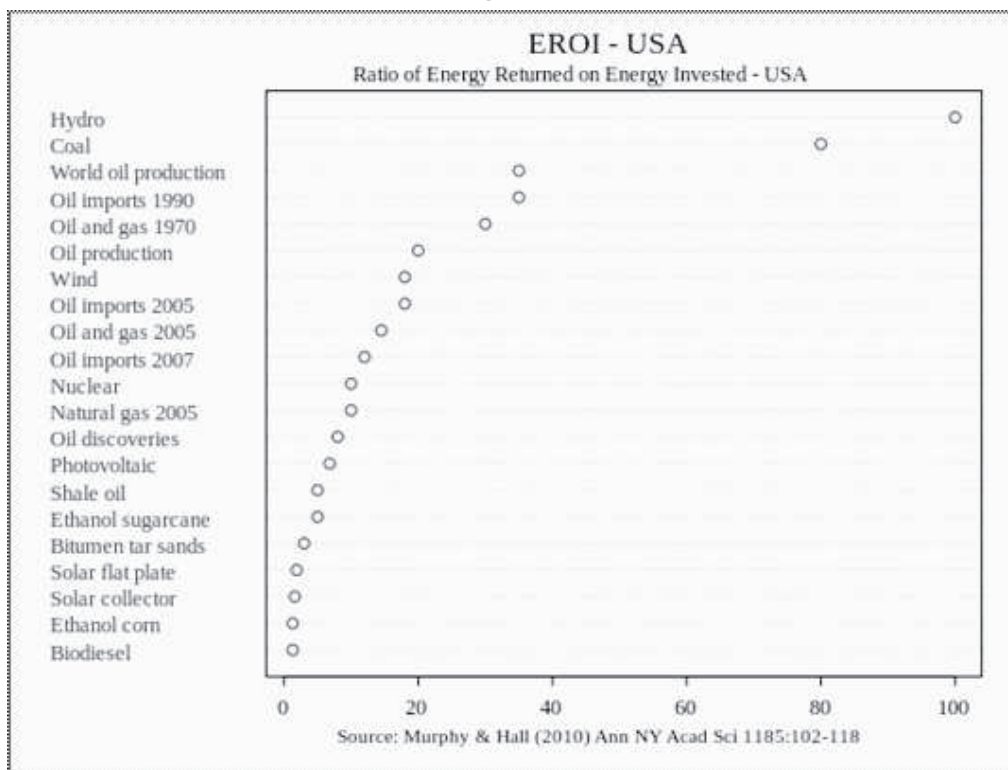
11. The fashionable view is that the so-called revolutions in shale oil and gas, and “fracking”, will solve our immediate energy problems. It is an enticing narrative but one that, when subject to scientific and technological analysis, appears to have worrying flaws.

12. These flaws are best exposed, following the approach of Professor Charles Hall at New York State University, with the idea of Energy Returned on Energy Invested (EROEI)—this is the measure of the amount of energy that must be expended to extract energy and, as the Professor Hall’s analysis shows (Figure 1 below), reveals statistics and trends that call into question the popular shales and fracking solution narrative. Of particular note:

- *conventional oil*—EROEIs have been reducing steadily over time since 1990, from figures of around 40:1 in the 1990s to around 12:1 in 2007. And this notwithstanding a very significant increase in the percentage of capital allocation of oil-&-gas companies in extraction capacity.
- *shale oil*—EROEIs are, at around 6:1, even lower than those of conventional oil. This is to be expected, though, given that the extractive mechanisms for shale—and indeed “fracking”—are akin to mining (rather than drilling) for oil.

⁸⁸ Mackay, D J C. *Sustainable energy—without the hot air*, London, 2009. p.5.

⁸⁹ Martenson, C, *Crash Course: the unsustainable future of our economy, energy and environment*. New Jersey, 2011.

Figure 1⁹⁰

13. The key deduction is straightforward—there may or may not be very large volumes of oil-&-gas to be extracted from, for example, shale sites, but it will not be cheap. Thus, whether or not *peak oil* has arrived, it seems clear that *peak cheap oil* has been and gone.

