

## SECTION 14.1

### MILITARY EQUIPMENT (POST-CONFLICT)

#### Contents

Introduction .....	3
Background .....	3
The procurement process .....	3
Addressing equipment capability gaps .....	5
The need for an expeditionary capability .....	9
Preparing for the post-conflict phase .....	11
Improvement in the MOD's procurement process during Op TELIC .....	16
Protected mobility and the developing threat to UK troops .....	21
Initial deployment of Protected Patrol Vehicles (PPVs) in Iraq .....	21
Deploying PPVs to Iraq .....	25
The appearance of Explosively Formed Projectiles (EFPs) and the UK's response .....	32
Project DUCKBOARD evolves .....	36
The impact of the 2004 Spending Review on FRES .....	43
A "Type B" vehicle .....	45
The threat in mid-2004 .....	48
A PPV for Afghanistan .....	52
Response to the increase in the threat .....	61
The impact on wider civilian operations .....	72
Decisions on the wider protected mobility capability for the Army .....	76
Project Vector .....	85
The decision to procure additional vehicles for Iraq .....	88
The introduction of Mastiff .....	99
Changes to the arrangements for identifying and funding UORs .....	114
Protected mobility between late 2006 and mid-2009 .....	117
Introduction of a new process to determine the acceptable level of risk in operations .....	126
The requirement for an "urban" PPV .....	129
FRES as a distinct requirement .....	137
Call for a public inquiry into the use of Snatch .....	142
Snatch after Iraq .....	144

The impact of Afghanistan on the equipment available in Iraq .....	144
Existing capability gaps before 2006 .....	145
ISTAR .....	145
Support helicopters .....	158
The availability of ISTAR and support helicopters from 2006 onwards .....	168
The DOC's third report, 4 April 2006 .....	170
Re-aligning assets and understanding the shortfalls .....	175
Mr Browne's concern .....	182
The increasing threat of indirect fire attacks .....	189
Considering whether to deploy Reaper to Iraq .....	207
The drawdown of UK forces .....	208
The remaining levels of helicopter and ISTAR support in MND(SE) .....	213

## Introduction

### 1. This Section addresses:

- three examples of a significant capability gap during operations in Iraq: protected mobility, Intelligence, Surveillance, Target Acquisition and Reconnaissance (ISTAR) and support helicopters; and
- the impact that deploying a medium scale force to Afghanistan in 2006 had on the provision of military equipment to Iraq.

### 2. This Section does not address:

- the process by which equipment was funded, which is addressed in Section 13.1;
- MOD operational policy or the specific circumstances in which individuals lost their lives in Iraq; and
- the MOD's procedure for supporting those killed or injured in Iraq, which is addressed in Section 16.3.

**3.** The Ministry of Defence (MOD) has agreed to declassify a large amount of material for this Section but there were places where that was not possible for national security reasons. In those few cases, the Inquiry has agreed with the MOD either to redact the material or replace it with a cipher. Where ciphers appear, they will be explained in a footnote.

## Background

### The procurement process

**4.** The MOD's financial planning framework for its core budget comprised two distinct elements:

- The Short Term Plan (STP); and
- The Defence Programme.<sup>1</sup>

**5.** The STP forecast spending on operational costs. Those were predominantly the responsibilities of the Front Line Commands (FLCs). The STP looked forward four years. Significant investment programmes, where a four-year planning horizon was too short, would be considered in the Defence Programme.

**6.** The Defence Programme provided a 10 year budget to balance capital spend priorities across equipment procurement, equipment support and non-equipment investments.

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<sup>1</sup> Report Gray, October 2009, 'Review of Acquisition for the Secretary of State for Defence'.

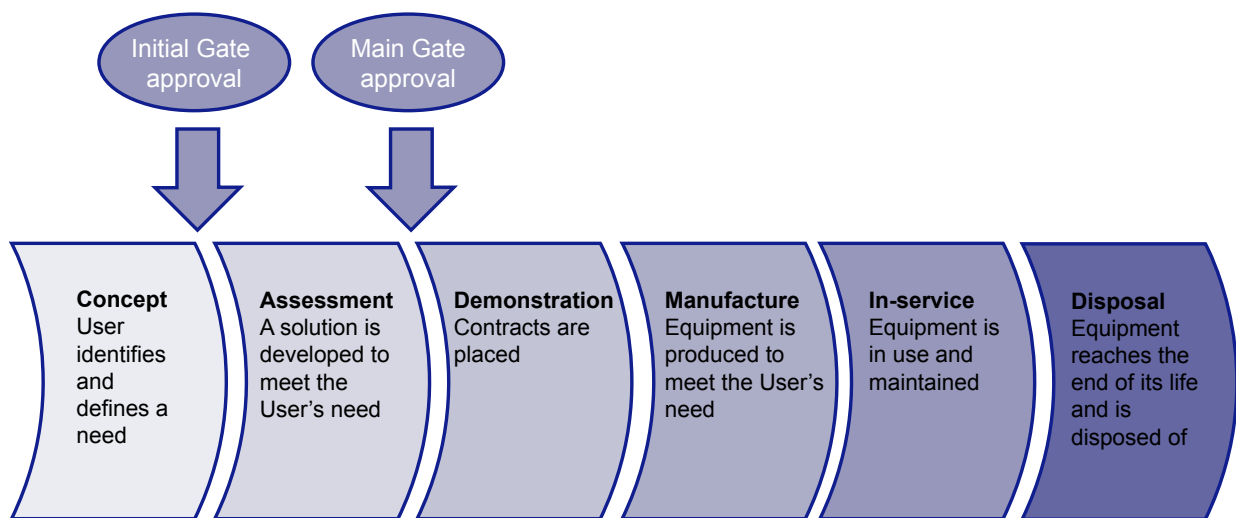
7. The Defence Programme comprised three strands:

- the procurement of new capability through the Equipment Procurement Plan (EPP) which looked forward 30 years;
- provision of equipment support through the Equipment Support Plan (ESP) which was planned over 10 years; and
- the Non-Equipment Investment Plan which planned for investment in non-military equipment, such as IT.

8. Collectively the EPP and the ESP were known as the Equipment Plan (EP).

9. Procuring equipment was achieved through the MOD's Smart Acquisition process, which was established in 1998 and sought to enable a high level of confidence that equipment projects would be delivered on time and within budget.<sup>2</sup> That process is illustrated in Figure 1.

Figure 1: The stages of equipment acquisition



10. Any projects exceeding £100m required explicit approval from the Investment Approvals Board (IAB) at two stages:

- **Initial Gate** – the approval for project initiation where the parameters for the Assessment Phase are set; and
- **Main Gate** – where the targets are set for the performance, time and cost of the Demonstration and Manufacture stages.<sup>3</sup>

<sup>2</sup> Ministry of Defence, *Acquisition Handbook Edition 4*, January 2002.

<sup>3</sup> National Audit Office, *Ministry of Defence: Major Projects Report 2001*, 23 November 2001, HC 330; Report Gray, October 2009, 'Review of Acquisition for the Secretary of State for Defence'.

## Addressing equipment capability gaps

### Three key requirements

When a capability gap in equipment is identified, there are three requirements that must be fulfilled to initiate the procurement process:

**Statement of Requirement (SOR):** A statement articulating a capability shortfall; it states what is required.

**Urgent Statement of User Requirement (USUR):** If the SOR cannot be met by an adjustment of existing assets, a USUR is raised which indicates that there is a capability gap that currently cannot be met. If the USUR is endorsed, it will be designated as either an Urgent Operational Requirement, or an Urgent Sustainability Requirement. It cannot be both.

**Urgent Operational Requirement (UOR):** A UOR seeks to address a capability gap by rapidly procuring new or additional equipment or the enhancement of, or essential modification to, existing equipment. That may involve bringing forward the planned procurement of equipment from the future Equipment Programme.

**Urgent Sustainability Requirement (USR):** A USR seeks to address a sustainability gap by rapidly acquiring additional in-service support.

**11.** During Operation TELIC in Iraq, Urgent Statements of User Requirements (USURs) for new equipment were forwarded to the Permanent Joint Headquarters (PJHQ) who retained ownership of the USUR until it was signed off. The head of PJHQ was the Chief of Joint Operations (CJO).

**12.** Each edition of the Op TELIC Directive, issued by the Chief of the Defence Staff (CDS) to the CJO, stated:

- **“Force Protection.** You are responsible to me for the force protection of all assigned UK personnel and materiel in your JOA [Joint Operational Area] in order to ensure their security from the threats of, WMD, espionage, sabotage, subversion, terrorism and crime ...”
- **“UORs [Urgent Operational Requirements] ...** You are to identify as soon as possible any further capability shortfalls and user requirements for the support of ongoing operations; these should be submitted to DCDS (EC) [Deputy Chief of Defence Staff (Equipment Capability)].”<sup>4</sup>

**13.** The responsibilities of the PJHQ and Front Line Commands (FLCs) for pursuing capability shortfalls through the UOR process were set out in a “Standing Instruction” issued in November 2004.<sup>5</sup>

<sup>4</sup> Letter CDS to CJO, 30 July 2003, ‘Chief of the Defence Staff Directive to the Joint Commander for Operation TELIC (Edition 3)’.

<sup>5</sup> [Minute Soar to UOR Stakeholder, 26 November 2004, ‘Urgent Operational/Sustainability Requirements – Standing Instruction \(Version 1\)’.](#)

14. To identify a new requirement the instruction stated:

“Once operations have commenced any subsequent shortfalls will usually be identified by in-theatre forces. Regardless of the phase of the operation, any capability shortfall is articulated through a Statement of Requirement (SOR).”

15. The instruction also stated:

“The SOR is reviewed by PJHQ/FLC/Jt Cmnd [Joint Command] Staffs who will then either close the gap through re-brigading of current assets or by raising an USUR [Urgent Statement of User Requirement]. The USUR is then staffed by PJHQ ... If endorsed, the USUR is passed to the ... Directorate of Equipment Capability (DEC) ...”

### Roles and responsibilities for addressing capability gaps

**Equipment Capability Customer (ECC)** was created by the 1998 *Strategic Defence Review* to bring together the teams specifying future military needs – known as the Directorates of Equipment Capability (DECs).<sup>6</sup> The ECC was headed by the Deputy Chief of Defence Staff (Equipment Capability) who reported to the Chief of Defence Staff (CDS) through the Vice Chief of Defence Staff.

The ECC was responsible for providing funded capability requirements to meet the current and future needs of the Armed Forces and ensure the equipment was delivered into service. The ECC was designated as “Customer One” in the process.

As well as the DECs, the ECC comprised:

- **Directorate of Capabilities, Resources and Scrutiny (DCRS)** providing internal scrutiny of programmes; and
- **Joint Capabilities Board (JCB)** to make balance of investment decisions across the Equipment Programme.

**Front Line Commands (FLCs)** were designated as the “User” of equipment and referred to as “Customer Two” in the process.

**PJHQ** assessed and reviewed requirements; SORs and USURs.

**Directorates of Equipment Capability (DECs)** were responsible for establishing a Capability Working Group to consider each USUR and, if required, for producing a business case seeking approval with advice from the Defence Procurement Agency (DPA) on the options and procurement strategy for meeting the requirement.

In 2003, equipment was provided and supported by two separate MOD organisations:

- **Defence Procurement Agency (DPA)** which procured the equipment for the Armed Forces; and
- **Defence Logistics Organisation (DLO)** which was responsible for providing and directing logistics support for in-service equipment.

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<sup>6</sup> Report Gray, October 2009, ‘Review of Acquisition for the Secretary of State for Defence’.

Within the DPA and the DLO were a number of **Integrated Project Teams (IPTs)** focused on delivering individual projects and programmes as directed by the DECs. The IPT was responsible for the equipment throughout its life.

The DPA and the DLO merged to form the **Defence Equipment and Support Agency (DE&S)** in April 2007.<sup>7</sup> The Head of the DE&S was the **Chief of Defence Materiel**.

**16.** A process diagram attached to the November 2004 Standing Instruction indicated that PJHQ had the lead responsibility for identification of a requirement, working with the Directorate of Equipment Capability (DEC), the FLCs and the relevant Integrated Project Team (IPT) in the Defence Procurement Agency (DPA) or Defence Logistics Organisation (DLO).

**17.** The instruction included an annex with a list of “UOR key stakeholders” and their roles and responsibilities.

**18.** The list began with the responsibilities of “Force Elements”: the deployed units reporting to the in-theatre commander, which was the General Officer Commanding Multi-National Division (South-East) (GOC MND(SE)) during Op TELIC. The annex said that the Force Elements were responsible for raising SORs, along with any training and integration.

**19.** The role and responsibilities of FLCs included:

- “Conducts routine audits to identify potential USURs as part of the Equipment Capability Shortfall Register.”
- “USUR originator.”

**20.** The role and responsibilities of PJHQ included:

- “Reviews/endorsees USURs and submits to DEC.”
- “Agrees solutions to capability gaps proposed by DECs.”

**21.** In response to a request from the Inquiry in 2011, the MOD provided further evidence on how the UOR process functioned in Iraq.<sup>8</sup> The MOD stated:

- “The fundamental elements of the UOR process remained broadly the same throughout operations in Iraq.”
- Staff deployed in Iraq, and (in the build-up to the operation) staff in FLCs, were responsible for identifying capability gaps “which could not be met by existing holdings”.

<sup>7</sup> Report Gray, October 2009, ‘Review of Acquisition for the Secretary of State for Defence’.

<sup>8</sup> Paper [MOD], 8 June 2011, ‘How the UOR Process Functioned During the Campaign in Iraq’.

- USURs were submitted to PJHQ for authorisation.
- In addition: “Staff in PJHQ could (and did) raise USURs themselves if they became of [sic] aware capability gaps.”

**22.** The Inquiry submitted a further request to the MOD in 2015, seeking clarification on where the primary responsibility for identifying capability gaps lay during Op TELIC.

**23.** The MOD said that a draft USUR “would be originated by any user” and that “there appears to be no simple answer to the question where the primary responsibility for identifying capability gaps and raising USURs lay”.<sup>9</sup> The MOD added:

“Clearly the emphasis in the process was on the co-operation of the various commands and branches involved. But it appears that the onus for initial identification of requirements, at least once a campaign was in progress, lay with the theatre commander [GOC MND(SE)], while the responsibility for signing them off lay with PJHQ. Between those two stages the process of analysing the requirement and developing the solution was essentially a shared one.”

**24.** *The Acquisition Handbook* in 2002 defined the role of Single Service Chiefs of Staff as to:

“... provide overall strategic management of the individual services and their professional direction. This role supports ECC decisions on capability by providing advice and experience on the full range of factors contributing to military capability, including: concepts and doctrine, in-service equipment, sustainability, training, force structure, decision support and personnel. Single Service Chiefs are responsible for ensuring that the JCB [Joint Capabilities Board] and Capability Working Groups receive appropriate input on such matters to develop future capability.”<sup>10</sup>

**25.** The Inquiry asked General Sir John Reith, CJO from August 2001 to May 2004, whether he had submitted any UORs while planning for the invasion of Iraq.<sup>11</sup> He replied:

“I didn’t submit UORs. The Single Services submit the UORs, because ... they are required to deliver to the Chief of Joint Operations fully trained and equipped people. What I did was; we screened the UORs to ensure that they were necessary before the MOD approved them.”

**26.** For the Commander in Chief Land Command, that included providing advice to the CJO on capability requirements for units deployed on operations.

**27.** General Sir Richard Dannatt, Commander in Chief Land Command from March 2005 to August 2006, told the Inquiry that, as “the second senior member of the Army”, the Commander in Chief Land Command had “an important role to play on the Army

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<sup>9</sup> Letter Duke-Evans to Aldred, 26 June 2015, ‘Procuring Military Equipment’.

<sup>10</sup> Ministry of Defence, *Acquisition Handbook Edition 4*, January 2002.

<sup>11</sup> Private hearing, 15 January 2010, pages 28-29.



Board”. He had a role in influencing the Chief of the General Staff, but his primary role was to ensure “whatever troops are required ... are made available, that the units are properly trained, manned and equipped to the greatest degree possible, and that’s his primary responsibility”.<sup>12</sup>

**28.** The USUR process only applied to new capability requirements. Where in-service support was needed to sustain existing equipment, an Urgent Sustainability Requirement (USR) was raised.

**29.** The Standing Instruction issued on 26 November 2004 stated that the Urgent Sustainability Requirement (USR) process was operated in parallel to the UOR process but by the DLO.<sup>13</sup> This was “to deliver urgently required stocks and spares to meet operational sustainability requirements”. The “key points” about the process included:

- USRs followed “a similar staffing process as UORs”.
- DLO procured, tracked and accounted for USR expenditure.
- There was no formal review because DEC, IPT and industry support was already in place for the required equipment.

### The need for an expeditionary capability

**30.** The 1998 *Strategic Defence Review* (SDR) set out the UK’s defence requirements in the period up to 2015.<sup>14</sup>

**31.** The importance of the SDR assumptions for equipment available to the forces deployed for the invasion of Iraq is addressed in Section 6.3.

**32.** The SDR explained that, “in the post Cold War world”, there was a greater need for the Armed Forces to build an expeditionary capability because “we must be prepared to go to the crisis, rather than have the crisis come to us”.

**33.** A supporting essay to the SDR listed the future military capabilities it considered “increasingly important”, including:

- command, control, communications and computers, and Intelligence, Surveillance, Target Acquisition and Reconnaissance (ISTAR); and
- “the trend towards force projections operations, for which we may need to deploy very rapidly in order to be successful, places an increasing premium on transport or lift capabilities”.<sup>15</sup>

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<sup>12</sup> Public hearing, 28 July 2010, pages 10-11.

<sup>13</sup> [Minute Soar to UOR Stakeholder, 26 November 2004, ‘Urgent Operational/Sustainability Requirements – Standing Instruction \(Version 1\)’](#).

<sup>14</sup> Ministry of Defence, *The Strategic Defence Review*, July 1998.

<sup>15</sup> Ministry of Defence, *The Strategic Defence Review: Supporting Essays*, July 1998.

**34.** One of the outcomes of the Review was the creation of the Joint Helicopter Command (JHC). The JHC brought the Royal Navy's commando helicopters, the Army's attack and light utility helicopters, and the RAF's support helicopters under a single command, and was responsible for the peacetime management of the entire battlefield helicopter fleet, and for generating the required battlefield helicopter force package for operations.<sup>16</sup>

**35.** The SDR also provided some detail on the equipment required to support the new type of expeditionary operations that it envisaged. Those included:

- new strategic lift assets, both C17 heavy-lift aircraft and Roll-on Roll-off shipping;
- a new helicopter carrier;
- attack helicopters;
- additional support helicopters;
- an increase in the provision of ISTAR assets including Unmanned Aerial Vehicles (UAVs);
- a modernised air transport fleet; and
- the creation of two Joint Force Logistic Component Headquarters.

**36.** The SDR acknowledged that "major equipments take years to develop". While it identified no definitive timescales for its proposed changes, the MOD did publish a series of targets in December 1998 as part of their Public Service Agreement 1999-2002.<sup>17</sup> Those included establishing the Full Joint Rapid Reaction Forces Capability by October 2001 and the Joint Helicopter Command by April 2000.

**37.** The SDR emphasised the importance of investment in ISTAR assets "not only to maintain a qualitative edge in combat but to facilitate the often rapid-decision-making needed in complex political circumstances".<sup>18</sup>

**38.** The SDR stated that a range of advanced systems were planned or already entering service, including the airborne ground surveillance radar, Astor and a battlefield unmanned target acquisition vehicle, Phoenix.

**39.** In July 2002, the MOD published *The Strategic Defence Review: A New Chapter* – an update on the SDR's progress and a consideration of the "UK's defence posture and plans" in light of the 9/11 attacks.<sup>19</sup>

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<sup>16</sup> Ministry of Defence, *The Strategic Defence Review*, July 1998.

<sup>17</sup> *Public Services for the Future: Modernisation, Reform, Accountability*, December 1998, Cm 4181.

<sup>18</sup> Ministry of Defence, *The Strategic Defence Review*, July 1998.

<sup>19</sup> Ministry of Defence, *The Strategic Defence Review: A New Chapter*, July 2002.

**40.** On the Armed Forces' ability to conduct multiple, simultaneous operations, the MOD wrote:

“The capability of our forces is strained not just by the scale of operations, but by the number of simultaneous or near-simultaneous operations. Since the SDR we have assumed that we should plan to be able to undertake either a single major operation (of a similar scale and duration to our contribution to the Gulf War in 1990-91), or undertake a more extended overseas deployment on a lesser scale (as in the mid-1990s in Bosnia), while retaining the ability to mount a second substantial deployment – which might involve a combat brigade and appropriate naval and air forces – if this were made necessary by a second crisis. We would not, however, expect both deployments to involve war-fighting or to maintain them simultaneously for longer than 6 months.”

**41.** The MOD had “analysed a set of plausible and realistic scenarios” to assess the demands potentially faced by the UK overseas. That work had taken account of lessons learned from operations, including in Afghanistan. The MOD recognised that the particular scenarios it had envisaged may not be “replicated precisely in real life”, but they did allow the MOD to “draw general conclusions about the capabilities that may be particularly important”.

**42.** In assessing capabilities for operations abroad, the MOD concluded that the SDR was “generally taking our Armed Forces in the right direction, but reinforced the growing importance” already attached to “network-centric capability”. That concept had “emerged substantially in the 1991 Gulf Conflict” and “demonstrated how precision weapons and shared information technologies could be linked together to produce devastating military effects with unparalleled speed and accuracy”.

**43.** Network-centric capability had three elements:

- sensors (to gather information);
- a network (to fuse, communicate and exploit the information); and
- strike assets to deliver military effect.

**44.** The MOD stated that it had already invested in a range of sensors, including airborne stand-off surveillance such as Nimrod MRA4, battlefield UAVs and communications (including BOWMAN).

### **Preparing for the post-conflict phase**

**45.** The planning and procurement of equipment for the post-conflict phase (Phase IV) was constrained by the lack of an agreed concept of operations (CONOPS).

**46.** Wider planning for the post-conflict phase is addressed in Section 6.5.

**47.** The funding arrangements for the procurement of equipment are addressed in Section 13.1.

**48.** From 21 January 2003, Lord Bach, Parliamentary Under Secretary of State and Minister for Defence Procurement, was asked by Mr Geoff Hoon, the Defence Secretary, to take temporary responsibility for the progression of UORs. Lord Bach's role, and the weekly meetings he chaired with senior officials to consider progress, is addressed more extensively in Section 6.3.

**49.** On 7 February, Air Marshal Sir Jock Stirrup, Deputy Chief of the Defence Staff (Equipment Capability) (DCDS(EC)) from April 2002 to May 2003, advised Lord Bach that an agreement in principle had been reached with the Treasury to continue funding "small scale UORs" for operations following the combat phase:

"We are starting to identify potential UORs for aftermath operations but will need a robust concept of operations if we are to secure Treasury agreement to fund such measures. Initial plans are being developed by PJHQ and are being taken forward by DCDS(C) staff, but must be seen in light of US plans and the wider Government context for which the FCO has the lead."<sup>20</sup>

**50.** In an update to Lord Bach on 28 February, Rear Admiral Charles Style, Capability Manager (Strategic Deployment), wrote that the MOD continued to "identify, prioritise and refine potential UORs" for Phase IV.<sup>21</sup>

**51.** RAdm Style wrote key enhancements that were "likely to be required" included:

- force protection against the asymmetric threat, particularly for elements of the air transport fleet; and
- long-term infrastructure enhancements.

**52.** On 14 March, RAdm Style reported to Lord Bach that the Treasury had accepted in principle that some additional resources from the Reserve<sup>22</sup> would be needed for Phase IV UORs.<sup>23</sup>

**53.** RAdm Style wrote that work was continuing to clarify and better define UOR requirements for Phase IV: 26 had been identified as high priority "regardless of the CONOPS" and a further 84 possible UORs had been identified by Front Line Commands but would remain "below the line" until the CONOPS had been developed further.

**54.** On 21 March, AM Stirrup reported to Lord Bach that PJHQ had endorsed USURs for 10 high-priority UORs for Phase IV, including maritime communications, aircraft protection and Explosive Ordnance Disposal (EOD) capabilities.<sup>24</sup>

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<sup>20</sup> Minute DCDS(EC) to PS/Minister(DP), 7 February 2003, 'Iraq: Op TELIC UORs'.

<sup>21</sup> Minute CM(SD) to PS/Min(DP), 28 February 2003, 'Iraq: Op TELIC UORs'.

<sup>22</sup> The Reserve is a fund held by the Treasury intended for genuinely unforeseen contingencies which departments cannot manage from their own resources and was used to pay for the net additional costs of military operations (NACMO). The process behind that is explained in Section 13.1.

<sup>23</sup> Minute CM(SD) to PS/Minister(DP), 14 March 2003, 'Iraq: Op TELIC UORs'.

<sup>24</sup> Minute DCDS(EC) to PS/Minister(DP), 21 March 2003, 'Iraq: Op TELIC UORs'.

**55.** The full list of UORs, including 48 measures deemed to be “below the line”, was awaiting confirmation of the CONOPS, which would be submitted to the Chiefs of Staff the following week.

**56.** AM Stirrup provided an update to the Chiefs of Staff on 28 March.<sup>25</sup> He asked the Chiefs to note that 65 potential UORs had been identified, of which 33 were “likely to be needed in any aftermath scenario”, the other 32 were on hold until the “way ahead” became clearer.

**57.** The potential UORs identified included requirements for force protection (such as Defensive Aids Suite for air transport and support helicopters), infrastructure enhancements, and ISTAR enhancements to aid drawdown.

**58.** Phase IV UORs were “being co-ordinated with the developing policy on recuperation”.

**59.** AM Stirrup stated:

“Despite the understandable lack of clarity over CONOPS for Phase IV, we are making every effort to get ahead of the game.”

**60.** The MOD’s preliminary discussions with the Treasury about Phase IV funding indicated that officials would “agree to some further access to the Reserve”. It was unclear whether that would be sufficient to cover the 65 measures already identified or whether the criteria for access to the Reserve would encompass the full range of measures to be sought.

**61.** The MOD intended to make “a formal approach to the Treasury within the next week”. Depending on the outcome, AM Stirrup wrote: “... we may have to prioritise Phase IV UORs further and/or to make adjustments to in-year priorities to accommodate remaining measures within the Defence budget.”

**62.** AM Stirrup stated:

“Unlike previous UOR tranches, we have no firm time by which Phase IV measures have to be effective if they are to qualify for consideration. We are, though, using a yardstick of six months as a guideline. Where measures have a longer lead time (for example Defensive Aids Suite on large aircraft), we will need to address them within the normal EP process.”

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<sup>25</sup> Minute DCDS(EC) to COSSEC, 28 March 2003, ‘Iraq Contingency Planning – Urgent Operational Requirements for Phase 4’.

**63.** Lt Gen Reith sent an assessment of the threat in the UK's Area of Operations to Admiral Sir Michael Boyce, CDS, on 29 March.<sup>26</sup> In his covering minute, Lt Gen Reith wrote that predictions about the latter stages of Phases III and IV were "more difficult to ascertain" and they largely depended on "the progress of the Coalition campaign, forces assigned to security tasks, etc". He continued:

"However, for the moment we are dealing with a spectrum of threats ranging from regular to terrorism. As we progress operations the regular forces threat will be eliminated and we will eventually be left with a residual terrorist threat, as is already the case in some areas we control, such as Umm Qasr."

**64.** The assessment stated that the threat, in addition to the indirect threats posed by surface to surface missiles, fell broadly into three categories:

- Conventional forces where Coalition Forces do not hold ground and RA [Iraqi Regular Army] forces are still deployed.
- "Asymmetric forces" including Fedayeen, Ba'ath Party officials and militia, "other regime officials", opportunists and criminals and the dissatisfied population.
- Foreign terrorists including Palestinian and "other committed Islamic groups" and the Iraq-based Iranian dissident group Mujahideen e Khalq (MEK) who were "known" to operate in the South of Iraq. There was "no physical evidence of these threats materialising as yet".

**65.** On 3 April, Lt Gen Reith produced a draft "operational concept" for Phase IV.<sup>27</sup> He wrote that Phase IV operations would begin in southern Iraq "within days" but that the backdrop to their implementation was "uncertain and changing". The baseline conditions from which they would operate were "far from clear" and "important issues", such as the level of military involvement, remained unresolved. While the paper detailed the military's potential tasks and capability, its focus was on force levels and it did not cover equipment.

**66.** The Inquiry has seen no evidence of any further comments on the draft.

**67.** The record of Lord Bach's meeting on 14 April stated:

"Phase IV UORs remain a problem. Although CJO [Lt Gen Reith] has a draft in hand, we are still without a defined CONOPS. This limits our ability to plan for and procure such items."<sup>28</sup>

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<sup>26</sup> Minute Reith to PSO/CDS, 29 March 2003, 'Iraq – The Threat Within UK's AO' attaching Paper [undated], 'Iraq – UK AO – Threat Assessment'.

<sup>27</sup> [Paper Reith, 3 April 2003, 'Operation TELIC Phase 4 the Joint Commander's Draft Operational Concept'](#).

<sup>28</sup> Minute APS/Min(DP) to MA/DCDS(EC), 14 April 2003, 'Iraq: Op TELIC – UORs'.

**68.** It is not clear precisely when the draft was finalised, but Lt Gen Reith stated in a paper on 14 April that the operational concept had been agreed.<sup>29</sup> The development of the operational concept is addressed in Section 8.

**69.** Lt Gen Reith produced two papers on the roulement and recovery of UK forces.<sup>30</sup> On the operational requirement for UK land forces he wrote:

“In broad terms a mix of capabilities will be needed at each ‘strongpoint’, providing the local commander with maximum flexibility. This will include the retention of some armour, armoured/mechanised infantry and artillery support, but would increasingly rely on operations ‘amongst the people’ on foot. The ability to ‘find’ and remove hostile elements is critical; ISTAR/HUMINT [human intelligence] will continue to be required. Reserves, in some cases with mobility provided by helms [helicopters], would be required to surge into rural areas ... Force protection requirements are likely to increase as the UK occupies permanent bases. Additional companies may be needed to provide security, possibly provided by the TA.”

**70.** For battlefield helicopters, Lt Gen Reith suggested that the main force should consist of:

- five Chinook;
- five Sea King or Puma; and
- five Lynx, with Sea King and Puma operating only at night, or some eight Chinook, but with “potential longer term ramifications for the fleet”.

**71.** Lt Gen Reith suggested that Lynx could be used to provide aerial surveillance but that the deployment of Puma, Gazelle or an Islander aircraft would be “more sensible” although they could “only be provided at the expense of the capability currently deployed in Northern Ireland”.

**72.** On equipment husbandry, Lt Gen Reith stated:

“Time and cost prevent the procurement of further environment and protection UOR enhancements to equipment. This will require the majority of combat vehicles to remain in theatre.”

**73.** On 15 April, Lt Gen Reith produced an SOR for South-East Iraq for the Chiefs of Staff.<sup>31</sup> In an annex there was an assessment of each of the provinces under the UK’s Area of Responsibility (AOR), including a judgement on the levels of consent to the Coalition amongst the local population. That was used as an indicator of whether or not the Coalition faced any threat of attack.

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<sup>29</sup> Paper Reith, 14 April 2003, ‘Phase IV Roulement/Recovery of UK Land Forces’.

<sup>30</sup> Minute Reith to SECCOS, 14 April 2003, ‘Phase 4: Roulement and recovery of UK forces’ attaching Paper CJO, 14 April 2003, ‘Phase 4: Roulement and Recovery of UK Air forces’ and Paper CJO, 14 April 2003, ‘Phase 4: Roulement and Recovery of UK Land forces’.

<sup>31</sup> [Minute Reith to PSO/CDS, 15 April 2003, ‘The Statement of Requirement \(SOR\) for SE Iraq’.](#)

**74.** Lt Gen Reith assessed that all provinces coming under the UK's AOR would be at least "relatively stable" with "medium-high" or "high" levels of consent to the Coalition amongst the local population.

**75.** In a separate annex, there was a table of UK force requirements which assessed that the helicopters required were three Chinook, three Lynx and three Puma or Sea King.

**76.** By 9 May, the MOD had approved 18 Phase IV measures at a cost of around £87m, and a further 12 were being processed.<sup>32</sup>

**77.** On 30 May, a list of all the equipment capability UORs approved for the pre-deployment and invasion phases were sent around the MOD with an analysis of how they did or did not address equipment capability gaps.<sup>33</sup> It sought to determine where UOR activity was focused, "both in terms of the capability delivered and also in terms of the relationship between UORs and the Equipment Programme".

**78.** The capability shortfalls addressed by UORs were:

- network-enabled capability 31 percent;
- force protection 19 percent;
- force projection 12 percent;
- counter-terrorism/Special Forces 7 percent;
- precision strike 3 percent; and
- other 27 percent.

**79.** The analysis stated that the fact that almost a third of the UORs were required to address shortfalls in network-enabled capability validated "the major balance of investment shift undertaken" in the 2003 Equipment Programme (EP03). That also applied, "albeit to a lesser extent", to the force protection and force projection enhancements.

### **Improvement in the MOD's procurement process during Op TELIC**

**80.** In August 2004, Major General William Rollo, GOC MND(SE) July to December 2004, asked that "consideration be given to the establishment of an EC [Equipment Capability] staff within HQ MND(SE)".<sup>34</sup>

**81.** A short study was commissioned in September to determine the feasibility of Maj Gen Rollo's request.<sup>35</sup> The report stated that one of the main difficulties "was in

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<sup>32</sup> Minute CM(M) to PS/Min(DP), 9 May 2003, 'Iraq: Op TELIC Phase 4 UORs'.

<sup>33</sup> Minute DEP and DCRS to DNO, 30 May 2003, 'Op TELIC UORs from DEP and DCRS'.

<sup>34</sup> Minute, 10 June 2005, 'Multi National Division (South East) Equipment Capability – Initial Deployment Report'.

<sup>35</sup> Minute, 10 June 2005, 'Multi National Division (South East) Equipment Capability – Initial Deployment Report'.



the area of capability integration; this being the responsibility of the Chief of Joint Operations (CJO)”.

**82.** The study was endorsed in December and lead elements of the EC Branch deployed to Iraq in January 2005.<sup>36</sup> The MND(SE) EC Branch was formally established in theatre on 24 February 2005, and was staffed by three staff officers.

**83.** The EC Branch produced an ‘Initial Deployment Report’ on 10 June 2005, considering its performance so far and making recommendations for its longer-term role.<sup>37</sup>

**84.** The report stated that the EC Branch initially performed “two discrete roles”. The first was the provision of support to the UOR process, on behalf of MND(SE), by providing a central focus for UOR activity and taking the lead in the co-ordination of requirements, capturing activity and SOR staffing. The EC cell’s mandate did not explicitly state that EC Branch could “engage authoritatively in UOR integration matters”. That had been “identified as a key MND(SE) shortfall” in the report.

**85.** Although having no formal mandate to do so, the EC cell did engage in UOR integration activity, which had meant creating appropriate structures and procedures to support the effective integration of UOR capabilities. The cell established a “Capability Integration Working Group (CIWG) framework, formalised Capability Integration Plans (CIP), and ensuring that theatre capability issues were addressed across the Defence Lines of Development (DLOD)”.<sup>38</sup> That work had “already proven instrumental in identifying a number of capability issues likely to have an adverse effect on theatre operations” and in identifying action to mitigate those issues. The report stated that the work would enable the EC cell to “deliver greater benefit than its current MND(SE) focused role would normally permit”.

**86.** In the report, the cell recommended that “a broader remit, acting on behalf of CJO” would also enable the EC Branch to deliver greater benefit. The cell did not recommend any changes to EC Branch staffing levels, “due to the continued evolution of the Branch ... and the awaited outcome of this report”.

**87.** The report contained a number of lessons:

- The formation and deployment of the EC Branch was “too late to deliver maximum benefit to the operation”. Maximum benefit of an EC Branch capability would be realised “if it is embedded within the force prior to or immediately

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<sup>36</sup> Minute, 10 June 2005, ‘Multi National Division (South East) Equipment Capability – Initial Deployment Report’.

<sup>37</sup> Minute, 10 June 2005, ‘Multi National Division (South East) Equipment Capability – Initial Deployment Report’.

<sup>38</sup> The MOD framework for capability assessment recommends breaking down capabilities into eight constituent elements, or “Defence Lines of Development”: Training, Equipment, Personnel, Information, Concepts and Doctrine, Organisation, Infrastructure and Logistics.

after deployment in order to facilitate the staffing and subsequent integration of Urgent Operational Requirement”.

- The EC Branch was “constrained in its operation due to the lack of an agreed and authoritative Directive”. The report recommended that operational and EC chains should “develop and agree an appropriate Directive comprising TOR [Terms of Reference], roles and responsibilities and CONOPS”.
- The Customer Two focus and procedures for the integration of UOR capabilities deployed directly to an operational theatre was “not clear”. It cited the need to implement the Standing Instruction from 26 November 2004.

**88.** In his statement for the Inquiry, Air Chief Marshal Sir Glenn Torpy, CJO from July 2004 to March 2006, described the role of PJHQ as:

“... to act as the interface between the in-theatre force and the MOD and Front Line Commands (FLC), particularly in ensuring that the in-theatre force is provided with the wherewithal to deliver its objectives. This required a constant dialogue at every level, between the MOD, PJHQ, FLC and in-theatre force.”<sup>39</sup>

**89.** ACM Torpy wrote that he had “inherited a Joint force structure ... that was appropriately sized to deliver the military objectives” he had been given; and that the in-theatre commanders, including the GOC MND (SE), were required to conduct a Force Level Review every six months to “validate their force requirements”. Those reviews were “undertaken in consultation with the PJHQ” and “presented to the CDS (and the Chiefs of Staff) for endorsement”. That “imposed an important level of discipline” and “provided the vehicle for force level increases if conditions in a particular component demanded additional capability”.

**90.** On 10 October 2006, the extent to which capability gaps were being anticipated in UK theatres was raised by General Sir Timothy Granville-Chapman, Vice Chief of Defence Staff, following a meeting about helicopter availability in Afghanistan.<sup>40</sup>

**91.** On 27 October, Gen Granville-Chapman’s Private Office wrote to Lieutenant General Nicholas Houghton, CJO, requesting a report on “how effective we currently are and how we might be more so” in predicting emerging capability requirements and reporting these back to the UK after “the recent debate on what capabilities are needed for operations” had “thrown the spotlight” on the issue.<sup>41</sup>

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<sup>39</sup> Statement, 14 June 2010, pages 4-6.

<sup>40</sup> Minute Granville-Chapman to ACDS(Ops), 10 October 2006, ‘Helicopter Availability’.

<sup>41</sup> [Minute MA/VCDS to MA/CJO, 27 October 2006, ‘Theatre Articulation of Capability Requirements’.](#)

**92.** Gen Granville-Chapman had recently discussed potential improvements with Major General Richard Applegate, MOD Capability Manager (Battlespace Manoeuvre), who thought:

“... we used to deploy people to theatres specifically to proactively keep current and future requirements under review; the added advantage of this was that they could also keep theatre informed of [sic] was being done for them at home, for example on UORs.”

**93.** Lt Gen Houghton replied on 9 November, inviting Gen Granville-Chapman to note:

“I intend to formalise the PJHQ procedures to deliver systematic and coherent progress in conjunction with the MOD sponsored Capabilities Working Group ...

“We still need to improve our processes for identifying the EC [Equipment Capability] dimension of emerging theatre CONOPS which lay in the domain of the early years of the EP [Equipment Programme] rather than in the UOR process.”<sup>42</sup>

**94.** Lt Gen Houghton wrote that the EC cell’s “primary purpose” was to identify all capability requirements. Future capability definition was determined between PJHQ, MND(SE), Multi-National Forces-Iraq (MNF-I) and the DECs.

**95.** Lt Gen Houghton stated: “In my judgement, EC definition and requirements management in Op TELIC is systematic, coherent and effective.”

**96.** As a proposed improvement, Lt Gen Houghton stated:

“Better interaction between MOD staff and theatres would enhance comprehension of the operating environment and keep theatre commanders abreast of progress.”

**97.** In conclusion, Lt Gen Houghton stated:

“... I am not so convinced that we are as good at matching up the EC dimension of emerging CONOPS in the slightly longer time-frame. We are looking at the issue, which is central to the future role of the PJHQ in influencing the early years of the EP, but beyond the time-frame which is appropriate for the UOR process.”

**98.** In September 2007, the MOD’s Directorate of Operational Capability (DOC) published an audit of force protection which highlighted the need for a better articulation of the risk to which the military would be exposed during operations.<sup>43</sup> The report is addressed in further detail later in this Section.

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<sup>42</sup> Minute CJO to MA/VCDS, 9 November 2006, ‘Emerging Capability Requirements’.

<sup>43</sup> Report DOC, September 2007, ‘Directorate of Operational Capability Protection of the Deployed Force Operational Audit Report 1/07’.

**99.** In November 2007, the MOD produced a force protection policy which has remained under “constant review”.<sup>44</sup> It is unclear from the evidence how many force protection policies preceded this version but the MOD has been unable to find any individual force protection policies before November 2007.

**100.** The MOD told the Inquiry that the version dated 21 May 2015 “defines risk ownership and governance more clearly than its predecessors”.<sup>45</sup> The MOD said that this had been integrated into wider MOD risk management processes which had also been revised.

**101.** The MOD said that the Operational Commander (which for Iraq was the CJO), was accountable to CDS for understanding, quantifying and reducing risk to the force and mission respectively. That risk response may require changes to activities or capabilities.

**102.** On 31 August 2010, an analysis of the land operation in Iraq was published on behalf of the Chief of the General Staff by Brigadier Ben Barry.<sup>46</sup> It was known as “the Barry Report”.

**103.** On specifying equipment requirements, the report stated:

“It appears for much of this period the mechanism for formulating new capability requirements was sub-optimal. Where there was a strong coherent sponsor in the Army or MOD there was more chance of requirements being quickly identified and UORs succeeding. Difficulties experienced at the start of this period [2005] were overcome to a certain extent by fielding Equipment Capability staff to PJHQ and Basra. But it was not clear who owned the medium term vision for the capability requirements of the theatre and longer term thinking on equipment requirements was inhibited by the lack of campaign continuity.”

**104.** The report said that, where UORs succeeded, “some of these were the result of ‘pull’ from theatre, others the result of ‘push’ from equipment staff in the MOD. This was the case with Mastiff, the requirement for which was formulated in London.”

**105.** The report quoted evidence from Lt Gen Applegate:

“We must recognise that UORs were/are generally reactive and until about 2009 when I managed to convince people to think in campaign terms, there was a tendency to think only six months ahead: some of the solutions could not be delivered in that timescale and were refused ... our six-monthitis and lack of a campaign design limited sufficient forward thinking.”

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<sup>44</sup> Letter Duke-Evans to Aldred, 26 June 2015, ‘Procuring Military Equipment’.

<sup>45</sup> Letter Duke-Evans to Aldred, 26 June 2015, ‘Procuring Military Equipment’.

<sup>46</sup> Report Land Command, 31 August 2010, ‘Operations in Iraq: An Analysis From a Land Perspective’.

## Protected mobility and the developing threat to UK troops

### Initial deployment of Protected Patrol Vehicles (PPVs) in Iraq

**106.** The 1998 *Strategic Defence Review* (SDR) stated the British Army would comprise four different types of infantry battalions:

- 9 armoured infantry battalions;
- 6 mechanised battalions;
- 3 parachute battalions; and
- 22 light infantry battalions.<sup>47</sup>

**107.** The 1998 SDR stated that “deployable and mobile” forces, “but with sufficient protection and firepower for war-fighting” would be required for land operations.<sup>48</sup>

**108.** The Army had an agreed requirement for a family of vehicles to replace existing medium weight armoured vehicles, the Future Rapid Effect System (FRES) programme.

**109.** In May 2002, AM Stirrup told the House of Commons Defence Committee that FRES was designed to reflect the post-Cold War era.<sup>49</sup> It would focus “much more upon mobility, speed and precision than upon heaviness and armoured defence”. It would be introduced “in the latter part” of that decade.

**110.** On 23 July 2007, an MOD note stated that FRES was designed to fill a capability gap by replacing the Saxon, Combat Vehicle Reconnaissance (Tracked) (CVR(T)) and FV430 wheeled and tracked vehicles.<sup>50</sup>

**111.** FRES comprised “five families”:

- utility – wheeled armoured vehicles, principally to provide protected mobility;
- basic capability utility – vehicles that did not require the same capacity, protection or mobility as the utility family and could therefore be procured more cheaply;
- recce – tracked vehicles to replace the majority of the CVR(T) fleet;
- medium armour – a new capability for a tracked medium weight tank; and
- manoeuvre support – tracked vehicles for general armoured engineering tasks.

**112.** The programme was expected to deliver over 3,500 wheeled and tracked medium weight armoured vehicles (between 20 and 40 tonnes).

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<sup>47</sup> Ministry of Defence, *The Strategic Defence Review: Supporting Essays*, July 1998.

<sup>48</sup> Ministry of Defence, *The Strategic Defence Review: Supporting Essays*, July 1998.

<sup>49</sup> Fourth Report from the House of Commons Defence Committee, Session 2001-02, *Major Procurement Projects*, HC 779, page 83.

<sup>50</sup> [Minute, DCI\(A\), 23 July 2007, ‘The Future Rapid Effect System \(FRES\) – Information Note’](#).