14. This should not surprise us, given the preference in our economic system to extract the easiest—and cheapest—sources first, and then turn to the harder—and more expensive—ones. This, indeed, is the underlying strategic context of the BP Horizon disaster—not so much a failure of health and safety, but rather a symptom of the technological challenges and risks of operations at water depths in excess of 1,500 metres, because the cheap wells are increasingly exhausted.

15. There may have been some current respite in oil-&-gas prices—although by no means enough to justify the tales of super-abundant reserves—but the EROEI seems to suggest that the respite may not be for long. Which will be a general concern internationally, given the centrality of oil to our national and international transport systems, and a particular concern nationally, given the “dash-for-gas.”

16. The end of cheap transport and heating energy will be difficult to confront, politically, especially for Western populations—including Britain—industrially weaned on cheap energy, and who assume—mistakenly—that there is some magic Government wand to be waved to make things better. But confront the possibility we must.

17. Indeed, if we judge that a future scenario of continually rising energy prices over, say, the next two to three decades passes the test of plausibility, then it must be the responsibility of the British political establishment—including politicians of all parties—to be ready to prepare the British people for steadily rising energy prices, at least out until 2050. And more immediately, to commission the future analyses that will be necessary to allow us to work through the strategic implications—national and international—so that the British Armed Forces can be configured to deal with any deduced national security threats.

International Economics

18. International economics—and in particular international debt levels—is the other imminent concern. It is the general policy of all three main parties (or all four, if UKIP is included) that the solution to Britain’s economic problems lie in a return to GDP growth, and main political differences are to do with how that return to growth is to be engineered. But even if growth were to be the panacea, two structural headwinds make its sustained achievement extremely problematic. The first is energy pricing. And the second is debt.

19. The interaction between energy, debt and GDP growth is poorly understood by the schools of conventional—neo-Keynesian—economics that dominate the training and thinking of policy makers in Britain’s

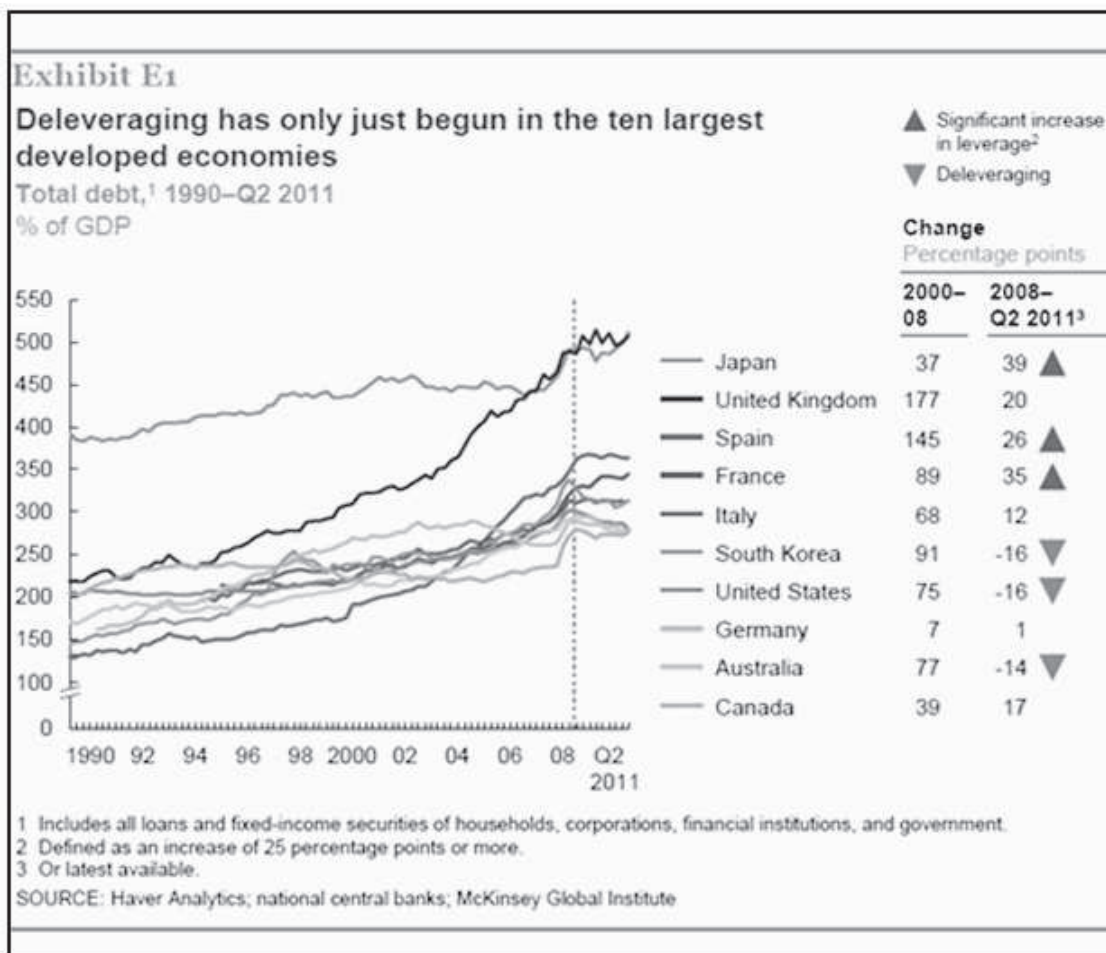
⁹⁰ The positive ratios for hydro and, to a lesser extent, wind demonstrate a much stronger case for renewable energy, based on this measure.