**113.** General Sir Richard Dannatt, Assistant Chief of the General Staff from 2001 to 2002, told the Inquiry that in 2001-2002 “as we were moving towards an expeditionary era” after the Cold War, the Army had identified a clear requirement for “vehicles that were small and light enough to go into aircraft to be flown to trouble spots, but heavy and capable enough to be useful and usable when they got there”.<sup>51</sup> He said that formed the basis of the FRES programme, which had been approved in 2002.

**114.** Gen Dannatt described FRES as “a rapid programme”; an “urgent” short-to-medium term requirement that “needed to be filled quite quickly”. In his view, “85 percent of the solution delivered quickly would have been the right answer”. The intention was “to go to the market and see what was out there and procure it”:

“... our aspiration in 2002 was that FRES, the utility vehicle, would come into service from as early from 2007 and better if we could do it, and the money was there because we had made the money available.”

**115.** On 26 June 2003, the DMB considered a “thinkpiece” paper from Mr Colin Balmer, MOD Finance Director, about what strategic guidance the DMB might offer on investment priorities for 2004’s Equipment Programme (STP/EP04).<sup>52</sup> It said that the MOD faced some “difficult choices” in a year where its “financial freedom of manoeuvre” would be “limited”. There would be “no new resources to distribute”, despite a range of cost pressures and new risks emerging.

**116.** Mr Balmer suggested that some areas of the Equipment Programme represented “vital ground” and “should be protected”. Those included network-enabled capability, deployable ISTAR, Combat ID, Nuclear, Biological and Chemical protection capabilities and logistics. He wrote that DMB “might also endorse the need to re-examine ISD and platform numbers against the DPAs with a view to establishing the effect of a deferral ... or reductions”. Amongst others, that review would specifically consider the FRES programme.

**117.** The Equipment Programme for 2003 had “continued a shift from quantity to quality” and was consequently “much better balanced” than it had been but “significant shortfalls” remained. It did, however, have “serious” issues of affordability resulting from “formally programmed excesses, unanticipated pressures and industrial factors”. The current forecasts suggested that £4bn would need to be cut from the programme over 10 years to bring it in line with the allocated resource. The MOD also needed “to obtain a better understanding of the non-cash costs of ownership of the growing equipment programme, to ensure that it is affordable in resource terms”.

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<sup>51</sup> Public hearing, 28 July 2010, page 58.

<sup>52</sup> Paper Finance Director [MOD], 20 June 2003, ‘Defence Strategic Audit and Guidance for STP/EP04’.

**118.** Mr Balmer’s paper was endorsed by DMB on 26 June, which said it should be used as a basis for STP/EP04, although any policy decisions would be considered more fully later in the planning round.<sup>53</sup>

**119.** At the time of the invasion of Iraq, the Protected Patrol Vehicles (PPVs) in service with the Army were Snatch and Tavern.

**120.** By 2002, Snatch was already at the end of its planned life In Service.

### What is a Protected Patrol Vehicle (PPV)?

A Protected Patrol Vehicle (PPV) is a wheeled vehicle, that provides some ballistic protection to personnel inside.<sup>54</sup>

PPVs were initially designed to carry four people, although more recent models, such as the Mastiff, can carry 10 people. The PPV’s purpose is to enable a combination of foot and vehicle-mounted patrols; generally, but not exclusively, within peace support/ counter-insurgency operations. That is distinct from heavier, Armoured Fighting Vehicles (AFVs), which are primarily designed for combat. A PPV must enable one (ideally two) top cover sentries to observe the environment when mobile. PPVs are expected to be able to operate on roads and tracks and need to be agile.

A PPV has to maintain freedom of manoeuvre and mobility to patrol in both urban and semi-rural environments. PPVs provide a less aggressive profile than AFVs, thereby enabling the patrol to be more engaged with local populations.

**121.** The Snatch Land Rover was designed for operations in Northern Ireland and entered service in 1992.<sup>55</sup> It was also deployed in limited numbers to Kosovo and Macedonia.

**122.** In March 2000, the Defence Evaluation and Research Agency provided advice to the Defence Procurement Agency (DPA) about the limited levels of protection afforded by the vehicle.<sup>56</sup> It stated:

“The vehicle was also tested against the RPG 7 [Rocket Propelled Grenade 7] and improvised grenades, as would be expected it does not offer full protection from this type of device.”

**123.** Lieutenant General Graeme Lamb, GOC MND(SE) from July 2003 to December 2003, told the Inquiry that “in Northern Ireland we didn’t drive vehicles south of whichever line it was for 20 years because of the threat of massive IEDs [Improvised Explosive Devices] that were being placed in the road”.<sup>57</sup>

<sup>53</sup> Minutes, 26 June 2003, Defence Management Board meeting.

<sup>54</sup> [Minute Applegate to APS/Min\(DP\), 28 June 2006, ‘Protected Patrol Vehicles \(PPV\)’](#).

<sup>55</sup> Letter MOD to Iraq Inquiry, 24 January 2011, ‘MOD Evidence: Equipment Issues’.

<sup>56</sup> Minute MOD [junior officer] to MOD [junior officer], 1 March 2000, ‘Reference SNATCH Armour’.

<sup>57</sup> Private hearing, 24 May 2010, page 26.

**124.** The replacement of Snatch Land Rovers, and Tavern, was being addressed through Project DUCKBOARD, a programme pursuing the provision of light protected mobility vehicles for counter-terrorist and public order operations in Northern Ireland from 2007-2008 onwards.<sup>58</sup>

**125.** A draft User Statement of Requirement (USUR) for Project DUCKBOARD produced on 7 January 2002 said:

“The current NI [Northern Ireland] patrol vehicles are essential for troop deployment, patrolling urban and rural areas and for administrative tasks. They were procured to counter the threat from low and high velocity small arms, Improvised Explosive Devices (IED), anti-armour weapons, petrol bombs and general hand-held catapulted missiles. In order to afford the troops on the ground an acceptable level of protection, mobility and capacity to counter the threat two vehicles are currently in service, Tavern in the high risk areas and Snatch in the lower risk areas.”<sup>59</sup>

**126.** The USUR noted that the End Service Date for Snatch was 2002 but it was anticipated that would need to be extended. It concluded that as vehicles arising out of Project DUCKBOARD entered service, Snatch and Tavern would be phased out of service.

### **Tactics, Techniques and Procedures (TTPs)**

The features and capabilities of a vehicle, or any other platform, are only one element of protection.

The military rely on Tactics, Techniques and Procedures (TTPs) to avoid being located, identified or targeted. Devising successful TTPs is part of trying to make UK forces as safe as possible from the likelihood of attack.

Military platforms are provided with other features to act as an additional layer of protection in the event that the TTPs are not successful. This could mean armour being placed on the outside of a vehicle, electronic countermeasures, or it could be enhanced surveillance equipment. A solution cannot be applied universally but will depend on the nature of the threat.

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<sup>58</sup> Letter MOD to Iraq Inquiry, 24 January 2011, ‘MOD Evidence: Equipment Issues’.

<sup>59</sup> Minute Ewing, 7 January 2002, ‘User Statement of Requirement (USOR) for Future NI Patrol Vehicle – Project DUCKBOARD’.



## DEPLOYING PPVS TO IRAQ

**127.** Despite the decision in the 1998 SDR to shift the focus towards a capability for expeditionary operations, no concept of operations for PPVs had been identified in mid-2003 and there were no definitive timescales for the provision of vehicles.

**128.** PPVs were not deployed during the invasion of Iraq and unarmoured Land Rovers were initially used for patrols.

**129.** The MOD Directorate [of] Equipment Capability (Special Projects) (DEC(SP)) hosted a PPV workshop on 16 July 2003.<sup>60</sup> It was attended by MOD teams and stakeholders, including representatives from Headquarters Land Forces.

**130.** A DEC(SP) representative “reiterated his belief that the capability gap was essentially three fold:

- a. the enduring NI [Northern Ireland] type requirement;
- b. the emerging wider requirement for light forces engaged on operations such as in the Balkans and in Iraq;
- c. the enduring requirement for protected mobility for specialist users such as Royal Engineers Explosive Ordnance Disposal ...”

**131.** A range of procurement options for a capability to meet the requirement were set out at the workshop, including options to extend the life of Snatch by 10 years, a commercial off-the-shelf purchase or the up-armouring of an in-service vehicle such as the Pinzgauer.

**132.** It was agreed at the meeting that a coherent statement of the concept of operations, threat assessment and payload requirement should be provided by the end of August. HQ Land would facilitate a trial of Snatch, and possibly Tavern, in Iraq.

**133.** There was limited intelligence on the conditions of southern Iraq before the invasion but there were warnings from the Joint Intelligence Committee (JIC) about the size, attitudes and capabilities of tribes in the area. That is addressed in Section 6.2.

**134.** A significant and increasing threat to UK forces in Iraq from Improvised Explosive Devices (IEDs) was emerging as early as July 2003.

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<sup>60</sup> Minutes, 17 July 2003, ‘Protected Patrol Vehicle Workshop Wednesday 16 July 2003’.

## What is an Improvised Explosive Device (IED)?

An IED is a bomb constructed and activated in ways other than through conventional military action. The types most commonly encountered in Iraq were:

**Radio-Controlled IED (RCIED):** This uses a radio signal to initiate detonation – a number of different commercial devices were used in Iraq such as doorbells, burglar alarms and radio-controlled cars.<sup>61</sup> Radio-controlled detonation meant that an explosion on a specific target could be initiated by an operator situated a safe distance away. Those were the most commonly used type of IED in Iraq between 2003 and mid-2005. UK electronic countermeasures were used to jam the detonation signal.

**Command Wire IED (CWIED):** This uses a wire to transmit the signal to detonate.<sup>62</sup> It is a retrograde form of technology and had the disadvantage of requiring a wire dug into the ground, or concealment through other means, but they became more common in Iraq from 2006 onwards as they were immune to any form of electronic countermeasure.

**Explosively Formed Projectile (EFP):** A directional charge designed to defeat armour by using the energy of the explosive to create a projectile that travels at between one and three kilometres per second towards its target.<sup>63</sup> EFPs were commonly used as charges for IEDs in Iraq from mid-2004 onwards.

**Passive Infrared IED (PIR IED):** An evolution from RCIEDs where passive infrared beams are used remotely to detonate IEDs. The first of those attacks in MND(SE) was in May 2005 and indicated an attempt to circumvent the UK's electronic countermeasures.

**135.** On 2 July 2003, the JIC issued an Assessment about potential flashpoints in Iraq over the next two to three years.<sup>64</sup> It focused on “potential negative outcomes rather than positive ones”.

**136.** The JIC judged that extremist groups currently posed a direct threat to Coalition Forces, but:

“For now, the activities of these groups are largely unco-ordinated. However, it is likely that the links between groups will become stronger.”

**137.** The Assessment stated that there had been no sign of an organised campaign of violence against Coalition Forces by Shia groups “so far”. There had, however, been reports that the two main armed Shia groups (the Badr Corps and the followers of Muqtada al-Sadr) had “recently been trying to acquire large quantities of weapons”. The JIC stated that there were indications that they were “preparing for intra-Shia conflict (as opposed to anti-Coalition activity)”. That would add to instability and it was “probable” that Coalition Forces would “be caught up in violence”.

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<sup>61</sup> Paper DIS, September 2003, ‘An Analysis of the Major IED Threats to Coalition Forces in Iraq’.

<sup>62</sup> Paper DIS, 1 October 2004, ‘The Command Wire Improvised Explosive Device Threat to UK Forces in Iraq’.

<sup>63</sup> Paper DIS, May 2006, ‘The EFP Threat in MND(SE)’.

<sup>64</sup> [JIC Assessment, 2 July 2003, ‘Iraq: Potential Flashpoints’](#).

**138.** The JIC also stated that:

- Lebanese Hizballah had “a small but threatening presence in Iraq”.
- “... although Iran would prefer to influence developments in Iraq by taking advantage of the political process”, it would “retain the option of causing trouble for the Coalition”.

**139.** On 7 July, a Defence Intelligence Staff (DIS) paper, circulated at a working level within the MOD, stated that Radio-Controlled IEDs (RCIEDs) and their components had been found in the UK Area of Operations since early April.<sup>65</sup> The paper did not speculate on the origin of the material.

**140.** On 30 July, Lt Gen Reith informed the Chiefs of Staff that there was “an increasing use of more sophisticated IEDs, and attacks against Iraqi police and locals employed by the Coalition”.<sup>66</sup> There was a discussion about whether the UK should support the US in developing RCIED countermeasures and Lieutenant General Robert Fry, Deputy Chief of Defence Staff (Commitments), was directed to “assess the scope of the issue”.

**141.** It was reported at the next Chiefs of Staff meeting on 6 August that Lt Gen Fry’s paper had been postponed “pending further consultation”.<sup>67</sup> In the actions recorded from the meeting, it stated that the paper would be discussed on 13 August.

**142.** The minutes also recorded that the US Combined Joint Task Force 7 (CJTF-7) was to establish an IED intelligence cell to provide an “immediate in theatre threat analysis of IEDs”.

**143.** A DIS paper produced on 31 July recorded that RCIEDs had been used in the UK Area of Operations around Basra on 14 and 28 July:

“The former Iraqi regime had a proven advanced IED capability including RC methods ... Latterly there have been many (double figures) attacks against Coalition Forces believed to have involved RCIEDs, as well as significant finds of RC-related hardware ...

“There are a large number of former regime and ex-military personnel skilled in constructing and deploying IEDs who remain at large within Iraq and their involvement in RCIED incidents would raise the level of threat. There is also the potential for foreign groups opposed to the Coalition presence to appear within Iraq and become engaged in attacks. If organisations such as Hizballah (that has an extremely potent and proven RCIED capability) were to do this, then the RC threat would increase very significantly.”<sup>68</sup>

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<sup>65</sup> Paper DIS, July 2003, ‘The Radio-Controlled Improvised Explosive Device Threat to Coalition Forces in Iraq’.

<sup>66</sup> Minutes, 30 July 2003, Chiefs of Staff meeting.

<sup>67</sup> Minutes, 6 August 2003, Chiefs of Staff meeting.

<sup>68</sup> Minute MOD [junior officer] to SO1 (Info) MO3 DMO, 31 July 2003, ‘Assessment of the RCIED Threat to Coalition Forces Deployed in Iraq’.

**144.** A PJHQ operational summary from 4 August recorded:

“The use of IEDs against Coalition Forces is increasing and there remains no shortage of raw materials across Iraq from which to draw upon.”<sup>69</sup>

**145.** On 7 August, Mr Adam Ingram, Minister of State for the Armed Forces, told the Ad Hoc Ministerial Group on Iraq Rehabilitation that: “Improvised Explosive Devices posed an increasing threat.”<sup>70</sup>

**146.** In August 2003, the security situation in Baghdad continued to deteriorate. A bomb exploded outside the UN headquarters on 19 August, killing 22 UN staff and visitors. Further attacks included a bomb outside the Jordanian Embassy and several unsuccessful attempts to shoot down Coalition aircraft.

**147.** The implications of those attacks are addressed in Section 9.2.

**148.** On 27 August, the Chiefs of Staff were briefed that Maj Gen Lamb was reviewing manpower and equipment requirements.<sup>71</sup> The Coalition Provisional Authority (CPA) was “constrained by force protection” and:

“Although they had ordered armoured vehicles and were reviewing security until this was in place, they were confined to the barracks. Unless a plan drawn up by experts, managed by technically qualified personnel, was put immediately into action, then the consent of the people in the MND(SE) AO [Area of Operations] could be irrevocably lost with all the consequences of strategic failure.”

**149.** Air Chief Marshal Sir Anthony Bagnall, Vice Chief of the Defence Staff, invited Major General Robin Brims, Deputy Chief of Joint Operations, to “remind theatre that the question of force protection needed to be looked at in the broadest way, taking into account not only local expediencies but also strategic implications”, especially when taking decisions about helmets and body armour.

**150.** Maj Gen Brims pointed out that “the British Army did not have any wheeled vehicles with sufficient armour against the threat”. ACM Bagnall invited Air Vice Marshal Clive Loader, Assistant Chief of Defence Staff (Operations), to investigate the issue. Air Chief Marshal Sir Jock Stirrup, Chief of the Air Staff, pointed out that “what was important was knowing what may be required in advance so that any enhancements could be put in place quickly”.

**151.** On 1 September, MND(SE) produced a Forces and Resources Review to examine the resources required in MND(SE), for both short-term and enduring operations.<sup>72</sup>

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<sup>69</sup> Paper PJHQ OPSUM, 4 August 2003, ‘PJHQ Middle East Operations Team OPSUM 075 as at 041700Z Aug 03 – D+138’.

<sup>70</sup> Minutes, 7 August 2003, Ad Hoc Group on Iraq Rehabilitation meeting.

<sup>71</sup> Minutes, 27 August 2003, Chiefs of Staff meeting.

<sup>72</sup> Paper MND(SE), 1 September 2003, ‘HQ MND(SE) Forces and Resources Review’.

**152.** The Review noted that CPA(South) had “yet to extend its influence” beyond Basra City. The arrival of Sir Hilary Synnott as Head of Coalition Provisional Authority (South) was the “first recent sign of this state of affairs improving; but without the people, protected mobility, communications and life support Sir Hilary will not have the means at his disposal to implement the changes he requires”. It said that Governorate Teams were also “under resourced” and “barely exist” outside Basra.

**153.** In the short term, 16 vehicles were recommended (four Land Rovers and 12 white fleet 4x4s<sup>73</sup>) to support the staff in Governorate Teams. There was an additional requirement for six “stripped down Land Rovers to provide top cover escorts” for CPA(South) staff operating inside Basra City, including for consultants.

**154.** The Review stated that the enduring requirement for greater surveillance capability was “urgent”. The existing force protection measures limited the ability to “observe a situation from the ground”.

**155.** The Review articulated the requirement for light protected mobility:

“The threat posed to CF [Coalition Forces] within Basra City from IED, RPG and small arms attacks is currently being countered by the use of stripped-down Land Rovers with top cover sentries. This necessarily carries a risk to the top cover vehicles from attack, particularly from IEDs. Force protection will be improved by the provision of up-armoured 4x4 vehicles that meet the broad definitions below. Replacing the full complement of this in the UK Bde [brigade] would require of the order of 420 vehicles. The minimum quantity to provide essential protected movement in Basra and Maysan is 228. Any lower number will be put to good use in accordance with priorities. The requirement is for:

- An agile wheeled vehicle capable of swift acceleration and speed in excess of 60 mph.
- A high degree of protection against small arms fire and blast devices.
- A cupola to allow top cover protection to deter attackers, particularly those deploying anti-armour weapons and small arms.
- ... [G]rills to give windows protection against thrown objects, both to enhance routine protection and to enable its use in public order situations where a Warrior [AFV] may be too threatening or unable to manoeuvre in small streets.”

**156.** The Review also “strongly recommended” that at least one battlegroup in each UK brigade be equipped with four companies<sup>74</sup> of Warrior as it was the “only infantry vehicle with protection against RPG”.

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<sup>73</sup> A white fleet 4x4 is an unarmoured Army vehicle.

<sup>74</sup> A military company is a type of military unit that consists of between 80 and 250 soldiers.

**157.** Maj Gen Brims provided a written update to the Chiefs of Staff on the Forces and Resources Review on 2 September.<sup>75</sup> He wrote:

“The deployment of protected mobility is key to improving the FP [force protection] available to soldiers and to enabling the posture of the force to be changed to meet emerging threats. The initial assessment is that a minimum of 228 vehicles will be required – further detailed work is still needed to identify the most appropriate platform from those that have been identified as being available and it may be that an ‘in-service’ quick fix is required using NI [Northern Ireland] and pool assets.”

**158.** The Review was discussed by the Chiefs of Staff on 3 September.<sup>76</sup> General Sir Michael Walker, Chief of the Defence Staff (CDS), directed that the request for additional Snatch vehicles should be met by drawing from the Northern Ireland reserve battalions in the first instance.

**159.** On 4 September, Mr Hoon’s Private Office sent a letter to No.10 setting out the outcome of the Forces and Resources Review.<sup>77</sup> It stated that roughly 1,200 servicemen and women were being deployed; an “early increase of 12 percent to the UK forces currently in theatre”. The extra personnel would be supported by the “deployment of a quantity of armoured patrol vehicles, some of which will be drawn from Northern Ireland”. That would have “a limited, but manageable effect” on the UK’s ability to “conduct current operations in support of the PSNI [Police Service of Northern Ireland]”.

**160.** On 5 September, a further meeting of the PPV Working Group was held “to develop a list of issues and associated options to meet the perceived requirement for the future deployment of PPV in support of Op TELIC”.<sup>78</sup>

**161.** The record of the meeting stated that the “initial verbal request” was for 228 vehicles for delivery to Iraq within two weeks, as per the Forces and Resources Review. All representatives present at the meeting agreed that was an “unrealistic” timetable. A DEC(SP) representative set out a phased approach to meeting the requirement, the final phase being that enough vehicles were provided for two brigades.

**162.** Whilst there was currently no SOR, information provided from theatre indicated a requirement “closely aligned to those for the Tavern/Snatch vehicles currently in use in Northern Ireland”. A footnote stated:

“Due to the limited Tavern fleet and the expected high cost of procuring similar vehicles, the PPV protection requirement must be realistic in order to permit a timely and cost effective solution to the UOR.”

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<sup>75</sup> Minute SECCOS to PSO/CDS, 1 September 2003, ‘OP COS paper: Op TELIC – UK Force and Resources Review An Update’ attaching Minute Brims, 2 September 2003, ‘Op TELIC – UK Force and Resources Review – An Update’.

<sup>76</sup> Minutes, 3 September 2003, Chiefs of Staff meeting.

<sup>77</sup> [Letter Williams to Rycroft, 4 September 2003, ‘Iraq: UK Forces and Resources Review’.](#)

<sup>78</sup> [Minutes, 5 September 2003, ‘Protected Patrol Vehicle \(PPV\) Workshop Group Friday 5 September 2003 – Minutes’.](#)

**163.** To meet the immediate requirement of 228 vehicles, the merits of deploying either Snatch or Tavern were debated including on the grounds of protection, mobility, capacity and sustainability. The need for climate modifications and communications adaptations was also considered.

**164.** The Group concluded that Snatch was the preferred option because there were Integrated Logistic Support issues and reliability concerns with Tavern. It acknowledged that the “protection levels afforded by Snatch may not meet the requirement to counter the local threat”.

**165.** Other solutions considered were:

- fitting the in-service Wolf (a Land Rover variant) or Pinzgauer with appliqué armour – discounted because of the scarcity of suitable vehicles;
- refurbishing the Armoured Patrol Vehicle (APV)1.5 awaiting disposal – discounted because of the poor mechanical condition of the fleet and the “political implications” of utilising equipment marked for disposal;
- refurbishing Snatch – discounted as an immediate response because of the timescales and level of technical risk but considered a possible long-term solution to Project DUCKBOARD; and
- procuring new vehicles – discounted as an immediate response because of the timescales but considered a valid solution in the medium-to-long term.

**166.** The Group recommended that:

- the deployment of Snatch be taken forward to meet the timescale for the provision of 228 vehicles for Iraq in four weeks; and
- a new vehicle purchase, with protection levels similar to or better than Snatch, be considered to meet the requirement of enough vehicles for two brigades within four to six months.

**167.** 180 Snatch Land Rovers were dispatched from Northern Ireland to Iraq on 11 September.<sup>79</sup>

**168.** An operational analysis for Project DUCKBOARD was produced at the end of September, making a number of recommendations for further analysis to examine the requirements for a “Rest Of [the] World” PPV capability.<sup>80</sup> That is covered in the Vector operational analysis later in this Section.

**169.** Lt Gen Lamb told the Inquiry that there was a need for “a less aggressive means to transport people around” but “the need to armour it was self-evident”.<sup>81</sup> Lt Gen Lamb

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<sup>79</sup> Minute Comd CSS to CSVS IPT, 16 September 2003, ‘SNATCH Deployment from Northern Ireland’.

<sup>80</sup> Report DSTL, 31 March 2004, ‘VECTOR Operational Analysis’.

<sup>81</sup> Private hearing, 24 May 2010, pages 25-26.

said he “was acutely aware that ... Snatch was not designed [for 21st century urban warfare]” and “so one was stuck with a difficult set of circumstances”.

**170.** Lt Gen Lamb added:

“Yet ... what have you got available at short order? Well ... better have a Snatch than a Land Rover.”

**171.** General Sir Mike Jackson, Chief of the General Staff (CGS) from February 2003 to August 2006, told the Inquiry:

“Snatch Land Rovers were deployed to Iraq because they were available or could be made available as we drew down from Northern Ireland, and without them it would have been completely soft-skinned Land Rovers. That’s where the state of the equipment inventory was at that point.

“The Snatch Land Rover was only designed to give protection from low velocity rounds and shrapnel and it wasn’t set out to do anything else, but it was better than a completely unprotected vehicle.”<sup>82</sup>

## **The appearance of Explosively Formed Projectiles (EFPs) and the UK’s response**

**172.** A JIC Assessment on 3 September judged that the security environment would “remain poor” and “probably worsen over the next year”.<sup>83</sup> The JIC stated that the “most frequent attacks” had been against Coalition Forces and “increasingly” were from small IEDs. Those using them had “shown growing competence, determination and sophistication”. The JIC assessed that IED attacks would become more effective.

**173.** The JIC judged that Shia consent was “fragile and eroding”. The guidance of “senior Iraqi Shia clerics” had been “to give the Coalition a year”, but the recent attacks were “likely to have shortened this timeline substantially”. If acquiescence turned to hostility, that “would have the most serious consequences for the security situation, particularly in southern Iraq”. If the Coalition was “perceived to be impotent”, the Shia would “take law and order into their own hands”. Reporting indicated that supporters of the Muqtada al-Sadr were “acquiring weapons” and “planning attacks on Coalition targets”.

**174.** In addition, the JIC judged that Iran and Hizballah were:

“... probably inciting violent anti-Coalition protests and other disruptive activity. Their incitement probably falls short of directly ordering attacks on Coalition Forces. But after the death of Ayatollah al-Hakim [the leader of the Supreme Council for Islamic Revolution in Iraq], Iran will be reconsidering its approach.”

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<sup>82</sup> Public hearing, 28 July 2010, pages 74-75.

<sup>83</sup> [JIC Assessment, 3 September 2003, ‘Iraq: Threats to Security’](#).



**175.** In September, the DIS produced a review of the major threats from IEDs in Iraq, intended “to provide analysis and outlook on current terrorist activities”.<sup>84</sup> The review emphasised Iraq’s “long history of state sponsored manufacture of complex IEDs, as in the case of the failed 1993 ‘Bush Bomb’”, and stated that the regime had used an “IED strategy” as a means of extending domestic and foreign policy. During the conflict there had been significant finds of radio-controlled hardware and:

“All indications show that the Iraqi regime planned to continue to adapt its well tested pre-conflict IED strategy and production methods in a guerrilla conflict after the regime capitulated ...”

**176.** The review stated that RCIEDs accounted for around 50 percent of all IED incidents.

**177.** On 25 September, the JIC reported that attacks against Coalition Forces in the South were at the “lowest level since June” but it also judged that Shia militias were emerging in the South.<sup>85</sup> The tactics of armed groups in Iraq continued to evolve, “including the increased use of more sophisticated IEDs and more elaborate attacks”.

**178.** A JIC Assessment on 15 October stated that the South remained “relatively calm”, although some former regime elements were aiming to “foment greater unrest”.<sup>86</sup> The JIC noted that reporting that indicated “the return of a specific bomb maker to Basra” was of “particular concern”.

**179.** On 5 November, the JIC reported that the situation in the South remained “relatively calm” but there had been a spate of IED attacks in Basra province in mid-October including one using a sophisticated remote control device.<sup>87</sup> The JIC also stated that IEDs were the “single most common form of attack” in Iraq, that they were “becoming more sophisticated”, and that stand-off attacks using remote control were “becoming more common”.

**180.** On 18 November, Mr David Williams, MOD Director Directorate Capabilities, Resources and Scrutiny (DCRS), wrote to Mr John Dodds, Head of the Defence, Diplomacy and Intelligence Team in the Treasury, seeking advice on how to take forward new force protection measures within the agreed UOR “ceiling” of £550m.<sup>88</sup> Mr Williams flagged a new requirement for £73m to fund an electronic countermeasures (ECM) project, Project L\*.<sup>89</sup> Mr Williams’ letter also sought funding for aerial surveillance, which is addressed later in this Section with regards to ISTAR provision.

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<sup>84</sup> Report DIS, September 2003, ‘An Analysis of the Major IED Threats to Coalition Forces in Iraq’.

<sup>85</sup> [JIC Assessment, 25 September 2003, ‘Iraq Security’](#).

<sup>86</sup> JIC Assessment, 15 October 2003, ‘Iraq Security’.

<sup>87</sup> [JIC Assessment, 5 November 2003, ‘Iraq Security’](#).

<sup>88</sup> Letter Williams to Dodds, 18 November 2003, ‘Additional Operation TELIC UORs’.

<sup>89</sup> A cipher has replaced the name of this project for national security reasons.

**181.** Mr Williams wrote that the deterioration in Iraq's security had led "to an increase in demand for force protection measures, including armoured (Land Rover type) patrol vehicles and specialist counter-terrorist equipment". He said that, although the MOD had looked at utilising Northern Ireland's resources to meet the requirement, there was a need to ensure that the equipment was "appropriate to the threat in Iraq". He added: "Some development effort is likely to be required."

**182.** Mr Williams outlined the requirement in an attached annex:

"The most serious threat facing UK personnel in Iraq (military and civilian) is that from Radio-Controlled (RC) IEDs. It took PIRA [the Provisional IRA] some years to develop RCIEDs and associated tactics successfully. By contrast, as a result of state-sponsored activity, FRL (Former Regime Loyalists) forces, already well equipped and experienced, were able to mount attacks of similar technical sophistication in Baghdad, Basra and elsewhere in Iraq without a pause after the fall of the Ba'athist Regime ... A further trend is evident in theatre: terrorist attacks (and tactics and equipment) may be trialled in the US area, but it does not take them long to appear in the UK area."

**183.** The annex referred to evidence that between 11 July and 31 October 2003 there were 28 IEDs detected in MND(SE); of those, nine employed remote detonation. It stated that one UK serviceman had been killed<sup>90</sup> and there were "various degrees of injury to UK personnel".

**184.** In the US-controlled areas, IED attacks were occurring at a rate of around 10 per day, with 80 percent of those being radio-controlled.

**185.** Mr Williams explained that, whilst some existing ECM equipment was effective against threats in Iraq, the most significant threats were new and therefore required a new response. He stated that only about 25 percent of UK vehicles would need to be fitted with equipment on the basis that vehicles moved in groups for mutual protection. He cautioned that, "owing to the high level of its security classification, and the restricted industrial base, there are limits to the manufacture rate" and stated that the first new equipment would arrive in Iraq in December 2003.

**186.** On 6 January 2004, a briefing note sent to Mr Hoon and Gen Walker stated that the Treasury had "recently agreed" to fund the £73m for Project L\*.<sup>91</sup>

**187.** The question of how that funding could be met was part of wider, ongoing discussions with the Treasury which are referred to later in this Section and set out in Section 13.1.

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<sup>90</sup> Captain David Jones was killed in a remote-controlled IED attack on 14 August 2003: *BBC News*, 15 August 2003, *Welsh soldier killed in Iraq*.

<sup>91</sup> Briefing McKane to APS/Secretary of State [MOD] and PSO/CDS, 6 January 2004, 'Operation TELIC: Presentation to the Chief Secretary'; Letter Williams to Dodds, 18 November 2003, 'Additional Operation TELIC UORs'.

**188.** On 16 January, the UOR business case to modify existing Snatch vehicles for deployment in Iraq was approved.<sup>92</sup> The case for the “desertisation” of vehicles was at a cost of £2.2m, with a completion date of May 2004. The modified version of Snatch became known as the “Snatch 1.5” variant.

**189.** The business case stated:

- While the requirement had originally been for 228 vehicles, only 208 Snatch were available “without an unmanageable impact” on Northern Ireland operations.
- “Recent attacks have highlighted the need for protected mobility capable of providing protection from small arms and IEDs.”
- Snatch was not designed for expeditionary operations and modifications to its communications and air conditioning were required for operations in Iraq.
- The modifications were “a short-term solution to meet immediate needs”.
- DEC(SP) was reviewing options to provide a more durable medium-term solution, funded from the core equipment programme, “for introduction not before late 2004/2005”.
- The other protective vehicles in use, Challenger 2, Warrior, CVR(T) and Saxon, were “not available in sufficient numbers, nor are they appropriate to the majority of tasks due to profile and size”.

**190.** Lieutenant General Andrew Ridgway, Chief of Defence Intelligence (CDI), briefed the Chiefs of Staff on the IED threat on 21 January.<sup>93</sup> He stated:

“Although it was assessed that the transfer of terrorist technology from North to South Iraq meant MND(SE) could expect an increased threat from IEDs, there was still no evidence of a co-ordinated campaign.”

**191.** In his post-tour report on 30 January, Maj Gen Lamb recorded:

“There is consistent level of attack at five/six weekly and it is anticipated that this threat will grow.”<sup>94</sup>

**192.** On 8 February, Major General Andrew Figgures, the Senior British Military Representative in Iraq and Deputy Commanding General Multi-National Force-Iraq, reported to Gen Walker and Lt Gen Reith about an attack on one of the Snatch vehicles deployed to Baghdad:

“Although we were fortunate in this case it raises a number of wider issues of the application of our national doctrine and equipment in this theatre. The Snatch vehicle

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<sup>92</sup> Paper MOD, 16 January 2004, ‘UOR 10383 Business Case – Op TELIC SNATCH’.

<sup>93</sup> Minutes, 21 January 2004, Chiefs of Staff meeting.

<sup>94</sup> Report Lamb, 30 January 2004, ‘Post Operational Tour Report – Version 1 Operation TELIC 2/3 11 July to 28 December 2003’.

undoubtedly saved the lives of the crew by absorbing the majority of the blast ... I doubt, however, that it would have withstood the effects of a [...] (which is the usual weapon of choice) if it had been rigged up to the remote initiator. This observation and the fact that the C\*<sup>95</sup> was fitted in both vehicles and operational indicates that we are still some way short of providing adequate levels of protection for the principal threat in Iraq. In terms of drills, the habit developed in Northern Ireland of deploying top cover to counter direct attack on the vehicle may actually be exposing our soldiers to greater danger from IEDs – a threat not seen in Northern Ireland.”<sup>96</sup>

**193.** Although the rate of attacks against Coalition Forces had levelled off, February 2004 was the worst month for casualties since the fall of Saddam Hussein’s regime.<sup>97</sup>

**194.** From March 2004 onwards the deteriorating security situation in Iraq took a serious turn for the worse. That is addressed in Section 9.2.

**195.** Maj Gen Stewart told the Inquiry that the violence started to increase in “February/March” 2004.<sup>98</sup>

**196.** Maj Gen Stewart explained that 50 percent of his force was assisting Security Sector Reform (SSR) during this time. He said that SSR continued in April (although it reduced to 25 percent of his force’s time) but that “one or two of the major incidents we had was people ... actually moving from location to location to try and help the SSR”.

## PROJECT DUCKBOARD EVOLVES

**197.** On 3 February 2004, Gen Jackson wrote to Mr Hoon about the impact of maintaining the current and forecast level of military commitment:

“... in meeting essential short term operational demands we must take care not to prejudice our ability to meet longer term rebalancing goals ... Measures in the EP threaten our ability to meet our strategic objectives in the longer term, particularly with regard to introducing a medium weight intervention capability centred on FRES.”<sup>99</sup>

**198.** On 26 February, the DMB agreed a large number of service enhancements and savings measures as part of a Spending Review.<sup>100</sup> That was in response to the imposition of new controls introduced by the Treasury (addressed in Section 13.1).

**199.** The DMB considered a paper by Mr Trevor Woolley, MOD Finance Director, which detailed all the measures.<sup>101</sup> In relation to PPVs, he referred to Project DUCKBOARD as

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<sup>95</sup> A cipher has replaced the name of this capability for national security reasons.

<sup>96</sup> Minute Figgures to CDS, 8 February 2004, ‘SBMR-I Report 072 of 8 February’.

<sup>97</sup> [JIC Assessment, 25 February 2004, ‘Iraq Security’](#).

<sup>98</sup> Public hearing, 9 December 2009, pages 74-75.

<sup>99</sup> Minute CGS to PSO/CDS, 3 February 2004, ‘Operational Tempo’.

<sup>100</sup> Minutes, 26 February 2004, Defence Management Board meeting.

<sup>101</sup> Paper Finance Director, [undated], ‘ST/EP04: Years 1 and 2’.

“the UK’s future protected mobility capability for light forces engaged on peace support and other operations”.

**200.** Mr Woolley wrote that, whilst DUCKBOARD had originally been designed to replace Snatch in Northern Ireland, UK casualties on operations in Macedonia and experiences from operations in Afghanistan and Iraq had “confirmed the requirement for a global family of vehicles offering similar protection levels”. To supplement the Snatch vehicles that had been deployed from Northern Ireland to Iraq, he recommended re-profiling the funding of the programme by:

- bringing forward a battlegroup worth of 80 vehicles from 2007-2012 to 2004-2007 (£38.5m over three years); but
- cutting the remaining PPV capability to support a medium scale PPV capability of 222 vehicles that had been profiled between 2007-2014 (£76.2m over seven years).

The overall budget was reduced by 49 percent.

**201.** On 31 March, the Defence Science and Technology Laboratory (DSTL) produced an operational analysis for a “Rest of [the] World PPV (ROW)” which would later become known as the “Vector” vehicle.<sup>102</sup>

**202.** DSTL stated that, subsequent to an earlier operational analysis produced in September 2003, Project DUCKBOARD had changed and the emphasis had “shifted from a Snatch replacement in the medium term (ISD [In Service Date] 2007) to providing a PPV (ROW) in the near term (ISD 2005) with an eight year in service life”. That would “provide an interim capability between the Snatch OSD [Out of Service Date]” and FRES.

**203.** It was clear from the operational analysis that DSTL intended to highlight that additional work needed to be done. Its stated aim was simply to summarise its progress to date. Further work was needed because:

- Vector’s capacity, mobility and protection Key User Requirements (KURs) were “still only in draft form”; they had not been articulated as part of Project DUCKBOARD’s operational analysis.
- The “coherent statement of CONOPS, threat assessment and payload requirement” that had been tasked to “the user community” in the July 2003 workshop had not been developed in time for the DUCKBOARD operational analysis. While further work had been done, and some assumptions about Vector’s role had been made, more needed to be done to develop the user requirement.

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<sup>102</sup> Report DSTL, 31 March 2004, ‘VECTOR Operational Analysis’.

- The user's understanding of how the PPV ROW would be deployed was still developing which meant that the estimated fleet numbers should be re-examined.
- Costs would need to be revised in accordance with all the above factors.

**204.** The operational analysis acknowledged that PJHQ and 19 Mechanised Brigade had indicated IEDs were “a considerable threat in Iraq” and stated:

“... Vector is likely to face a broad range of threats. These will range from stones and bricks to RPG and large IEDs. Previous analysis has shown that it is not technically feasible to armour a Vector equivalent to defeat [...] and [...] blast weapons without it becoming some form of AFV. Therefore it will always be overmatched by these threats. However, if these are the common threats that are to be faced in theatre then a vehicle commensurate with that threat is likely to be deployed e.g. Warrior.”

**205.** Based on the current CONOPS, Vector would “therefore be used in lower threat environments”.

**206.** On 14 April, Main Gate approval was sought for the development and manufacture of 312 Snatch vehicles to “Snatch 2” standard, 208 of which would be for Iraq.<sup>103</sup> That was to “meet immediate operational needs” and would replace the 208 Snatch 1.5 variant vehicles that had previously been dispatched from Northern Ireland. There was an ISD of between December 2004 and February 2005 for 80 of the vehicles.

**207.** The total procurement cost of the 312 vehicles was £13.01m and would be funded from the Project DUCKBOARD budget. The case stated that the enhancement measures agreed in the 2004 Spending Review was recognition that the requirement for light protected mobility was “expected to grow in future”.

**208.** The aim of the upgrade was defined as:

“To provide a capability that will afford the user sufficient protection and mobility for framework operations to be conducted in a semi-permissive environment, in both the NI theatre and in support of expeditionary operations worldwide over FYs 04/05 & 05/06.”

**209.** The business case had been produced to satisfy the immediate requirement; the current Snatch fleet was over 10 years old, was in “heavy operational use” and suffered from “chassis corrosion problems”. The Specialist Utility Vehicles IPT (Integrated Project Team) had stated that it would “become increasingly difficult to sustain after 18 months on Op TELIC without a substantial upgrade or replacement programme” and “some form of project to maintain the current operational PPV capability” would be “essential in FY 04/05”.

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<sup>103</sup> [Paper DEC\(SP\), 14 April 2004, 'Business Case URD 1090 SNATCH 2 Protected Patrol Vehicle'](#).

**210.** The business case said that it was supported by current operational analysis but a “fully developed justification, in the context of a balance of investment” would be undertaken in support of an “overall Project DUCKBOARD” submission in September 2004, where the requirement for “Snatch 2 in the worldwide role” would also be established. The urgency of the current requirement meant that the balance of investment analysis would not be complete before funds had to be committed. Evidence would be provided in the DUCKBOARD submission to demonstrate that investing in Snatch 2 “early” remained “the most cost effective solution”.

**211.** Four options were considered in the business case:

- do nothing;
- minor refresh;
- major refresh (Snatch 2) – fitting the old protected “pod” on a new base vehicle with upgrades to communications and ECM; or
- a commercial-off-the-shelf solution.

**212.** The preferred option was the “major refresh”. That would not provide additional physical protection; the relevant KUR said that Snatch 2 should have a protection level that was “equivalent to current Snatch”.

**213.** An off-the-shelf purchase was discounted on the grounds of cost and timing.

**214.** Considering publicity, the business case stated: “There will be considerable interest in Snatch 2 as a result of recent deaths and injuries.”

**215.** In response to a US request for additional UK forces during US operations in Fallujah (see Section 9.2), including an armoured or mechanised battlegroup to provide a theatre-wide reserve, Gen Walker agreed Lt Gen Reith’s request to return Warrior vehicles to Iraq on 28 April, to provide a battlegroup reserve for MND(SE).<sup>104</sup>

**216.** On 11 May, Major General David Richards, Assistant Chief of the General Staff (ACGS), received advice about the impact of Op TELIC’s expansion and reinforcement on Headquarters Northern Ireland.<sup>105</sup> A request had been made for 297 Snatch vehicles: 77 vehicles were needed immediately, and an additional 220 over the next three to four months. A request for 350 sets of ECM equipment had also been made.

**217.** The advice highlighted concerns about the operational implications for Northern Ireland of redeploying Snatch to Iraq, particularly over the marching season. At most, 225 vehicles could eventually be released, but that would fall short of the Op TELIC requirement by 72 vehicles. It was suggested that PJHQ be directed to conduct a

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<sup>104</sup> Minutes, 28 April 2004, Chiefs of Staff meeting.

<sup>105</sup> Minute MOD [junior officer] to MA/ACGS, 11 May 2004, ‘Impact of TELIC Expansion and Reinforcement on NI’.

full review of their current holdings and future requirement to assess the impact of a shortfall.

**218.** On 10 June, that concern was reiterated to Maj Gen Richards by Lieutenant General Philip Trousdell, GOC Northern Ireland.<sup>106</sup> He wrote:

“... it appears that what other theatres think they require is some form of protected mobility. What I require is a protected mobility vehicle which has the size and agility to perform an integral part in riot control ... My perception is, therefore, that the requests for support are not being delivered in a coherent manner and this has been particularly true of Snatch, a vehicle that has rapidly become a placebo for many operations.”

**219.** Lt Gen Trousdell warned:

“... drip feeding the protected mobility requirement from Northern Ireland is not viable in the medium to long term ... Too often have we received requests for specific equipment or specific personnel without a clearly defined effect.”

**220.** Maj Gen Richards sent the minute to Lt Gen Fry, commenting:

“We also need to address the longer term issue as we cannot continue to solve the problem on an ad hoc basis. Given our duty of care responsibilities, should we not look at the issue of protected mobility again and establish a longer term policy that can meet enduring commitments other than NI?”<sup>107</sup>

**221.** On 11 June, Maj Gen Applegate upgraded the Snatch 2 business case to an “Operational Emergency”.<sup>108</sup> It would be taken forward using UOR processes to bring the anticipated ISD from December 2004 to “as early as possible”.

**222.** Maj Gen Applegate wrote that the MOD was “engaged in contingency planning for Op TELIC surge forces”. As a result, Mr Hoon and the Chiefs of Staff had “directed” that these forces must be equipped to the same standard as those already in theatre. The industrial timelines precluded any Snatch 2 deployment meeting the “current contingency timetable” which meant that the Snatch 1.5 fleet had been increased by 150 vehicles.

**223.** On 12 June, a separate USUR was raised by the Royal Engineers, for a “suitable vehicle” that could be used by Explosive Ordnance Disposal (EOD) teams because their existing vehicle, the Snatch Land Rover, provided “inadequate protection”.<sup>109</sup>

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<sup>106</sup> Minute Trousdell to Richards, 10 June 2004, ‘Support to Operation TELIC’.

<sup>107</sup> Minute ACGS to DCDS(C), 11 June 2004, ‘NI Support to Op TELIC’.

<sup>108</sup> Minute CM(BM) to DEC(SP), 11 June 2004, ‘URD 1090 (SNATCH 2 Protected Patrol Vehicle) Business Case (BC) – Change of Status’.