main economic policy institutions, notably the Bank of England and Her Majesty’s Treasury. Conventional economists generally assume that energy is an output of GDP—at least this is how they account for it in our national GDP statistics. Whereas Richard Ayres, the American physicist and economist, demonstrates unequivocally that it is instead an input to GDP and, with labour and capital, one of the three factors of production.⁹¹

20. This is important because of two obvious implications. First, our current and forecast GDP figures (which include energy production as an output factor) are likely to overstate our actual growth. Second, and more importantly, there will be an inverse relationship between future energy prices and future growth—if the energy prices do indeed continue upwards, as the EROEI analysis above already suggests, then our potential for economic growth will be continue downwards. Future energy prices are, thus, the first great headwind to growth—the second is debt.

21. British debt levels are generally understood to be high in political and intelligent circles, but few recognise that we are actually at levels without historical precedent. A McKinsey study in 2011 (Figure 2) gives a sense of the scale.

Figure 2



22. As the McKinsey nomenclature explains, the debts levels illustrated are not simply government as a proportion of GDP, but rather government, household, corporate and financial. And from this analysis Britain is, with Japan, the most indebted of the world’s 10 largest economies. The situation is, though, nuanced, given that a very significant proportion of Britain’s total debt—around a quarter—is with the City of London, as a result of its role as a financial centre. Whereas the lion’s share of Japan’s debt is government debt. But in any event, these debt levels are the second great headwind to growth.

23. Conventional neo-Keynesian economists appear to assume that debt is good, whether for consumption or investment and whatever the overall levels. Hence the continuing favourable government tax treatment for corporate debt and the Government’s strong push to get banks to lend, both to British businesses and to British households through schemes such as the Funding for Lending Scheme. All this notwithstanding the current unprecedentedly high levels of overall British debt.

⁹¹ Ayres, R U & Ayres, E H, *Crossing the energy divide—moving from fossil fuel dependence to a clean energy future.*, New Jersey, 2009.

24. And yet, as the brilliant Australian mathematician and economist, Professor Steve Keen, shows, high levels of debt actually have a perverse impact on GDP growth.⁹² This is because the maths shows that, during periods of necessary de-leveraging, the reduction in debt systemically and substantially reduces an economy's capacity to grow. Debt is, thus, the second great headwind to economic growth.

25. Furthermore, the period required to de-leverage from current levels of debt is much longer than is generally politically forecast or popularly accepted—to the end of the current decade on the McKinsey view—and into the late 2020s on the Keen view.