<sup>109</sup> [Minute 22 Engineer Regiment Group to COS HQ I Mech Bde, 12 June 2004, ‘Urgent Statement of Operational Requirement Ballistic and Blast Protected Vehicles for Bomb Disposal and Search Teams on Op TELIC’.](#)



The Royal Engineers argued that Snatch vehicles placed EOD teams at “unacceptable levels of risk” and reduced “operational capacity, capability, flexibility and effectiveness”. They recommended the purchase of an off-the-shelf solution – the Sisu operated by the Swedish Army.

**224.** The requirement for EOD teams was later identified as a “Type C” requirement and is addressed later in this Section.

**225.** Lord Bach visited Basra from 27 to 28 April and reported an “almost universally positive” message on equipment.<sup>110</sup> On Project L\* his visit report stated:

“Lord Bach understands that the delivery of vital ECM equipment procured under this UOR is subject to delay. He would welcome advice on this and what is being done to improve matters.”

**226.** On 21 May, an MOD official replied that the L\* capability would be fully operational by January 2005 as its outstanding components would start to be delivered in July 2004.<sup>111</sup> The components already delivered would meet 90 to 95 percent of the threats encountered “thus far” in Iraq.

**227.** The official wrote: “The delays in the delivery of the full L\* capability are largely due to the lack of clear threat and technical intelligence from the operational theatre.”

**228.** On 28 June, the UK suffered its first fatality from a roadside IED when Fusilier Gordon Gentle was killed whilst performing top cover duties for a Snatch vehicle in Basra.<sup>112</sup> Two officers who were inside the vehicle survived the blast but suffered serious injuries.

**229.** The PJHQ operational summary of the incident recorded:

“The sad death of a UK soldier in an IED attack today does not signal a step change in activity in MND(SE); rather it illustrates how fortunate the UK has been to avoid fatalities over the last few months.”<sup>113</sup>

**230.** The Board of Inquiry into Fusilier Gentle’s death concluded that there had been serious delays in fitting the most up-to-date ECM equipment into vehicles and that the IED that killed Fusilier Gentle would have been “inhibited” by that equipment, although there was “insufficient evidence to prove this conclusively”.<sup>114</sup>

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<sup>110</sup> Minute PS/Minister(DP) to D Iraq, 29 April 2004, ‘Visit to Basra’.

<sup>111</sup> Minute MOD [junior official] to PS/Minister DP), 21 May 2004, ‘Visit to Basra’.

<sup>112</sup> *BBC News*, 29 October 2007, *Fusilier’s final patrol described*.

<sup>113</sup> PJHQ OPSUM, 28 June 2004, ‘PJHQ Middle East Operations Team OPSUM 131 a at 281659Z Jun 04’.

<sup>114</sup> Minute Mitchell to PS/Min(AF), 11 June 2008, ‘Claim by Rose Gentle in Respect of the Death of Her Son Fusilier Gordon Gentle in Iraq on 28 June 2004’.

**231.** In his post-tour report on 13 July, Maj Gen Stewart wrote:

“The early decision to deploy Snatch and ECM has saved lives.”<sup>115</sup>

**232.** The first IED attack in Iraq using an Explosively Formed Projectile (EFP) took place against a UK Warrior vehicle in al-Amara in May 2004.<sup>116</sup>

**233.** On 1 July, Brigadier William Moore, Director Directorate of Equipment Capability (Ground Manoeuvre) (DEC(GM)), advised PJHQ on the performance of the UK’s AFVs against recent attacks.<sup>117</sup>

**234.** Brig Moore wrote that initial assessments suggested that insurgent capabilities, including EFPs, were capable in some circumstances of overmatching armour fitted to Challenger 2 and Warrior vehicles, but they were not “at any significant risk from EFP”.

**235.** Work to identify potential enhancements had begun, although “no platform enhancement measure” in response to EFPs could be considered until an example of the specific threat weapon had been examined. He also proposed a review of TTPs. Brig Moore emphasised the importance of PJHQ highlighting any new anti-armour weapons found in theatre and full reports of past and future incidents to inform further work on armour protection.

**236.** Brig Moore provided guidance for commanders in Iraq which stated that commanders and AFV crews should “remain aware of the finite limitations of armour”.

**237.** Lieutenant General Sir William Rollo, GOC MND(SE) from July 2004 to December 2004, told the Inquiry that things were “very quiet” when he took over as GOC MND(SE) in July.<sup>118</sup> He said that the Sadrist disturbances from April and May had “died away”. Problems started arising again in August with the clash at Najaf which re-ignited attacks on the coalition, but by December Lt Gen Rollo thought “things were relatively on track”.

**238.** Asked by the Inquiry whether there was any difficulty “moving around” at this time, Lt Gen Rollo said that there was “a sufficient number of Warrior fighting vehicles” that could be used when the situation “became very unpleasant”.<sup>119</sup> He added:

“Outside of that, then we were back into Snatch Land Rovers, which at that stage, while ... they could clearly be damaged by IEDs, they were remarkably tough against the threat at that time.”

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<sup>115</sup> Report, 13 July 2004, ‘HQ MND(SE) Post Operation Report Operation TELIC 3/4 – 28 December 2003 – 13 July 2004’.

<sup>116</sup> [Report DIS, 19 August 2004, ‘Further Evidence of Lebanese Hizballah produced weapons in Iraq’.](#)

<sup>117</sup> Minute Moore to PJHQ, 1 July 2004, ‘Force Protection: Information Relating to the Performance of UK Armour in Iraq’.

<sup>118</sup> Public hearing, 15 December 2009, page 5.

<sup>119</sup> Public hearing, 15 December 2009, pages 15-16.

**239.** When asked whether he had been briefed on the threat from EFPs and the predicted growth in the use of ever more sophisticated IED technology when he became CJO in July 2004, ACM Torpy told the Inquiry:

“Not specifically EFPs. IEDs, yes ... it was not a significant threat in 2004 when I took over and it grew ...”<sup>120</sup>

### THE IMPACT OF THE 2004 SPENDING REVIEW ON FRES

**240.** During September 2003, the MOD’s cash requirement for 2003/04 had risen from £490m to £1,152m. That prompted Mr Gordon Brown, Chancellor of the Exchequer, to impose controls on the MOD’s management of its resources. That is addressed in Section 13.1.

**241.** At the DMB on 1 October, Mr Ian Andrews, MOD Second Permanent Under Secretary, explained that the MOD was now facing a near-cash shortfall of £1.1bn.<sup>121</sup> Part of the MOD’s response was to identify near-cash reductions of £300m across the DLO and DPA.

**242.** Mr Andrews had produced a paper for the Board that set out proposals for those reductions, all of which were accepted. One measure was to defer £13m from the FRES programme (needed to underpin its suggested procurement strategy), which could “delay the programme by a few months”.<sup>122</sup>

**243.** Considering the Equipment Programme on 26 February 2004, the DMB was told by Sir Kevin Tebbit that Treasury controls had rendered it “unaffordable”.<sup>123</sup> There was likely to be no increase in resources and there was no scope to take risks. He said that any additional enhancements “must have compensating offsets”.

**244.** The DMB discussed Mr Woolley’s paper of proposed enhancements and savings measures, including deferring the FRES ISD by a further year to December 2011.<sup>124</sup> The DMB said that this was a concern and frustrating:

“But there was a tension between the need for a basic vehicle relatively quickly and a more complex capability downstream.”

**245.** The Assessment Phase for the procurement of FRES was announced on 5 May 2004.<sup>125</sup>

**246.** On 24 June, in the context of a wider DMB discussion about the risks of meeting the targets on cost and time for major procurement projects, concern was expressed

<sup>120</sup> Public hearing, 18 January 2011, page 62.

<sup>121</sup> Minutes, 1 October 2003, Defence Management Board meeting.

<sup>122</sup> Paper 2nd PUS, 30 September 2003, ‘In-Year Management: AP03 update’.

<sup>123</sup> Minutes, 26 February 2004, Defence Management Board meeting.

<sup>124</sup> Paper Finance Director, [undated], ‘ST/EP04: Years 1 and 2’; Minutes, 26 February 2004, Defence Management Board meeting.

<sup>125</sup> Report MGO, 9 July 2004, ‘MGO’s Report to ECAB 2004’.

that FRES “was in danger of falling into the trap of over-specification ... despite Board injunctions to the contrary”.<sup>126</sup> The project would therefore focus on “delivering simpler variants as soon as possible ... with more complex variants later on”.

**247.** On 25 June, Maj Gen Richards produced a paper for the Executive Committee of the Army Board (ECAB) on the impact of the DMB’s decisions.<sup>127</sup> He wrote that support to current operations “remained the enduring top priority”, but between 2004 and 2008, the emphasis should be on developing network-enabling activity, an initial air manoeuvre capability, “and the development of medium weight forces”.

**248.** The “most painful measure” for the Army as a result of the DMB decisions was the effect on the FRES programme. Maj Gen Richards wrote that delays in agreeing the procurement strategy for the programme meant that the ISD had slipped from 2009 to 2010. In addition, the measures agreed by DMB as part of the discussions about the Equipment Programme in February, meant that the ISD could be delayed further to 2012. As a result, the full operating capability for FRES was “unlikely” to be fielded before 2017. That would mean running on existing armoured vehicles and could lead to additional Short Term Plan or Equipment Programme costs elsewhere in the programme.

**249.** Addressing future requirements, the paper stated that the Army’s highest priority for the next 15 years was the development of a rapid intervention capability “with capable medium forces as soon as possible”. Given the delay to FRES, “an imaginative and incremental approach” would be needed. ECAB was asked to agree that the priorities for a medium weight capability were:

- **Between 2005 and 2009:** Development of an initial medium weight capability, “based on in-service equipments, and those about to enter service in the period”.
- **Between 2010 and 2014:** Capable medium weight forces based on the simple FRES variant.
- **Beyond 2014:** Fully capable medium weight forces, including complex FRES variants.

**250.** It was also clear from the paper that the Army perceived the costs of the DMB’s decision to protect large capital programmes for the Navy and Air Force, in support of an “apparent ambition to deliver a sophisticated capability in every capability area”, had been found from “Land programmes”; and that could lead to further cuts in future.

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<sup>126</sup> Minutes, 24 June 2004, Defence Management Board meeting.

<sup>127</sup> Paper ACGS, 25 June 2004, ‘Review of the Equipment Programme for the Army 2004 (Repa 04)’.

## A “TYPE B” VEHICLE

**251.** In Maj Gen Richards’ review of the Equipment Programme for the Army on 25 June, he had stated that, in “the very short term”, UORs would allow “an uplift in capability to meet operational requirements”.<sup>128</sup> The UK would “be committed to Op TELIC until at least the end of 2006” and “the UK’s commitment to Afghanistan could increase in the same timeframe”. Operations in Iraq had:

“... highlighted the need for a mix of heavy ground manoeuvre capability and DCC [Dismounted Close Combat], whilst the requirement for improved protected mobility has been met by the deployment of Snatch from NI and Saxon. Snatch will be replaced by DUCKBOARD beyond 06. The need for a coherent plan to deliver protected mobility vehicles to meet the requirement of both theatres of operation has been highlighted.”

**252.** On 7 July, DEC(SP) set out the next steps on Project DUCKBOARD so a business case could be developed and approved by September.<sup>129</sup> The minute stated that the role for light protected mobility in Northern Ireland remained enduring, and it reiterated how operational experience overseas had highlighted capability gaps in post-conflict, peace support operations and counter-terrorist situations.

**253.** DEC(SP) stated that the way forward was “beset with unresolved issues”, including:

- a range of threats across new operating environments, such as Iraq and Afghanistan with “ill-defined” requirements;
- “no clearly defined” user focus or capability management mechanisms;
- an “incomplete definition” of the number of vehicles required; and
- “no defined logistic vision or relationship with other mobility capabilities”.

**254.** DEC(SP) repeated the concerns raised in the 14 April business case about the aged Snatch fleet and chassis corrosion.

**255.** The number of required vehicles remained “undefined” but DEC(SP) stated that an initial analysis “might be” for three different types of PPV:

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<sup>128</sup> Paper ACGS, 25 June 2004, ‘Review of the Equipment Programme for the Army 2004 (Repa 04)’.

<sup>129</sup> [Paper DEC\(SP\) to D Jt Cap, 7 July 2004, ‘Project DUCKBOARD – Way Forward’.](#)

Table 1: The requirement for three types of PPV, July 2004

Type	Features	Estimated number required
A	Essentially a Snatch replacement with the same levels of ballistic protection for low level counter-terror and public order operations, mainly for use in Northern Ireland.	612
B (the Expeditionary or "Rest of World" vehicle)	For expeditionary use in "high threat CT operations". The minimum ballistic protection level required was considered to be B6 (as was currently provided by Tavern).	144
C	A specialised EOD vehicle; again requiring B6 ballistic protection for use on expeditionary operations.	120

**256.** On protection levels, the DEC(SP) said that "the terrorist will invariably overmatch the target" given that Iraqi and other Middle Eastern terrorists had been "able to destroy tanks in IED attacks":

"Protection levels therefore should be optimised for blast, fragments, the 'near-miss' etc rather than to defeat direct attack. Protection for a PPV is more a function of Tactics, Techniques and Procedures (TTPs) (examples include top-cover sentries, combined foot and mounted patrols, multiple vehicle patrols, helicopter top-cover etc) than thickness of armour."

**257.** The purchase of new vehicles to meet the Type A requirement had an estimated total programme cost of £62.5m. As only £55.31m of funding was available, an upgrade to Snatch 2, at an estimated total cost of £53.8m, was recommended.

**258.** DEC(SP) intended to take a "twin-track" approach to procurement:

- A programme to upgrade existing Snatch vehicles to Snatch 2 would begin almost immediately to meet the Type A requirement, with 100 Snatch 2 being available by 31 December 2004 and a further 200 by 30 June 2005.
- An initial assessment for the remainder of the Type A requirement and the Types B and C requirement would be undertaken. Delivery of the Type B requirement was expected in Financial Year (FY) 2006/07 and Type C was expected in FY 2007/08.

**259.** The letter identified the savings measure imposed from the 2004 Spending Review, to reduce the expeditionary capability from medium to small scale in the longer term, as "programme blight". It stated that that, and "the lack of an endorsed requirement for both numbers and capability", meant that a business case for the whole light protected mobility requirement would not be available before September 2004.

**260.** DEC(SP) also wrote that the actual requirement for Type B vehicles was 396 but the savings measure agreed in February 2004 had rendered that unrealistic.

**261.** The minute concluded, however, by stating that the enhancement measure agreed in the same review, to bring forward the funding for 80 vehicles to 2004/05, had enabled the search for a solution:

“To date light protected mobility in an expeditionary role has been something of an orphan capability, managed on an ad hoc basis from a base capability centred on the NI role. Operational imperatives and the bring-forward of funding now offer the opportunity to develop the capability in support of global expeditionary operations, delivering a coherent and integrated concept, whilst at the same time continuing to meet long-term NI commitments.”

**262.** An acquisition strategy for the Type B (expeditionary) PPV capability was produced by the Specialist Utility Vehicle IPT on 19 July.<sup>130</sup> It stated that operational analysis studies had “discounted the use of Snatch 2 as a coherent option for meeting this capability”. It considered three options:

- to do nothing;
- a commercial off-the-shelf or a modified commercial off-the-shelf procurement; or
- design development – creating a “bespoke” solution.

**263.** The option to do nothing was not recommended because the “use of in-service assets that fail to meet the minimum stated performance levels would put users at risk and potentially create an operational vacuum at the source of provision”. The time and cost implications of the design development option meant that that was also ruled out.

**264.** Considering the commercial off-the-shelf procurement, the IPT wrote that there were “a number of products on the market from specialist military vehicle suppliers that could provide a near match to the identified KURs and derived KSRs [Key Service Requirements]”. The difficulty was that there would “inevitably” be areas that would not be “optimised for British Army use”, such as communications equipment.

**265.** A modified commercial off-the-shelf procurement was therefore the recommended option as that would allow the MOD to engage suppliers over the British Army’s specific requirements.

**266.** The procurement strategy was to be developed and reviewed leading up to the submission of a business case. No timescale or deadline was specified.

**267.** Major General Peter Gilchrist, Master General of the Ordnance, produced a paper for an ECAB meeting on 20 July on the Army’s Equipment Programme.<sup>131</sup> He said that

<sup>130</sup> [Paper SUV IPT, 19 July 2004, ‘Acquisition Strategy Project DUCKBOARD – Protected Patrol Vehicle’.](#)

<sup>131</sup> Report MGO, 9 July 2004, ‘MGO’s Report to ECAB 2004’.

new lessons from Operation TELIC were “the need to give greater thought to future ECM, protected mobility and [Type] B vehicle desertisation requirements”.

**268.** The requirement for PPVs on operations continued to grow. Immediate needs were being met by the redeployment of vehicles from Northern Ireland and desertisation would be complete by the end of May 2004,<sup>132</sup> “despite delays in receiving clear requirements and UOR funding”. There was concern “over the longer-term sustainability” of Snatch’s “aged, petrol-engined chassis” but the funding brought forward from EP04 would “help address this issue”.

**269.** Maj Gen Gilchrist wrote that the DEC(SP) minute of 7 July had provided “a sensible framework ... to commence project activity” using the twin-track approach: “... in the short term (1-2 yrs), a life extension for Snatch, and in the medium term a new COTS [commercial off-the-shelf] PPV, a little larger than Snatch”. The life extension programme, “known as Snatch 2”, was already under way. The business case had been approved and trial vehicles had been delivered in June.

**270.** On FRES, Maj Gen Gilchrist wrote that, following the announcement of the its Assessment Phase on 5 May 2004, it was envisaged that a contract would be let in late 2004, leading to Main Gate approval “for the system and simpler FRES variants” in late 2006.

**271.** At ECAB on 20 July, although “disappointment” was expressed at the pace with which FRES was being taken forward, the meeting was told that “the collective view of the IAB [Investment Approvals Board] was that the project had not been sufficiently well thought through in terms of requirements”.<sup>133</sup>

**272.** ECAB also noted that “the Army needed better to influence the equipment and planning communities”.

**273.** In discussion of the review of the Army Equipment Programme by Maj Gen Richards, it was pointed out that “it should be made clear that developing an initial medium weight capability [between 2005-2009] was based on existing equipment and did not depend on FRES”.

#### THE THREAT IN MID-2004

**274.** The IED threat in Iraq continued to grow.

**275.** On 28 June 2004, the Coalition Provisional Authority (CPA) formally handed over to a sovereign Iraqi government. The security situation in Iraq remained febrile. The chronology of events and their impact on the UK’s overarching strategy is detailed

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<sup>132</sup> Maj Gen Gilchrist’s report was written in July 2004. It is not clear whether the process of desertisation had been completed by the end of May 2004 or whether it was still under way.

<sup>133</sup> Minutes, 20 July 2004, Executive Committee of the Army Board meeting.



in Section 9.3. The impact of events on the progress of SSR is described in Section 12.1 and the impact on reconstruction is provided in Section 10.2.

**276.** The JIC Assessment of the security situation in Iraq on 21 July stated:

“We also judge that Lebanese Hizballah will retain an influence in Iraq (Hizballah members may have been linked to the group that attacked the Sheraton Hotel,<sup>134</sup> and could supply Iraqi groups with terrorist expertise and munitions.”<sup>135</sup>

**277.** On 26 July, the DIS reported that an EFP IED had been found on 15 July in Baghdad.<sup>136</sup> The DIS noted that the EFP IED design had not previously been encountered in Iraq but was, as with the find in May 2004, of a type associated with Lebanese Hizballah. There were also indications of Iranian involvement in the construction of the devices.

**278.** The DIS concluded:

“Irrespective of the attribution of the design, production or employment of these charges, their presence and use in attacks against Multi-National Forces in Iraq is a significant force protection issue.”

**279.** A JIC Assessment was produced on 11 August about the recent upsurge of Shia violence.<sup>137</sup> It stated that Iran was “establishing agent networks, providing funding and material to a number of Shia groups and generally seeking to gain influence” and judged that “Iranian encouragement, funding and possibly arms” were “being provided to al-Sadr and the Mahdi Army”; but the “exact degree of Iranian involvement” remained “unclear”.

**280.** On 12 August, Private Marc Ferns was killed by a roadside IED while driving a Warrior vehicle.<sup>138</sup> The vehicle had its hatches open to increase visibility and because of the lack of air conditioning in the vehicle. The blast penetrated the open hatch, killing Pte Ferns.

**281.** A Current Intelligence Group (CIG) Assessment the following week stated that theatre had reported that a number of Iranian sourced weapons had been seized in al-Amara.<sup>139</sup>

**282.** General Sir Timothy Granville-Chapman, Commander in Chief Land Command, visited Iraq later that month.<sup>140</sup> His report to General Jackson highlighted that the

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<sup>134</sup> Iraqi insurgents launched rocket attacks on two hotels in Baghdad on 2 July 2004, one of which was the Sheraton: *BBC News*, 2 July 2004, *Rocket blasts hit Baghdad hotels*.

<sup>135</sup> [JIC Assessment, 21 July 2004, 'Iraq Security'](#).

<sup>136</sup> Report DIS, 26 July 2004, 'Further Evidence of Lebanese Hizballah produced weapons in Iraq'.

<sup>137</sup> [JIC Assessment, 11 August 2004, 'Iraq Security: Shia Violence'](#).

<sup>138</sup> PJHQ OPSUM, 16 August 2004, 'PJHQ Middle East Operations Team OPSUM 138 as at 161659Z Aug 04'.

<sup>139</sup> [CIG Assessment, 18 August 2004, 'Iraq security'](#).

<sup>140</sup> Letter Granville-Chapman to Jackson, 20 August 2004, [untitled].

security situation was “now far more difficult than hitherto”. It was “complex and multi-layered” and, with the intimidation and killing of key people, it was having an effect on governance and recovery.

**283.** On 3 September, a CIG Assessment reported:

“The recent fighting has shown that the Mahdi Army is developing into an increasingly resolute organisation, capable of launching sophisticated attacks ... They have been able to mount determined and sophisticated attacks using small arms, improvised explosive devices (IEDs) and heavier weapons such as mortars and RPGs ... Al-Sadr retains the ability to mobilise a significant body of poor, unemployed Shia youth.”<sup>141</sup>

**284.** The Assessment also stated that “some recovered anti-armour weapons may have been procured through Lebanese Hizballah with Iranian knowledge”.

**285.** On 26 September, a report from Mr Robert Davies, Chief Police Adviser to the Iraq Ministry of Interior, stated that the FCO’s Overseas Security Adviser had directed UK police staff not to travel in Snatch Land Rovers because of inadequate armour.<sup>142</sup> Mr Davies wrote:

“This direction places a significant limitation on the deployment of our staff ... The appropriate protection could be provided by a team from the Control Risk Group,<sup>143</sup> but there are insufficient numbers to meet our requirements.”