26. As we can see in Greece, Spain and Portugal, stagnation and contraction leads to increasingly unstable political situations, and It will be important to ensure that the analysis to support SDSR-2015 includes scenarios of both protracted economic stagnation and extended economic contraction, both of which appear plausible, and both of which should be properly rehearsed, so that the need or otherwise to rebalance the British Armed Forces can be addressed in SDSR-2015.

GROWTH

27. The possibility of continuing rises in energy prices and the challenges of long-term debt deleveraging should perhaps also lead us to consider whether there is something more fundamental afoot—and in particular to consider whether it is plausible that it is the philosophy of the pursuit of economic growth that is the underlying cause of the systemic problems international society appears to be encountering and whether this, in turn, may lead to scenarios altogether more problematic than those of protracted economic stagnation or extended economic contraction.

28. It is a fact of mathematics that mathematical growth cannot continue indefinitely—because geometric growth leads to infinity, sooner or later. And it is a fact of physics that physical growth cannot continue indefinitely—at least not on a finite planet, with finite carrying capacity limits. It thus seems plausible that, at some stage, economic growth will arrive at a limit imposed by mathematics or physics. And indeed this is the theoretical case made by the systems dynamicists, Donella and Daniel Meadows and Jorgen Randers, in their seminal text *Limits to Growth*.⁹³

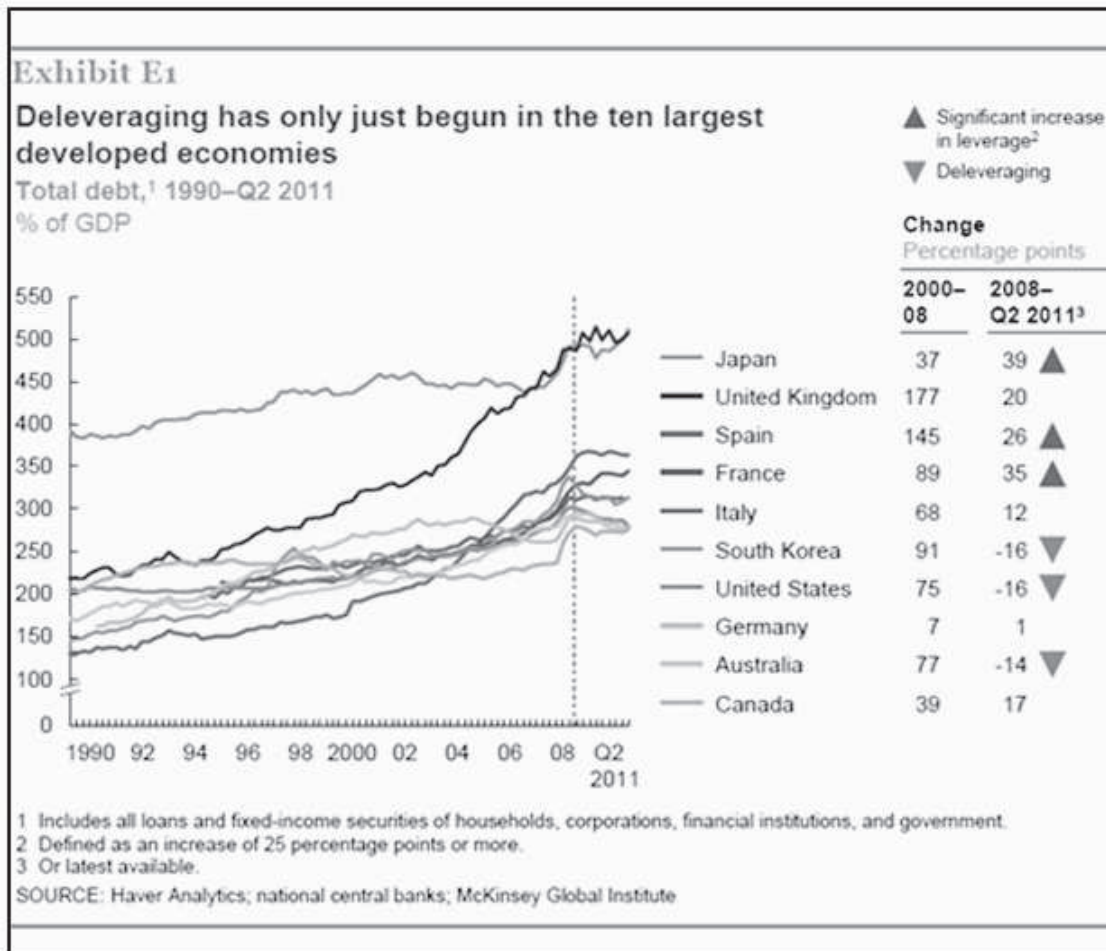
29. Published in 1972, the book documented a system-dynamics analysis of human society on a finite planet over time. As Figure 3 shows, the book predicted that, in a “business as usual” scenario—ie no significant changes in population trends, fossil fuel consumption or industrial production—that limits to growth in industrial output would be reached in the second decade of the 21st Century, during the 2013–17 period.