**286.** Acting Commander Kevin Hurley, Chief Police Adviser in Basra June 2004 to December 2004, wrote in a statement to the Inquiry:

“Security conditions made road travel almost impossible ... [W]e were not allowed to travel in Army vehicles due to their lack of protection (Snatches). We were all but ineffective for most of our time. Ultimately ... we reached a stage whereby if we could not get a helicopter ride we did not move.”<sup>144</sup>

**287.** On 28 September, Corporal Marc Taylor and Gunner David Lawrence were killed during the ambush of a military convoy south-west of Basra.<sup>145</sup> An armoured Land Rover was badly damaged and the soldiers came under fire as they tried to extract the casualties.

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<sup>141</sup> [CIG Assessment, 3 September 2004, 'Iraq security: Shia violence in Multi-National Division \(South East\)'](#).

<sup>142</sup> Minute Davies, 26 September 2004, 'Weekly report number: 46'.

<sup>143</sup> Control Risks Group was the security company contracted to provide armed support to UK secondees. Its role and the security concerns for civilian personnel is detailed in Section 15.1.

<sup>144</sup> Statement, 17 June 2010, page 3.

<sup>145</sup> *BBC*, 30 September 2004, *MOD names second killed soldier*; *GOV.UK*, 1 October 2004, *Corporal Marc Taylor and Gunner David Lawrence killed in Iraq*.

**288.** On 1 October, the DIS produced two reports that were circulated within the MOD and to the intelligence agencies.<sup>146</sup> One looked at the Command Wire IED (CWIED) threat and the other at the Radio-Controlled IED (RCIED) threat.

**289.** The CWIED report assessed that CWIED attacks were relatively uncommon but were growing in number and sophistication; that was assessed as a “concerted attempt” to counter ECM. The DIS advised that improvements to ECM were “likely to lead to increased use of CWIED, RCIED and other forms of non-Radio-Controlled command initiated IEDs”.

**290.** The RCIED report stated that RCIED attacks represented around 75 percent of all IEDs and that IEDs in turn accounted for 75 percent of casualties. The DIS assessed that in the next 12 months:

“IED technology in use with other Middle Eastern groups especially Lebanese Hizballah, can be expected to appear in Iraq. This would include multiple systems, such as RC (Radio-Controlled) switched PIRs [Passive Infra Red].”

**291.** Also on 1 October, Gen Walker received an update from AM Torpy on the provision of ECM to UK forces:

- The number, complexity and sophistication of RCIEDs used against coalition forces was increasing.
- The L\* programme was experiencing some manufacturing delays.
- There was insufficient ECM equipment in MND(SE) to provide protection for all troops and therefore prioritisation had been necessary.
- ECM did not offer 100 percent protection and was used in conjunction with TTPs and other force protection measures.<sup>147</sup>

**292.** AM Torpy informed Gen Walker that the value of the L\* programme had risen to over £100m since its approval in late 2003.

**293.** In his post-tour report, Maj Gen Rollo commented:

“The current ECM suite is adapting to meet the threat, providing UK soldiers the best protection amongst the coalition forces, but procurement and production struggle to meet the demands in theatre. We are well below the scales needed for appropriate ECM protection and whilst the problem lies with industry there must be constant pressure to improve the situation.”<sup>148</sup>

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<sup>146</sup> Report DIS, 1 October 2004, ‘The Radio-Controlled Improvised Explosive Device Threat to UK Forces in Iraq’; Report DIS, 1 October 2004, ‘The Command Wire Improvised Explosive Device Threat to UK Forces in Iraq’.

<sup>147</sup> Minute PJHQ to PSO/CDS, 1 October 2004, Op TELIC/ORACLE: Provision of Electronic Counter Measures (ECM)’.

<sup>148</sup> Report Rollo to PJHQ MA to CJO, 4 December 2004, ‘Post Operation Report Operation Telic 4/5 14th July – 1st December 2004’.

## A PPV FOR AFGHANISTAN

**294.** In June 2004, a decision was taken that the Allied Rapid Reaction Corps HQ (ARRC), a UK-led NATO asset, should deploy to Afghanistan in 2006, rather than Iraq (see Section 9.2). By October, that decision had become an important factor in considering resources for Iraq.

**295.** On 15 October, the strategy for delivering Project DUCKBOARD was produced.<sup>149</sup>

**296.** A total of 371 “desertised” Snatch 1.5 vehicles had been delivered to support operations in Iraq: 308 were in operation and 63 were held in reserve. An additional 70 Snatch 2 vehicles would be available from December 2004, also for the reserve, to replace the 1.5 variants as their capability deteriorated. More than 20 vehicles on Op TELIC had already been damaged beyond repair.

**297.** The strategy identified that a requirement for protected mobility still had to be defined and that there were a number of “challenges”, including:

- “If Defence has to support; current NI commitments; a continuance of Op TELIC on current scales; and a medium scale operation in Afghanistan simultaneously in 2006, a new acquisition of Protected Mobility vehicles, currently unfunded ... will be necessary.”
- Production would need to start in April 2005 to meet the “ready to train date” for deployment to Afghanistan.
- Regardless of concurrent operations in 2006, “urgent EP/UOR action” was needed to meet “USURs arising from Operation TELIC and to sustain the Snatch fleet”.
- There was “no overarching doctrine, no endorsed CONOPS nor definitive scaling for the provision of Protected Mobility for expeditionary operations”.
- The “lack of definition of the numbers and types of vehicles required” continued to “stall the acquisition process”.

**298.** The strategy recommended requirements should be taken forward as three separate projects, “within an overarching scrutiny mechanism”, so that each strand could be delivered independently and at its own pace:

- Type A project (“Snatch 2”) – continuing the conversion of existing Snatch vehicles for operations in UK and Iraq (the first tranche already under way as an Operational Emergency);
- Type B project (“Vector”) – producing this capability would depend on Afghanistan and Iraq concurrency assumptions “and or direction as to required protection levels”; and

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<sup>149</sup> [Minute MOD \[junior officer\] to D Jt Cap \(AD Jt Mvre\), 15 October 2004, ‘Strategy for Delivery of Protected Patrol and Combat Support Mobility – Project DUCKBOARD’.](#)

- Type C project (“Format”) – producing capability for combat support units in expeditionary operations, including replacing eight Zimmer<sup>150</sup> vehicles sent to Iraq for IED Disposal teams in April 2003, which were “failing” and the USUR raised by the Royal Engineers on 12 June for “some form of protected mobility”.

**299.** The strategy stated that an analysis of the numbers had “proved extremely difficult” without any endorsed CONOPS and “no overall front line Customer 2 lead”. The 308 Snatch 1.5 vehicles in Iraq, and 133 in reserve, were listed as a “firm requirement”.

**300.** The “emerging requirements” included a minimum of 224 Type B Vector vehicles for Afghanistan in 2006. Considering its options, the strategy stated that:

- If operations in Iraq and Afghanistan were not concurrent, the present vehicle scaling would suffice, Vector would not be procured, and any enhancements to the 2005 Equipment Programme would be withdrawn. Priority would switch to sustaining the conversion of Snatch 1.5 vehicles to the Snatch 2 variant.
- If the operations were concurrent, the requirement for 224 vehicles for Afghanistan could be met by removing the 133 Snatch vehicles held in reserve for Iraq and reducing Northern Ireland’s allocation by 100. “Alternatively, TELIC could reduce to 100 vehicles, freeing the balance of 271”, subject to refurbishment, available for Afghanistan.
- If the operations were concurrent, an additional capability could be procured. That was the recommended option.

**301.** The “realistic assessment” was that definitive requirements and numbers were not likely to be possible before December 2004 and the balance between Iraq and Afghanistan was “unlikely to be clear before mid 05”. The strategy proposed that:

- Snatch 2 production be extended by a further Operational Emergency business case for the conversion of another 360 Snatch 1 vehicles to guarantee the model’s sustainability for 2006;
- the first tranche of 141 Vector vehicles be procured by UOR against Equipment Programme funding to ensure an interim operating capability by 31 January 2006; and
- the first two of four tranches be procured for 24 combat support vehicles by UOR against Equipment Programme funding.

**302.** On 27 October, Commodore Peter Eberle, Director Directorate of Joint Capability, raised an SOR for all three Types of PPV with DEC(SP) and Brigadier Tim Inshaw, Director of Capability Integration (Army) (DCI(A)).<sup>151</sup> Cdre Eberle said that it was “needed as a matter of priority” to inform consideration of options in the 2005

<sup>150</sup> The Zimmer vehicle was a deployable EOD capability vehicle that was brought into service in approximately January 2003.

<sup>151</sup> [Paper Eberle, 27 October 2004, ‘Statement of Operational Requirement for Protected Patrol Vehicle \(PPV\) for Operations During Period 2005-2007’.](#)

Equipment Programme and because of the finite number of Snatch vehicles and the lead times needed by industry to produce additional vehicles in time for a deployment to Afghanistan in 2006.

**303.** Cdre Eberle stated that there was a potential increase in operational activity over the period 2005-2007 and, in particular in 2006, which correlated with priorities already identified: the importance of light forces in combating international terrorism and the key capability of force protection from asymmetric threats. The “requirement for protected mobility and force protection measures” was “unlikely to diminish”. PPVs had continued to prove their worth, “albeit within strict limitations of physical protection”.

**304.** Looking at the three variants of PPV required, the paper stated that the User Requirement Document (URD)<sup>152</sup> for the Type A (public order) variant remained “extant”. The URD for the Type B (expeditionary) variant was “similar to the Type A” but also needed:

- better physical protection,<sup>153</sup> including protection against fragmentation and blast, which was “essential”, and some degree of protection against mines which was “highly desirable”; and
- the ability to be fitted with the most appropriate ECM suite to counter the prevailing threat in a given theatre.

**305.** In relation to deployment in Iraq, the paper stated that the employment of PPV Snatch was “threat driven”, which:

“... meant that all tasks being conducted in or through specific areas have required the use of PPV Snatch, with these tasks ranging from framework patrolling to the escorting of white fleet vehicles that are unable to provide their own top cover protection.”

**306.** The paper’s recommendations included:

- A minimum requirement of 1,236 vehicles to cover both Type A and Type B PPV variants should be made available to support all UK operations worldwide during 2006.<sup>154</sup>
- A minimum requirement of 1,228 ECM suites which “should be able to counter the prevailing threat where PPV are deployed”.
- The figures were the minimum and not the totality of the requirement, constituting 72 percent of the potential peak requirement.

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<sup>152</sup> A specification about what the equipment is expected to do and what features or capabilities it needs to fulfil its role.

<sup>153</sup> The precise level of physical protection specified remains classified.

<sup>154</sup> The detail about how this figure was broken down according to each operation was provided in an attached annex but the MOD has been unable to provide the Inquiry with a legible copy and unfortunately the defined PPV requirement for Iraq and Afghanistan cannot be seen.

- Brig Inshaw would act as Customer Two “Core Leader” with “the role of overseeing the lines of development” in consultation with Cdre Eberle, who would act as the joint Customer Two.

**307.** Cdre Eberle stated that the number of PPVs required had been “derived from consultation with FLCs, PJHQ and within MOD Centre” but there were a number of “unknowns” that constrained the ability to “achieve a high degree of accuracy” in the figures. Those included the timeline for the drawdown in Iraq and, for Afghanistan, the nature of the threat, the UK CONOPS, and the scale and timing of the UK’s medium-term engagement.

**308.** The paper stated that there were “no alternatives to PPV for the protected mobility capability requirement within the timeframe under consideration”. It described tracked light armoured vehicles as “inappropriate due to their posture and the extended distances that are regularly travelled while on patrol or escort tasks”.

**309.** Civilian movements in Iraq were being constrained by the IED threat as even the Army’s more heavily armed vehicles came under attack.

**310.** On 4 November, Sergeant Stuart Gray, Private Paul Lowe and Private Scott McArdle were killed in a suicide bomb attack at a vehicle check-point in Fallujah.<sup>155</sup> They had been travelling in a Warrior vehicle. An Iraqi interpreter was also killed and eight soldiers were injured.

**311.** On 5 November, Mr David Hayward, FCO Military Liaison Officer, sent a teleletter to Mr Tom Dodd, Deputy Consul General in Basra, in reply to “a number of problems” Mr Dodd had raised about policing in MND(SE).<sup>156</sup> He wrote:

“You [sic] comment that rigid security rules prevents senior police officers from being allowed to move freely on the ground is understood. The underlying issue is that FCO duty of care for all HMG staff currently dictates that military vehicles do not meet the minimum level of protection required.”

**312.** Mr Hayward wrote that they were discussing with the Security Strategy Unit whether there was any “room for flexibility in application of current policy”. He added: “However, as you know the duty of care does weigh heavily in terms of the safety of personnel in Iraq.”

**313.** On 8 November, Private Pita Tukutukuwaqa was killed when the Warrior vehicle in which he was travelling hit a roadside IED south west of Baghdad.<sup>157</sup>

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<sup>155</sup> GOV.UK, 6 November 2004, *3 British soldiers killed in Iraq*; BBC News, 5 November 2004, *Blair tribute to Black Watch dead*.

<sup>156</sup> Teleletter Hayward to Dodd, 5 November 2004, ‘Southern Iraq: Civilian Policing’.

<sup>157</sup> GOV.UK, 10 November 2004, *Private Pita Tukutukuwaqa*; BBC News, 9 November 2004, *MOD names soldier killed in Iraq*.

**314.** AM Torpy visited Iraq from 24 to 27 November.<sup>158</sup> He noted that “the level of incidents [had] increased significantly” since his visit in August, but in MND(SE) the security situation was “improved”.

**315.** On 2 December, the DIS produced a report on the evolution of the IED threat in Iraq.<sup>159</sup> It stated:

“Improvised Explosive Devices (IEDs) remain the main killer of coalition forces (CF). The threat from IEDs continues to evolve not only quantitatively, but also qualitatively, with new or modified device types and Modus Operandi (MO).

“The rise in IED attacks in 2004 indicates that, despite CF tactical successes, the security situation has not improved overall and individual terror groups are making significant progress in terms of ability to mount successful IED attacks, probably through improved C2 [command and control], logistics, recruiting and external assistance.

“Improvement in IED technology has been most significant in Shia areas since May 04, where insurgents have technical progress that we assess could only have been achieved through focused external assistance. We assess that this may be due to an influx of Lebanese Hizballah IED technology under Iranian sponsorship ...”

**316.** The DIS stated that the increased use of CWIEDs in MND(SE) indicated an awareness of UK ECM and assessed that the threat was likely “to continue to develop to resemble that of other Middle East countries, such as Israel, with the further import of IED technology and MO from Palestinian, Lebanese and AQ [Al Qaida] associated groups”. It highlighted that IEDs accounted for 40-45 percent of MNF fatalities and over 70 percent of all injuries.

**317.** On 19 January 2005, Mr Hoon wrote to Mr Paul Boateng, Chief Secretary to the Treasury, asking for an increase of £165m in the MOD’s current UOR ceiling (£829m).<sup>160</sup> The additional funding would cover “mainly” force protection and communications equipment:

“The environment in Iraq for the second half of 2004 was marked by a gradual deterioration in the security situation ... The immediate and expanding threat from Radio Controlled IEDs (RCIEDs), which has already resulted in death and injury to UK personnel, has required us to procure further Project L\* ECM equipment, to the value of £54m ...”

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<sup>158</sup> Minute Torpy to Walker, 30 November 2004, ‘CJO Visit Report – Iraq – 24-27 Nov 04’.

<sup>159</sup> [Report DIS, 2 December 2004, ‘The Evolution of the IED Threat in Iraq’.](#)

<sup>160</sup> Minute Hoon to Boateng, 19 January 2005, ‘Op TELIC; UORs’.



**318.** Mr Hoon wrote:

“Protected mobility continues to be a key requirement for forces undertaking a wide range of roles, including patrolling, public order duties and IED search tasks. Protected Patrol Vehicles are therefore vital, and we are seeking an advance of programmes already in our Equipment Plan to the tune of £12m.”

**319.** On 26 January, as part of the new biennial planning cycle, the DMB discussed proposals in a paper by Mr Woolley on the “Future Defence Programme”.<sup>161</sup>

**320.** Mr Woolley outlined that the strategy for Short Term Plan and 2005 Equipment Programme was to implement decisions already taken by the DMB and Ministers, “rather than making significant adjustments to force structure or capability”.

**321.** Mr Woolley wrote that “some £82m” had been earmarked to fund the continuing support costs of recently procured UOR equipments. Recognising constraints on accessing the Reserve, £30m had been set aside across 2005/06 and 2006/07 to “provide headroom for equipment enhancements that might be needed for planned operations” but no specific provision had been made for the “extra equipment costs required to support the possible deployment of a UK brigade to Afghanistan alongside the ARRC HQ”.

**322.** Along with the associated budgets, the paper identified:

- 69 proposed savings measures, including a delay to the ISD of three FRES variants;
- 78 proposed enhancements, including three enhancements to Warrior, two for CVR(T) (both including enhanced protection); and
- 24 further savings measures that were not recommended for DMB approval.

**323.** The list of proposed enhancements also identified “additional protected mobility for light forces from 2006”. That included the upgrade of 550 “near-obsolete Northern Ireland fleet of Snatch 1 vehicles, through the provision of a new chassis”, and 100 Vector vehicles that were “better suited to worldwide, rough terrain operations”.

**324.** The minutes of the DMB recorded that Sir Kevin Tebbit had said the 2004 Spending Review settlement had “increased resources in real terms, but there were substantial pressures”.<sup>162</sup>

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<sup>161</sup> Paper Finance Director [MOD], [undated], ‘Future Defence Programme 05’.

<sup>162</sup> Minutes, 26 January 2005, Defence Management Board meeting.

**325.** Lt Gen Fulton told the DMB that there had been “significant cost growth in several large programmes, some of which had proved impossible to contain”, and that:

“... balancing and de-risking the programme had required a number of painful measures, especially in the early years. But it was now a robust programme that could be taken forward effectively.”

**326.** In agreeing the programme to be submitted to Mr Hoon, the DMB approved lists of proposed savings and enhancements in the Equipment Programme, “reflecting the pressures and changing circumstances since the 2004 Spending Review settlement”.

**327.** A report on lessons from Op TELIC produced by the MOD’s Directorate of Operational Capability (DOC) on 22 February stated:

“With the continued increase in the use of IEDs, the Snatch conversion programme was a belated reaction to the threat ... Trends indicate that future operations will continue to face threats of a similar nature and Defence planning should be cognisant of this reality, rather than reactive to a situation after a deployment is under way.”<sup>163</sup>

**328.** The report highlighted two lessons on protected mobility:

- “Sustained investment is required to provide sufficient protected mobility vehicles for operations in hostile environments such as Iraq ...”
- “Sufficient equipment to protect patrol vehicles against IEDs should be maintained and available for current and future operations ...”

**329.** The Chiefs of Staff discussed the report on the same day but the minutes do not record any specific reference to the protected mobility concerns raised in the DOC report.<sup>164</sup>

**330.** The PPV Capability Integration Working Group (CIWG) met for the first time on 1 February 2005.<sup>165</sup> The Chair summarised the group’s challenge as “a combination of delivering a PPV capability with insufficient funding against an ambitious timeline”.

**331.** A DEC(SP) representative briefed the CIWG that the DMB had agreed, subject to Ministerial approval of the 2005 Equipment Programme, that the Capital Departmental Expenditure Limit should be approximately £42m over the next three financial years.

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<sup>163</sup> Report DOC, 22 February 2005, ‘Operation TELIC Lessons Study Vol. 2’.

<sup>164</sup> Minutes, 22 February 2005, Chiefs of Staff meeting.

<sup>165</sup> Minutes, 1 February 2005, Protected Patrol Vehicle (PPV) Capability Integration Working Group meeting.

**332.** The minutes recorded that the £42m was insufficient to deliver the total fleet requirement of 1,228 needed to support the deployment of PPVs worldwide.<sup>166</sup> The 1,228 figure would have supported the deployment of 982 Snatch 2 and 246 Vector. There was now only available funding for one of the following options:

- 512 vehicles (312 Snatch 2 and 200 Vector);
- 724 vehicles (624 Snatch 2 and 100 Vector); or
- 936 vehicles (936 Snatch 2 and no Vector).

**333.** It was agreed that the Directorate of Joint Capability would confirm which option should be pursued by 18 February.

**334.** The Specialist Utility Vehicle IPT stated that in order to deliver 100 Vector vehicles by June 2006, the solution would need to be a commercial off-the-shelf option and the business case needed to be submitted by July 2005, with the contract let by October 2005.

**335.** The group agreed Key User Requirements for the Vector vehicle and, the Specialist Utility Vehicle IPT was tasked to identify all of the options that could meet them. Those would be discussed at the next CIWG on 23 February.

**336.** On 21 February, a revised PPV SOR was produced in light of the funding levels agreed by the DMB, which was referred to in the SOR as a “45% cut” (see the consideration of that figure in the Box, ‘Was there a 45% cut?’).<sup>167</sup>

**337.** The SOR elaborated on the three options provided by the PPV Working Group:

- Option 1: Convert the remainder of Snatch to Snatch 2 – giving a total of 936 vehicles;
- Option 2: Convert 312 Snatch to Snatch 2 (in addition to the 312 already undergoing conversion for Iraq) and procure approximately 100 Vector giving a total of 624 Snatch 2 and 100 Vector – an overall total of 724 vehicles; or
- Option 3: Procure 200 Vector – giving a total of 312 Snatch 2 and 200 Vector.

**338.** Option 2 was identified as the preferred option, with Vector vehicles to be delivered by 1 June 2006.

**339.** The paper stated that further examination of the funding was necessary to enable a “sensible transition of the PPV fleet from its current to its future configuration” after the Vector vehicles were delivered. Force Level Reviews “must re-examine the current PPV requirements for all theatres” once the actual fleet size was known. The exact number of

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<sup>166</sup> The minutes do not record the budget to which this figure refers but the Inquiry infers that it was to cover the 1,236 Type A and Type B vehicles proposed in the SOR on 27 October. See the Box, ‘Was there a 45 percent cut?’

<sup>167</sup> [Minute MOD \[junior officer\] to DINF Col FD, 21 February 2005, ‘Protected Patrol Vehicle \(PPV\) Operational Requirement’.](#)

PPVs that could be converted to Snatch 2, and the exact number of Vector vehicles that it would be possible to procure, was not yet known.

**340.** In considering protection levels, the paper stated:

“The increasing levels of violence during Phase IV of Op TELIC, which necessitated the widespread use of protected mobility, have been highlighted in recent reports.<sup>168</sup> Additionally OA [operational analysis] is consistently reporting on the increased effectiveness of small arms weapons and ammunition. Therefore the PPV CIWG has deemed that the combination of ECM and an enhanced level of protection [...] are to be the minimum standard for TYPE B Vector Variant. For Type A, a [...] protection level, in conjunction with ECM, is deemed sufficient given the nature of the threat it is likely to be exposed to ...”

**341.** Highlighting current concerns, including the DOC Op TELIC Lessons study, the paper stated:

- “As experience from the last 18 months has shown, having insufficient PPV to meet the operational demands ... has resulted not only in sub-optimal solutions through reallocation between theatres (and a commensurate increase in operational risk for all concerned), but also adverse media attention ...”
- “There are public, political and media expectations that military operations can now be conducted without significant casualties. Indeed, lessons learnt from operations and policy guidance are demanding sustained investment to provide sufficient protected mobility vehicles for operations in hostile environments, such as Iraq and Afghanistan.”

**342.** The paper ended:

“Despite the significant resource constraint that has been placed on this aspect of the Force Protection capability as a result of EP/STP05, the operational requirement for Op HERRICK [Afghanistan], which has been the principal driver behind this PPV work, demands a more capable vehicle than PPV Snatch 2. Indeed, the need for PPV is unlikely to diminish for the foreseeable future.”

### Was there a 45 percent cut?

The Statement of Requirement (SOR) produced by the MOD on 21 February 2005 stated that it reflected revised funding levels for PPVs as agreed by the DMB as part of the 2005 Equipment Programme. The MOD claimed that was a 45 percent cut in funding.

The Inquiry has been unable to find any evidence that that was the case.

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<sup>168</sup> “In particular, DOC Op TELIC lessons Study, Vol 2 ...” This footnote is provided in the original document.

It has considered the papers that went to the DMB meeting on 26 January 2005 and the minutes of that meeting. The only difference that appears to arise is that the DMB agreed to fund 650 vehicles as opposed to 724 but the minutes and papers do not provide any consideration of how the number of vehicles was decided.

The MOD told the Inquiry it was:

“... unable to find any evidence of a specific reduction in the funding of PPVs by 45%. It is unclear how that figure was determined.”<sup>169</sup>

**343.** The second meeting of the PPV CIWG was held on 23 February.<sup>170</sup> Option 2 had been finalised but the Chair highlighted the need to “give SUV IPT direction with confirming URs and KURs”.

**344.** Concerns “were aired as to the future of the remaining Snatch” vehicles that had not been funded for an upgrade. The Directorate of Joint Capability agreed to investigate whether they could be funded “from the Afghanistan Contingency Funds through PJHQ”.

**345.** The business case for the conversion of the second batch of 312 Snatch vehicles was submitted on 16 June 2005 and was approved in early July 2005. That is addressed later in this Section.

## Response to the increase in the threat

**346.** In Iraq the IED threat was continuing to evolve, prompting a review of tactics and protection.

**347.** On 28 April, DSTL produced a presentation entitled ‘Performance of Explosively Formed Projectiles Against UK Armour’ outlining the results of further testing of IEDs against Warrior-type armour.<sup>171</sup> That stated:

“Initial investigations concluded that these devices [...] posed a significantly enhanced threat when compared to previously exploited weapons.”

**348.** DSTL recommended the inclusion of an additional layer of protective armour on Warrior to help to mitigate the new threat.

**349.** On 2 May, Guardsman Anthony John Wakefield died as a result of injuries sustained when the Snatch vehicle he was travelling in hit a roadside IED in al-Amara.<sup>172</sup>

<sup>169</sup> Letter Duke-Evans to Hammond, 2 February 2016, [untitled].

<sup>170</sup> Minutes, 23 February 2005, Protected Patrol Vehicle (PPV) Capability Integration Working Group meeting.

<sup>171</sup> Briefing DSTL, 28 April 2005, ‘Performance of EFPs against UK Armour’.

<sup>172</sup> *BBC News*, 6 May 2005, *UK soldier’s body returned home*.

**350.** The first attack where an EFP was detonated using Passive Infra Red (PIR) technology took place in MND(SE) on 29 May, when Lance Corporal Alan Brackenbury was killed while travelling in a Land Rover south of al-Amara.<sup>173</sup>

**351.** At the Chiefs of Staff meeting on 1 June, Gen Walker directed Major General Peter Wall, Deputy Chief of Joint Operations (Operations), to conduct an analysis of the incident and inform the Chiefs of Staff of the lessons identified, particularly with regard to countermeasures, and “to take a view on the current operating procedures and the relative merits of protected/unprotected vehicles”.<sup>174</sup>

**352.** Maj Gen Wall submitted his analysis to the Chiefs of Staff on 6 June.<sup>175</sup> He wrote that the attacked vehicle was leading a three vehicle patrol of unprotected Wolf Land Rovers. It was assessed that a Snatch Land Rover would not have offered greater protection or prevented LCpl Brackenbury’s injuries.

**353.** Addressing the use of Snatch, Maj Gen Wall wrote:

“Operating procedures are based on the threat, the task, the terrain and force profile. Threat and mobility are the key factors in assessing the relative merits of deploying Snatch or TUM [Wolf Land Rover]. Whilst there is no formal limitation on the use of Snatch ... TUM is usually preferred for cross country use in rural areas ... and this is the standard operating procedure. There is insufficient Snatch in theatre for its general use outside the urban areas ...”

**354.** Maj Gen Wall added that Maj Gen Riley had “adopted a more protective posture” following the recent IED attacks and that “all road movement within the province” was being conducted in Snatch or armoured vehicles – Warrior and CVR(T).

**355.** In his final report as GOC MND(SE), Maj Gen Riley wrote that his “overriding concern” was the “continuing IED attacks in Maysan”, where:

“... patrols now use Warriors to over-watch the armoured Land Rovers in order to give additional protection. This takes careful explaining to the local population who remember the use of Warriors to defeat last summer’s JAM [Jaysh al-Mahdi] offensive.”<sup>176</sup>

**356.** Some of the key lessons Maj Gen Riley identified in a separate report on 10 June were:

- “More training on Snatch and other UOR requirements, and the development of basic infantry skills, must be factored into any pre-deployment training.”

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<sup>173</sup> GOV.UK, 29 May 2005, *Death of British Servicemen in Iraq – Lance Corporal Alan Brackenbury*. PIR reference provided in Minute DJC to PS/SofS, 26 August 2005, ‘Iraq: Pre-detonation of Passive Infra Red Initiated Roadside Bombs’.

<sup>174</sup> Minutes, 1 June 2005, Chiefs of Staff meeting.

<sup>175</sup> Minute DCJO(Ops) to PSO/CDS, 6 June 2005, ‘Analysis of Fatal IED Attack Against UK Forces in Iraq on 29 May 05’.

<sup>176</sup> Minute Riley, 8 June 2005, GOC MND(SE) Weekly Report.

- Poor administration of UORs in the UK had caused “a huge amount of work in theatre”. He cited ECM as an example.<sup>177</sup>

**357.** Maj Gen Riley’s report also highlighted that a UOR had been raised for the enhanced protection of Saxon vehicles.

**358.** On 8 June, Gen Walker directed that Lt Gen Fry should lead on a paper looking at “the new IED threat” and the technical and tactical responses to it.<sup>178</sup>

**359.** The record of actions from the Chiefs of Staff meeting on 15 June indicated that the paper would be produced on 17 June.<sup>179</sup>

**360.** Lieutenant General Robert Fulton, DCDS(EC), provided that paper on 20 June.<sup>180</sup> He advised that the UK’s current capability was “largely ineffective” in MND(SE). A new detector, due to enter service in December, was more effective, but “not suitable for the protection of mobile patrols”. An airborne detection capability had been deployed to MND(SE) but that also had its limitations.

**361.** Lt Gen Fulton asked the Chiefs of Staff to note those points but no solution or further action was recommended. He stated that there was no complete solution to the problem available.

**362.** On 21 June, DSTL submitted a report to the DIS on the performance of EFPs against UK armour.<sup>181</sup> It concluded that the weapons it had been asked to examine had “greatly enhanced penetration capability” against those tested by DSTL in September 2004 and could overmatch the armour of a Warrior.

**363.** On 30 June, Major General James Dutton, who had succeeded Maj Gen Riley as GOC MND(SE), recorded in his weekly letter that a PIR IED had been used in attacks in MND(SE).<sup>182</sup> He stated:

“We are not yet sure exactly what this means (although a link to Lebanese Hizballah, possibly through Iran seems likely), but there is no doubt that the threat to our troops has increased. I have confidence that work under way both here and in the UK to address the threat is progressing as quickly as possible.”

**364.** Reflecting the preferred option identified in February of a PPV fleet comprising 624 Snatch 2 and 100 Vector vehicles, a business case to convert the remaining 312 vehicles to Snatch 2, at a cost of £21.5m, was put forward on 16 June.<sup>183</sup>

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<sup>177</sup> Report Riley, 10 June 2005, ‘Progress Report – Operation TELIC’.

<sup>178</sup> Minutes, 8 June 2005, Chiefs of Staff meeting.

<sup>179</sup> Minutes, 15 June 2005, Chiefs of Staff meeting.

<sup>180</sup> Minute DCDS(EC) to COS, 20 June 2005, ‘Command Wire Improvised Explosive Devices – Counter-Measures’.

<sup>181</sup> Report DSTL, 21 June 2005, ‘Performance of Explosively Formed Projectiles Against UK Armour’.

<sup>182</sup> [Report, 30 June 2005, CG MND\(SE\) Southern Iraq Update – 30 June 2005’.](#)

<sup>183</sup> [Note DEC\(SP\), 16 June 2005, ‘SNATCH 2 Review Note – URD 1090’.](#)

**365.** The ISD for 80 vehicles was November 2005 and the development of an up-armoured appliqué kit that could provide protection levels of up [...] for Snatch 2 was to be complete by September 2005.

**366.** The business case stated that the operational analysis on Snatch had been conducted by DSTL and that the cheapest options to meet the Snatch 2 and Vector protection requirements were to upgrade remaining Snatch 1 vehicles to Snatch 2 or a potentially new Snatch 3 variant.

**367.** While no work had been done to understand the proportion of the fleet that required higher levels of protection, a “sensitivity analysis” had confirmed that evolving the Snatch model was the most cost-effective method of achieving better protection. Further work would be done to understand the number of upgrades needed and would be reported when the Vector business case was submitted.

**368.** The business case to convert the remaining 312 Snatch 1/1.5 vehicles to Snatch 2 standard was approved by the Investment Approvals Board (IAB) on 7 July.<sup>184</sup>

**369.** The IAB’s approval note said that, in early 2004, Mr Nick Bennett, Director General (Scrutiny & Analysis) (DG(S&A)), met a DEC(SP) official and agreed a strategy for “establishing the balance between Snatch 2 and Vector numbers around which a procurement route was to be determined”. The note said that that work had not been done, “presumably due to the Operational Emergency approach” taken to the 14 April 2004 submission, “which indicated that the balance of investment operational analysis work would be completed to inform the follow-on submission. This was also not done”.

**370.** The note stated that Mr Nick Barnett, DG(S&A) between July 2005 and September 2005, wanted reassurance that, in parallel with any other procurement action for the second batch of conversions to Snatch 2, the balance of investment work on Vector and Snatch 2 numbers would “be taken forward before long”.

**371.** The work that concentrated on the Type B PPV capability necessary to procure the Vector vehicle became known as Project Vector.

**372.** The business case for the first tranche of vehicles was submitted on 3 March 2006 and is addressed later in this Section.

**373.** Lord Drayson, who had become Parliamentary Under-Secretary of State and Minister for Defence Procurement in May 2005, visited Iraq from 6 to 8 July.<sup>185</sup>

**374.** The report of his visit stated that feedback on equipment was generally positive but “a number of issues” were raised when he spoke to troops from 12 Mechanised Brigade. Those included the long wait for Warrior upgrades and that “the protection of

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<sup>184</sup> Minute SIT-IAB Sec 1d to DEC(S), 7 July 2005, ‘SNATCH 2: Review Note – Approval Note (IAB Sec 1406)’.

<sup>185</sup> Note APS/Minister(DP) to DJC Iraq(Pol), 13 July 2005, ‘Minister(DP) visit to Iraq: 6-8 July 2005’.



RAF Regiment Land Rovers was not thought to be sufficient by the troops for the tasks that they were expected to carry out in the vehicles”.

**375.** On 16 July, Second Lieutenant Richard Shearer, Private Phillip Hewett and Private Leon Spicer were killed in an EFP IED attack in al-Amara.<sup>186</sup> They were travelling in a Snatch Land Rover.

**376.** After 16 July until late August, the Chiefs of Staff reviewed progress on countermeasures against the threat from IEDs using PIR devices and EFPs at every meeting.<sup>187</sup>

**377.** At the Chiefs of Staff meeting on 20 July, AM Torpy briefed that there had been a 13 per cent increase in the overall number of attacks in Iraq, with a 65 percent increase in casualties as the lethality of attacks also rose.<sup>188</sup>

**378.** The minutes stated:

“With the exception of Maysan, MND(SE) had remained comparatively quiet; the fatal attack of a vehicle patrol on 16 Jul 05 had nevertheless resulted in a review of Tactics, Techniques and Procedures, including increased ISR [Intelligence, Surveillance and Reconnaissance] and use of SH [support helicopters], and the possibility of deploying elements of the Divisional Reserve to ensure that essential security and SSR could be sustained.”

**379.** The update from Major General Mark Mans, Deputy Commanding General MNF-I, on 20 July said that the attack on 16 July was “the fifth EFP incident in the vicinity” of al-Amara since October 2004, including three devices which had been “found and cleared”.<sup>189</sup> The use of EFPs was “spreading”, including attacks in Mosul and Kirkuk. Significant numbers had been used in attacks in Baghdad.

**380.** On 22 July, a UOR was submitted for additional armour to protect Warrior vehicles in Iraq.<sup>190</sup>

**381.** The UOR said that, although the last three EFP attacks had been directed at Snatch vehicles, there was no reason why insurgents would not try to ambush Warrior vehicles, especially if Warrior was used “more in the future due to EFP attacks”. It was “not possible” to protect Snatch, CVR(T), FV430 and Saxon against EFPs; the only vehicle that could be “better protected” was Warrior. Warrior was currently being used as the lead and rear vehicle for all convoys in Maysan province.

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<sup>186</sup> Report, 20 July 2005, ‘MNC-I Update – 20 Jul 05’.

<sup>187</sup> Minutes, 3 August 2005, Chiefs of Staff meeting; Minutes, 17 August 2005, Chiefs of Staff meeting; Minutes, 24 August 2005, Chiefs of Staff meeting; Minutes, 3 August 2005, Chiefs of Staff meeting; Minutes, 17 August 2005, Chiefs of Staff meeting; Minutes, 24 August 2005, Chiefs of Staff meeting.

<sup>188</sup> Minutes, 20 July 2005, Chiefs of Staff meeting.

<sup>189</sup> Report, 20 July 2005, ‘MNC-I Update – 20 Jul 05’.

<sup>190</sup> Minute DEC(GM), 22 July 2005, ‘Operation TELIC 5 Urgent Operational Requirement I0XXX Business Case: Warrior (WR) Additional Protection (WRAPUOR)’.

**382.** The UOR for additional Warrior armour was approved and the MOD told the Inquiry that that was fitted to vehicles in September 2005.<sup>191</sup>

**383.** The minutes from the Chiefs of Staff meeting on 27 July stated:

“Following the recent attacks in Maysan, procedures have been modified to counter the threat: TF [Taskforce] Maysan were now conducting patrols in Warrior, and would not automatically respond to IED incidents to avoid being caught in secondary explosions. An additional Warrior company and the Telic Reserve RE [Royal Engineer] Search Team (from Cyprus) had been deployed into the area, with the latter able to provide a surge capacity for up to 60 days. The current cycle of attacks had ‘fixed’ CF [coalition forces] in the area and, as a result, progress on SSR had stagnated; PJHQ had therefore asked for an urgent review of UK SH [support helicopters] priorities, to see if further assets could be allocated to MND(SE) ...”<sup>192</sup>

**384.** Lt Gen Fry told the Chiefs of Staff that work on PIR IED countermeasures continued, “but thus far they were only effective at very short range”:

“The importance was therefore stressed of countering the threat by all means possible, including TTPs. DCDS(EC) confirmed that appropriate action was being taken at the right tempo, and that the work was joined up with US efforts to counter similar threats elsewhere in Iraq.”

**385.** On 30 July, two British security guards employed by Control Risks Group were killed while travelling in an armoured vehicle in Basra.<sup>193</sup> The deaths were later attributed to PIR EFPs.<sup>194</sup>

**386.** AM Torpy’s report of his visit to Iraq in late July 2005 addressed the PIR EFP IED attacks:

“With the exception of Maysan, incident levels across the AOR [Area of Responsibility] remain low and there are no major issues. In Maysan, significant effort is focused on building up an intelligence picture of the group suspected of carrying out the EFP/PIR attacks ... whilst at the same time improving overall force protection measures. The GOC is also keen to gain more visibility of possible Iranian infiltration across the border ... and maintain the pace of SSR in Maysan.”<sup>195</sup>

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<sup>191</sup> Paper [MOD] to the Iraq Inquiry, [undated and untitled], in response to letter Aldred to Duke-Evans 25 November 2010.

<sup>192</sup> Minutes, 27 July 2005, Chiefs of Staff meeting.

<sup>193</sup> Report Smith, 31 July 2005, ‘UK Chief Police Advisor-Iraq: Weekly Report’.

<sup>194</sup> Minute DJC to PS/SofS, 26 August 2005, ‘Iraq: Pre-detonation of Passive Infra Red Initiated Roadside Bombs’.

<sup>195</sup> Minute PSO/CJO to PSO/CDS, 5 August 2005, ‘CJO Visit Report – Pakistan, Afghanistan, Iraq and Qatar 25-30 July 05’.

**387.** On 3 August, Maj Gen Dutton reported:

“... the threat from IEDs is worrying, with our Electronic Countermeasures unable to defend against the victim operated Passive Infra Red and the use of EFPs and (in the most recent attack) shaped charges able to penetrate armoured vehicles [...] if used accurately. This technology has now been used across MND(SE) and indeed further north having first been seen in Maysan.”<sup>196</sup>

**388.** Following Lord Drayson’s visit to Iraq in early July, Mr Ingram sought advice on the protective capability of RAF Land Rovers on 19 August.<sup>197</sup>

**389.** PJHQ advised that three Land Rover variants were used by the RAF Regiment, of which Snatch was “the most highly protected”. Its allocation across theatres was “centrally managed” on the basis of “relative priority” for those troops most at risk. That inevitably meant:

“... compromises which mean that individual theatres receive fewer than is ideal. That said, a greater allocation of Snatch to Iraq is not currently judged to be operationally essential.”

**390.** PJHQ wrote that there were “some 380 Snatch Land Rovers deployed” in Iraq, “(including 64 Snatch 2), against a liability of 420”. The Snatch 2 programme was under way and 66 of the “updated vehicles” had already arrived in theatre.

**391.** There were “no spare Snatch” to deploy to Iraq, and the production line was “currently devoted to non-air conditioned variants”. The programme would “not address the numbers” of vehicles available but would “enhance the capability” of the vehicles deployed. DLO intended to return the number of Snatch deployed in Iraq to the agreed level of 420 “as soon as suitable vehicles” were produced.

**392.** The process of allocating priorities in Iraq, in common with all operations, involved “acceptance of risk in some areas”. While PJHQ sought “to reduce this risk as much as possible”, it was “impossible to eliminate”. Since Lord Drayson’s visit, six Snatch vehicles had been allocated to the RAF Regiment. The number of vehicles allocated to the RAF Regiment was “judged to be commensurate with current threat levels” and would “continue to be subject to review”.

**393.** PJHQ stated that: “Theatre assigns its Snatch assets in line with the currently assessed areas of highest risk and operational policy.”

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<sup>196</sup> [Report, 3 August 2005, ‘CG MND\(SE\) – Southern Iraq Update – 3 August 2005’.](#)

<sup>197</sup> Note PJHQ [junior official] to PS/Minister(AF), 19 August 2005, ‘Iraq: Equipment – Follow-up to Minister(DP)’s Visit Report’.

**394.** Draft press lines stated that British lives were not being put at unnecessary risk. Service personnel used:

“... the vehicles most appropriate to the missions and tasks they are undertaking. If the threat level increases, so do the protective and preventative measures taken, for example by using Warrior Infantry Fighting vehicles.”

**395.** The key message was that British forces were:

“... equipped with the most suitable and best protected vehicles for the job in hand. The allocation of vehicles on Op TELIC is therefore constantly reviewed in line with the currently assessed areas of highest risk and operational priority.”

**396.** Mr Ingram’s Private Office recorded on 24 August that he had noted the advice.<sup>198</sup>

**397.** In late August, in response to tasking from Lieutenant General Robin Brims, who had become Senior British Military Representative-Iraq in April, the DIS, PJHQ and MND(SE) assessed Muqtada al-Sadr’s strategy and future intentions:

“Given past casualties and the increasing sophistication of recent attacks, we expect such action in the future to mainly consist of limited engagements, standoff attacks and deniable operations including the use of technologically advanced Improvised Explosive Devices (IED), (incorporating Passive Infra-Red sensors (PIR), Explosively Formed Projectiles (EFP), and Remote Controlled (RC) arming), of Lebanese Hizballah/IRGC QF design. It is assessed such IED attacks are not being directed by JAM as an organisation but it appears that certain Shia extremists, who may also belong to JAM, are co-operating with external actors to conduct such attacks.”<sup>199</sup>

**398.** On 26 August, Dr John Reid, who had become Defence Secretary in May, was provided with advice from a junior official in the Directorate of Joint Commitments about how the MOD intended to counter the threat posed by the PIR IEDs.<sup>200</sup>

**399.** The official stated that technical work on a countermeasure was at an “advanced stage” and that the UK should deploy a pre-detonation capability (M<sup>\*201</sup>) to Iraq as soon as one was technically available, subject to securing UOR funding. That was expected to be around October 2005. The initial estimate of cost was £35m.

**400.** The official also warned that PIR detonation was the insurgents’ response to existing ECM and that it was likely that any UK response would be met with further adaptation resulting in yet further ECM requirements.

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<sup>198</sup> Note PS/Minister(AF) to PJHQ Hd Fin/Pol Ops 1, 24 August 2005, ‘Iraq: Equipment – Follow-up to Minister(DP)’s Visit report’.

<sup>199</sup> Report [30 August 2005], ‘Muqtada Al-Sadr’s Strategy and Future Intentions’.

<sup>200</sup> Minute DJC [junior official] to PS/SofS [MOD], 26 August 2005, ‘Iraq: Pre-detonation of Passive Infra Red Initiated Roadside Bombs’.

<sup>201</sup> A cipher has replaced the name of this project for national security reasons.

**401.** Dr Reid agreed on 30 August that this capability should be deployed once available.<sup>202</sup>

**402.** On 5 September, Fusilier Stephen Robert Manning and Fusilier Donal Anthony Meade died as a result of injuries sustained when the vehicle in which they were travelling hit an IED in az-Zubayr.<sup>203</sup> They were providing top cover at the time of the explosion.