30. The industrial output limits are reached as the combination of increasing population and the pursuit of economic growth consume the finite energy and mineral resources of a finite planet. And the “business as usual” approach that they modelled is the one that international society has largely followed, in the 40 years since the book's first publication.

⁹² Keen, S, *Debunking Economics*, London, 2011.

⁹³ Meadows, D H Meadows, D L & Randers, J. *The Limits to Growth: A report to the Club of Rome's Project on the Predicament of Mankind*, London, 1972.

Figure 3



31. Their predicted output production peak in the period 2013–17 should thus perhaps cause us to ask the question of whether geo-political events playing out around us—for example, the financial crash of 2008, the Eurozone economic crisis, the Japanese debt crisis, the political chaos of the Arab Spring, and riots in capitals such as London, Stockholm and Istanbul—are not separate events but, plausibly, symptoms of a more deeply systemic problem, of a human society intent on the pursuit of economic growth finally coming up against the finite limits of its host planet’s carrying capacity.

32. In deciding whether we should consider such a scenario for the SDSR-2015 analysis, the test here for the defence planner is not that of the scenario’s *probability* but rather of its *plausibility* and the potential national security *impact*. If the *Limits of Growth* scenario of an industrial output peak in the 2013–17 period followed by a period of violent contraction passes the *plausibility* test, which as a strategic analyst I judge it does, then the question then is about national security *impact*.

33. This is difficult to judge in a short analysis such as here, but the steep decline in the industrial output trends after 2020 would suggest, at first glance, an impact of millennial consequences. Even if the output reductions were just half of those posited in *Limits to Growth*, this would still amount to a 50% fall in the world’s current industrial output levels. And it is difficult to see how a GDP contraction of this magnitude, over 30 or so years, together with the associated reductions in international employment, food and energy production, trade and wealth generation, could lead to anything else other than a period of extended international instability, associated international insecurity and chronic societal crisis.

34. In such circumstances, the Armed Forces could potentially have a central role in maintaining the security and stability of the British Isles and our Overseas Territories. Potential roles would include:

- *Military Aid to the Civil Power*—including disaster relief, crowd control, and security of our Exclusive Economic Zones offshore.
- *Resource Security*—security of our energy, food and commodity sources, including of the sea and land lines of communication along which they travel.
- *Containment of Conflict*—including border control and the maintenance of maritime and air exclusion zones.

- *Stabilisation Operations*—in a range of potential areas including, for example, the Mediterranean, North Africa and the Middle East.
- *National Evacuation Operations*—potentially world wide.

35. And it is also difficult but nevertheless important to observe that, historically, events during periods of economic contraction have very often led to war.

SDSR 2015

36. To return to the question of whether the issue areas above should be subjects for analysis in the preparation for SDSR-2015, the tests that Whitehall and Westminster in general, and HCDC in particular, must apply are those of *plausibility* and *impact* rather than *probability*. If the scenarios are deemed *plausible* and with serious national security *impacts*, then work must be commissioned to investigate them, no matter how politically unappetising this may be.

37. This is because if such events were to lead to the need to deploy the British Armed Forces for defensive reasons, or to pursue objectives critical to British security, then it would be unconscionable to do so unprepared, when the scenarios predicted had indeed been foreseen. Rather, the British Armed Forces should be given the best chances no matter how politically unattractive or popularly unwelcome the messages therein.

38. Defence and security are the fundamental responsibilities of government, and thus if the *plausibility* and *impact* tests are passed, there is surely a constitutional requirement to begin the analysis—on top of an overriding moral imperative.

CONCLUSION & NEXT STEPS

39. SDSR-2015 presents a strategic opportunity for raising our vision from Afghanistan, but the issues that are hoving into sight over the strategic horizon could present a political challenge of unprecedented nature for, and test of, Britain's political, official and military classes. But it is a challenge that must be faced.

40. How should this be approached? Strategically—rather than party politically—is the answer. We are not, as a nation, good at strategy—or not recently, in any event, if the failing situations in Afghanistan, Iraq and Libya are anything to go by. But we can do better, and do better we must, if the worry prospects of such scenarios are anything to go by. In *Strategy for Action*, I suggest that strategic thinking:

“... requires teams of clever, well-informed and operationally experienced people—the brightest and the best—with sufficient time and space to think. Teams that must not be rigidly constrained by decision making doctrine, processes and structures.”⁹⁴

41. Early analysis by such teams would be a sound way to begin the new thinking. It is a military truism that time spent in reconnaissance is rarely wasted, and time spent by dedicated teams to consider the issues above—including to review the plausibility and potential impacts of the scenarios above—would, in my judgment, not be wasted.

42. Furthermore, because of the potential impacts on national security, it should remain the case that the leadership and direction of the analysis be vested in the national security organs of government—with the Defence Committee in the House of Commons, and with the National Security Council in Whitehall. The capacity to think unthinkable thoughts may be needed, and the military-strategic mind is generally better suited than most, through operational experience, in this respect, and best able to confront difficult issues such as these, and provide the direct and honest analyses needed to inform political decision-making.

43. In the light of the above, I would recommend for the Defence Committee's consideration that:

- first, the Defence Committee retain the Select Committee lead in the House of Commons for the issue areas outlined above;
- second, the Defence Committee consider whether the sketch analysis that I have outlined here would merit, as I believe it should, further preparatory “reconnaissance” prior to the necessarily more detailed policy analysis that will no doubt begin in 2014, to underpin SDSR-2015;
- third, if such preparatory “reconnaissance” is deemed appropriate, then the Defence Committee consider whether, as I would recommend, there would be merit in two separate analytic tracks be undertaken, through the formation of two small *ad hoc* teams to conduct the preparatory “reconnaissance”:
 - the first team, official, drawn from and using the existing the existing analytic capacity and resources of Whitehall; and
 - the second team, wholly independent, drawn from the brightest and the best of Britain's independent academics, policy analysts, and military strategists,
- fourth, that both teams are sufficiently resourced so as to complete their reconnaissance by early 2014, so as that it can in turn inform the design of the policy analysis that will be conducted in 2014 to underpin SDSR-2015; and

⁹⁴ Jermy, S C, *Strategy for Action: Using force wisely in the 21st Century*, London, 2011. p.8.

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- fifth, that the inter-relationship between SDSR 2015 and the next revision of the National Security Strategy (NSS) also be thought through and that any early “reconnaissance” work be undertaken in such a way that informs the detailed policy analysis for both the NSS and SDSR 2015.

44. Finally, I should conclude by observing that this has not been the most enjoyable of analyses to think through nor write, and I am also acutely aware of the likely unwelcome political messages herein, for all parties. But I have written because, having been deployed on operations and war on more than one occasion, I know very well the advantages that accrue from the opportunity to conduct intelligently informed military preparation.

45. And it would thus be unconscionable for me not to set out what seem to be increasingly plausible scenarios with consequences for Britain’s national security of a millennial nature nor to confront the possibility that the British Armed Force might need to be prepared and made ready for the consequences therein. Politically unappetising though the messages may be, I am clear that, because of their constitutional responsibilities, politicians need to be made aware of these possibilities—and for, my own conscience, it is important that I am on the public record as having done so.

June 2013