**403.** On 11 September, Major Matthew Bacon was killed when a roadside IED hit the Snatch vehicle in which he was travelling in Basra.<sup>204</sup> Three other British soldiers, who were travelling in the same vehicle, were seriously injured.

**404.** AM Torpy visited Iraq from 12 to 15 September.<sup>205</sup> On the threat in MND(SE) he reported:

“The recent spate of IED attacks in Basra appears to be employing the same EFP/PIR technology seen in Maysan ... Focused intelligence effort is being targeted against key individuals in these groups ... with the aim of conducting offensive operations at the earliest appropriate moment ... On the defensive side, it is apparent that aviation top cover has a positive deterrent effect and we are looking to see what can be done to increase the hours available from the aircraft currently in theatre. On the ground a great deal of work is under way to refine TTPs and the first tranche of PIR countermeasures equipment is due to arrive in theatre soon. The GOC has also worked hard ... to improve the use of ISTAR assets and coordination of intelligence.”

**405.** The first two M\* units arrived in Iraq on 2 October.<sup>206</sup>

**406.** It is clear that UK forces struggled to cope with the sophistication of the IED threat in MND(SE) during the summer of 2005.

**407.** Lt Gen Riley told the Inquiry that, after “a long spell of quiet” after he arrived as GOC MND(SE) in December 2004, there was “an increase in effective attacks” from “the end of April/early May” 2005.<sup>207</sup> Those attacks introduced more sophisticated IEDs that “were very hard for our countermeasures to defeat and which were capable of penetrating pretty much any vehicle that had been out”.

**408.** Asked how the UK dealt with the change in threat during his time as GOC, Lt Gen Riley told the Inquiry that it took “perhaps half a step backwards at first” and that

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<sup>202</sup> Minute APS/SofS to DJC, 30 August 2005, ‘Iraq: Pre-detonation of Passive Infra Red Initiated Roadside Bombs’.

<sup>203</sup> GOV.UK, 5 September 2005, *Deaths of two British soldiers in Iraq – Fusilier Donal Anthony Meade and Fusilier Stephen Robert Manning*.

<sup>204</sup> GOV.UK, 11 September 2005, *British Officer killed in Iraq – Major Matthew Bacon*.

<sup>205</sup> Minute Torpy to Walker, 19 September 2005, ‘CJO Visit Report – Iraq – 12 to 15 Sep 05’.

<sup>206</sup> Report, 3 October 2005, ‘PJHQ Middle East Operations Team OPSUM 197 as at 021700Z OCT 05’.

<sup>207</sup> Public hearing, 14 December 2009, pages 5 and 27.

“we had forgotten institutionally how to deal with this” after the long period of ceasefire in Northern Ireland.

**409.** Lt Gen Riley added that “the armour on the Warrior and Challenger main battle tanks was upgraded very rapidly”. The Snatch vehicles were also upgraded and “a new series of vehicles which were more effective” were introduced. But “the sort of vehicles that we employ now in Afghanistan were just not in production” and there was “no technological silver bullet” to address the problem. The US was still “relying on the Humvee ... largely”. The UK “had not procured anything and there was little on the market that could have been deployed to assist me”.

**410.** When the Inquiry asked whether the IED threat had been brought to his attention during his time as Defence Secretary, Mr Hoon said:

“I think it was beginning to develop at the time that I left the department [May 2005] yes.”<sup>208</sup>

**411.** Asked whether the UK was unable to move around in a protected way once the insurgency in Iraq developed, Sir Kevin Tebbit replied:

“I don’t think ... that was not anticipated because of lack of money. I think that was not anticipated because we hadn’t seen the threat evolving as rapidly as it did with IEDs and roadside bombs. That developed so very quickly from 2004.”<sup>209</sup>

**412.** Sir Kevin added: “I think the roadside bomb, the IED threat evolved very, very rapidly in a way we hadn’t anticipated, and we hadn’t really got grounds to have expected, frankly.”

**413.** Gen Dannatt told the Inquiry that the circumstances in Iraq:

“... became very difficult from the summer of 2005, particularly most dramatically evidenced by the appearance of ... explosively formed projectiles, in threes, that were sufficiently effective that even our most protected vehicles were at risk ...”<sup>210</sup>

**414.** When asked by the Inquiry what he was being asked to produce to support force readiness for the growing insurgency, Gen Dannatt said: “The critical deficiency was force protection measures, vehicles in particular.”

**415.** At their meeting on 5 October, the Chiefs of Staff noted that “the high tempo of insurgent PIR technological and tactical innovation was forcing equally rapid evolution of Coalition countermeasures”.<sup>211</sup>

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<sup>208</sup> Public hearing, 19 January 2010, pages 199-200.

<sup>209</sup> Private hearing, 6 May 2010, pages 46-47.

<sup>210</sup> Public hearing, 28 July 2010, pages 16-18.

<sup>211</sup> Minutes, 5 October 2005, Chiefs of Staff meeting.

**416.** On 13 October, a DIS report of the technical influence of foreign fighters on the insurgencies in Iraq judged:

“Of key concern is the possible state sponsorship of insurgent groups in Iraq. Highly lethal Improvised Explosive Devices of Lebanese Hizballah origin, probably migrating from Iran to Iraq, continue to pose a significant challenge to coalition forces and in particular the UK forces in MND(SE).”<sup>212</sup>

**417.** The DIS report continued:

“The development of the IED capability in Iraq has been rapid. By way of comparison, the level of IED expertise reached by the IRA over some 30 years of conflict in Northern Ireland has been far exceeded by Iraqi insurgents in less than three years. This rapid progress is largely attributable to the technical influence of foreign fighters, many of whom view Iraq as the centre of a global jihad.”

**418.** Following a visit to Iraq from 10 to 13 October, Gen Jackson reported:

“Much of MND(SE)’s tactical focus has been on countering the EFP/PIR threat. TTPs have been amended and Project M\* is delivering an effective interim technical countermeasure. But the enemy will adapt too, so we remain alive to the threat for some time yet. It is clear that the Scientific Advisor and his team in HQ MND(SE) have been instrumental in developing these countermeasures so rapidly and efficiently ...”<sup>213</sup>

**419.** It was agreed on 14 October that 14 Warrior vehicles that were due to be returned to the UK should remain in Iraq.<sup>214</sup> An additional Merlin helicopter would also be provided.

**420.** On 18 October, Sergeant Chris Hickey, who had disembarked from his vehicle, was killed in Basra when his patrol was hit by an IED.<sup>215</sup>

**421.** At the end of October, Dr Reid reported to Cabinet that UK forces had, since May, been attacked by “a new type of bomb which had previously been associated mainly with Hizballah”.<sup>216</sup>

**422.** On 31 October, Dr Reid wrote to Mr Des Browne, Chief Secretary to the Treasury, to request an increase in the UOR funding, predominantly to cover £30m funding for the initial roll-out of the M\* capability.<sup>217</sup>

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<sup>212</sup> Report DIS, 13 October 2005, ‘The Technical Influence of Foreign Fighters on the Iraqi Insurgency’.

<sup>213</sup> Report CGS to CDS, 18 October 2005, ‘CGS Visit to Iraq: 10-13 Oct 05’.

<sup>214</sup> [Minute ACDS\(Ops\) to PJHQ – DCJO\(Ops\), 14 October 2005, ‘Iraq: Additional Resources to Counter Increased IED Threat in MND\(SE\)’](#).

<sup>215</sup> GOV.UK, 20 October 2005, *Sergeant Chris Hickey of 1st Battalion the Coldstream Guards killed in Iraq*.

<sup>216</sup> Cabinet Conclusions, 27 October 2005.

<sup>217</sup> Letter Browne to Reid, 11 November 2005, ‘Iraq – Urgent Operational Requirements (UORs)’.

**423.** Mr Browne agreed to the request on 11 November.<sup>218</sup>

## THE IMPACT ON WIDER CIVILIAN OPERATIONS

**424.** The IED threat constrained the UK's ability to deliver Security Sector Reform (SSR) and Civil Military Co-operation (CIMIC) as military officers, police officers and civilian personnel were unable to move safely around MND(SE).

**425.** Lt Gen Dutton told the Inquiry that he had an "optimistic" briefing from the MOD before he started as GOC MND(SE) – that his role was to keep SSR "ticking over" – but that was skewed "massively" by the increased EFP threat when he arrived in Basra.<sup>219</sup>

**426.** On 11 November, Chief Constable Paul Kernaghan, the lead on international affairs for the Association of Chief Police Officers, contacted the Home Office to express concern about a report that Maj Gen Dutton had stated that he wanted to see civilian police personnel travel in Snatch vehicles, and that Maj Gen Dutton had suggested he would review – or even terminate – the relevant contracts of employment to ensure that was possible.<sup>220</sup>

**427.** On 20 November, Sergeant John Jones was killed whilst on patrol in Basra when his vehicle hit a roadside IED.<sup>221</sup> Four others sustained injuries in the attack, one seriously.

**428.** Gen Walker visited Iraq from 22 to 24 November.<sup>222</sup> His visit report stated that there was no "sole technical answer" to IEDs and "defensive tactics, techniques and procedures, and disruption of the terrorists, were essential parts of an overall solution".

**429.** On 29 November, Major General William Rollo, ACGS from January 2005, reported to Gen Jackson on his recent trip to Iraq:

"The PIR IED threat is of real concern, and we are now more fixed by force protection than ever before. The effect of these weapons is constraining activity across all lines of operation, including SSR. Whilst overall numbers of attacks across the division has reduced, the effectiveness of each attack has risen sharply and the opposition now achieves a coalition casualty rate exceeding one killed for every PIR attack conducted ..."<sup>223</sup>

**430.** The report was forwarded to Gen Walker.<sup>224</sup>

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<sup>218</sup> Letter Browne to Reid, 11 November 2005, 'Iraq – Urgent Operational Requirements (UORs)'.

<sup>219</sup> Public hearing, 12 July 2010, page 17.

<sup>220</sup> Email Kernaghan to Home Office [junior official], 11 November 2005, 'UK civil police assistance effort in Iraq – command & control issues – request for clarity'.

<sup>221</sup> GOV.UK, 21 November 2005, *Sergeant John Jones killed in Iraq*; BBC News, 22 November 2005, *Tributes to Iraq blast sergeant*.

<sup>222</sup> Minute PSO/CDS to PS/SofS [MOD], 25 November 2005, 'CDS Visit to Iraq – 22-24 Nov 05'.

<sup>223</sup> Minute ACGS to CGS, 29 November 2005, 'ACGS Visit Report from Operation TELIC'.

<sup>224</sup> Minute MA1/CGS to PSO/CDS, 12 December 2005, 'ACGS Visit to Iraq: 18-20 NOV 05'.



**431.** The FCO Senior Overseas Security Adviser visited Kirkuk, Baghdad and Basra between 10 and 21 November.<sup>225</sup> He reported:

“The Security Managers and CRG [Control Risks Group] are to be congratulated on their professional control of road movement ... It is clear that all road moves are subject to risk ... The use of helicopters is vital in order to change the pattern of movements.

“We recommend that all staff in Basra can move in Warrior armoured vehicles.”

**432.** Dr Reid visited Basra in early December.<sup>226</sup> The report of his visit stated that he had had “an opportunity to examine vehicles fitted with upgraded armour kits”.

**433.** On 7 December, AM Torpy briefed the Chiefs of Staff that the discovery of a large EFP suggested that rogue JAM elements “had intended to attack heavily armoured Coalition vehicles, including Warrior”.<sup>227</sup>

**434.** In his ‘Hauldown Report’ to AM Torpy of 12 December, Maj Gen Dutton wrote:

“... the dominant feature of the last four months of my ... tour has been the victim initiated passive infrared explosively formed projectile. This weapon, which has now proliferated through Iraq has radically affected our freedom of manoeuvre and consequently inhibited our Security Sector Reform and CIMIC effort. There is a straight trade-off here: if troops are doing force protection, they cannot be doing SSR. We are taking direct action against perpetrators ... constantly amending our TTPs and there is a huge scientific effort to produce counter measures. We will never entirely defeat this threat, but it is manageable and I do not believe it has a significantly deleterious effect on morale in this AO [Area of Operations].”<sup>228</sup>

**435.** On 16 December, officials from the Department for International Development (DFID) recommended to Mr Hilary Benn, the International Development Secretary, a number of changes to transport arrangements in Basra, including the use of Warrior vehicles by DFID staff for mission critical visits to certain sites in southern Iraq.<sup>229</sup> Until then, DFID staff had travelled in civilian rather than military vehicles because of their lower profile, consistent with the nature of DFID’s work.

**436.** Officials advised Mr Benn:

“... the continuing threat from EFPs in southern Iraq fundamentally compromises our ability to complete important projects, particularly in the power and water sectors at acceptable levels of risk.”

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<sup>225</sup> Minute FCO [junior official] to Patey, 1 December 2005, ‘Security Visit to Baghdad and Basra’.

<sup>226</sup> Minute Beadle to CJO, 7 December 2005, ‘The Secretary of State’s visit to Basrah – 2 December 2005’.

<sup>227</sup> Minutes, 7 December 2005, Chiefs of Staff meeting.

<sup>228</sup> [Letter Dutton to Torpy, 12 December 2005, ‘June to December 2005 – Hauldown Report’.](#)

<sup>229</sup> Minute DFID [junior official] to PS/Secretary of State [DFID], 16 December 2005, ‘Iraq: Iraq Security Update’.

**437.** Three days later, FCO officials recommended to Mr Jack Straw, the Foreign Secretary, “a safe and measured return to road moves” for civilian staff in the South “in order to fully promote HMG objectives”.<sup>230</sup> They proposed that, subject to regular review:

- all civilian staff be allowed to travel in Warrior vehicles within Basra, where there was a significant risk from armour piercing roadside bombs;
- UK civilian police officers be able to travel with contracted British Iraqi Police Advisers in their FCO armoured vehicles, escorted by UK military Snatch Land Rovers; and
- road moves in FCO armoured vehicles should restart along the main road from Basra Airport to Nasiriyah and Basra Airport to Kuwait.

**438.** Mr Straw approved the recommendations on 9 January 2006, provided the rules were subject to regular review.<sup>231</sup>

**439.** In his post-tour report on 18 January, Maj Gen Dutton recorded:

“The most significant threat in MND(SE) derives from Passive Infra-red (PIR) initiated EFP IED attacks on MNF patrols and civilian convoys ... RCIEDs and CWIEDs remain an extant threat ... EFP IEDs [...] were responsible for 18 fatalities between Sept and Dec 05 ...”<sup>232</sup>

**440.** Maj Gen Dutton reported that the “new and more complex IEDs allowed Shia militants to conduct increasingly lethal attacks and effectively fix MNF by an extended low intensity terrorist operation. This achieves the intent ... by separating MNF from the Shia community and allowing local JAM to fill the security vacuum.”

**441.** In explaining the lessons from his tour, Maj Gen Dutton wrote: “The over-riding operational imperative during this period has been the requirement to mitigate the development and proliferation of PIR initiated IEDs.”

**442.** Maj Gen Dutton stated that in some circumstances their effect had been “particularly tangible” upon freedom of operation and had “resulted in significant rebalancing of force structures” and “a rapid evolution and re-examination” of TTPs. That had led to decisions to prohibit any ground movements, other than by Warrior or Challenger vehicles, inside the towns of al-Amara and al-Majir al-Kabir in Maysan; and subsequently, “stringent” Warrior-led convoys into Basra City and “the satellite bases”. SSR had been “significantly curtailed”.

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<sup>230</sup> [Minute Iraq Directorate \[junior official\] to Foreign Secretary, 19 December 2005, ‘Iraq: Proposed Changes to Travel in Southern Iraq for HMG Civilian Staff’.](#)

<sup>231</sup> [Minute Siddiq to Iraq Directorate, 9 January 2006, ‘Iraq: Proposed Changes to Travel in Southern Iraq for HMG Civilian Staff’.](#)

<sup>232</sup> Report HQ MND(SE), 18 January 2006, ‘Progress Report Operation TELIC’.

**443.** Lt Gen Dutton told the Inquiry that less time was devoted to SSR because of the need for greater force protection. Describing how the threat restricted movements in the second half of his tour, he said:

“... my vehicles never left the compound, we did all movement by air, or if the vehicles did move, they were in convoys protected by armoured vehicles.”<sup>233</sup>

**444.** Lieutenant General John Cooper, GOC MND(SE) from December 2005 to June 2006, told the Inquiry that, when he arrived in MND(SE), “on the security side, everything was containable but there was this sense of increasing military activity, particularly from [JAM]”.<sup>234</sup> The introduction of PIR EFPs “had an impact on lower level tactical issues”. That was an “issue with which we could deal, but it was sometimes unpleasant”.

**445.** Lt Gen Cooper stated that the response from the UK’s “scientific and defence community was very good, both in terms of personal equipment and vehicles”.

**446.** In a statement to the Inquiry, Assistant Chief Constable Colin Smith, Chief Police Adviser Iraq from May 2005 to April 2006, wrote:

“The ‘deteriorating’ security situation had a major influence on ability to progress development plans. As attacks increased in MND(SE) movement became difficult ... Movement of CivPol [civilian police] became a further issue. As security deteriorated CivPol officers needed increasingly to be escorted by substantial military resources (Warrior Armoured Vehicles and helicopters). Their priority however was increasingly lowered by the military ... This caused serious difficulties in moving between sites to attend meetings with staff often stranded overnight in various locations without transport. It was not uncommon for officers to spend 2 or 3 days at the Basra APOD [aerial point of departure] awaiting movement. Similar problems existed in Baghdad with an FCO ‘fly only’ policy supported by insufficient helicopter resources.

“I do not criticise the military for this situation. As security and ‘war-fighting’ became a greater priority, movement of civilians became a lesser priority.”<sup>235</sup>

**447.** Speaking to the Inquiry about his duty of care to UK police officers in Iraq, CC Kernaghan said that he had not wanted his officers to travel in Snatch Land Rovers.<sup>236</sup> He said he “was quite clear that Snatch Land Rovers posed an unacceptable risk”. CC Kernaghan added that this was not meant as a criticism of general officers who deployed the military in Snatch vehicles because: “They had no alternative. You do what you do with what you have got.”

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<sup>233</sup> Public hearing, 12 July 2010, page 18.

<sup>234</sup> Public hearing, 15 December 2009, pages 17-18.

<sup>235</sup> Statement, 25 June 2010, pages 7-8.

<sup>236</sup> Public hearing, 23 July 2010, page 50.

**448.** The DOC published its third report of Op TELIC lessons on 4 April 2006.<sup>237</sup>

**449.** The report contained a section on “National Issues” described as “issues that warrant MOD’s attention due to the impact on operational capability”. Such issues affected “not only Iraq but may have a wider significance for other operations, including Afghanistan”. One of those issues was the UK’s counter-IED capability.

**450.** The report highlighted how PIR IED and EFP attacks had restricted the SSR and CIMIC effort, citing Maj Gen Dutton’s Hauldown Report. It stated: “The technology is developing quickly and it is highly likely that it will migrate between theatres.” Countering the IED threat had become a “tactical focus” and, while the MOD continued “to strive to counter the long term threat”, it anticipated that the M\* capability “should deliver an effective interim countermeasure to the *current* threat”.

**451.** The report stated that the “system” to counter IEDs was “made up of four elements: threat awareness; operating in an IED threat environment; disposal of IEDs; and development of CIED [counter-IED] capability”. For CIED capability to evolve into “a coherent expeditionary capability”, integral components of that system needed to migrate because “much of the capability currently deployed in Iraq is dependent upon personnel and equipment on attachment from Northern Ireland”. If that did not happen, there was a risk that CIED expertise would be lost when operations were drawn down from Northern Ireland as part of the Peace Process.

**452.** Lieutenant General Sir Richard Shirreff told the Inquiry that, when he arrived as GOC MND(SE) in July 2006, there was “effectively no security at all”: “Any movement required deliberate operation to ... get around the city. There was a significant lack of troops on the ground.”<sup>238</sup> He said that troops that could have been used on the ground were perhaps “tied up guarding, securing convoys”.

## **Decisions on the wider protected mobility capability for the Army**

**453.** Over the same period, in mid-2005, the Army was continuing to voice concerns about delays in the FRES programme.

**454.** The origin of the FRES programme and the DMB’s decision in July 2004 to defer its ISD were addressed earlier in this Section.

**455.** Brig Moore and Brig Inshaw produced a paper on 18 May 2005 to inform ECAB members on the progress of the FRES programme, prior to their meeting on 26 May.<sup>239</sup> The paper set out the “potential conflict” between capability decisions: a vehicle that could be rapidly deployed by air could not also be the solution to a whole range of medium weight ground vehicles that needed replacing.

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<sup>237</sup> Report DOC, 4 April 2006, ‘Operation TELIC Lessons Study Volume 3’.

<sup>238</sup> Public hearing, 11 January 2010, pages 3-6.

<sup>239</sup> Paper DEC(GM)/DCI(A), 18 May 2005, ‘Future Rapid Effects System (FRES)’.

**456.** While the requirement to deploy quickly must be included, ECAB was asked to endorse the FRES Steering Committee’s view,<sup>240</sup> that it “should not overly distort” the need to provide “an effective family” of vehicles across “the full spectrum of operations”.

**457.** ECAB agreed Brig Moore and Brig Inshaw’s recommendations on 26 May.<sup>241</sup> The FRES Steering Committee “had identified a potential conflict of priorities between FRES as an element of the medium weight capability, and FRES as the Army’s light and medium Armoured Vehicle replacement programme”.

**458.** Gen Jackson “said that ECAB agreed that the purpose of FRES was to equip the balanced force and that within this, both the development of a medium weight capability and the replacement of increasingly obsolete CVR(T), Saxon and FV430 fleets were equally important”.

**459.** On 8 June, Maj Gen Rollo set out the Army’s equipment priorities for the 2007 Equipment Programme (EP07) in a paper that would go to ECAB later that month.<sup>242</sup> Following the 2005 Programme, the challenge to identify savings while funding necessary equipment enhancements to support current operations (including an investment in light protected mobility) had meant that “a number of very painful savings measures and slippages had to be absorbed”. FRES had been protected “apart from a slip to 3 variants at the back end of the programme”.

**460.** Maj Gen Rollo wrote that the slip in the FRES ISD suggested the Army “should invest further in the transitional medium force” but any additional purchase “should not threaten the FRES ISD”. Maj Gen Applegate’s team was “examining this issue in detail, looking at innovative ways of finding the necessary resources and assessing the STP and EP impacts”. It would report in July.

**461.** It is not clear what the details and results of this work were as the minutes of the next three ECAB meetings do not record that Maj Gen Applegate’s team reported back to the Board in July.<sup>243</sup> The MOD has been unable to find any supporting documents.

**462.** Addressing the various programmes under way, Maj Gen Rollo wrote that there was “a need in this planning cycle to determine the protected mobility requirements for light forces across the Army”.<sup>244</sup> He cited DUCKBOARD and Vector as examples of “disparate programmes” that might need to be “rationalised” in the future programme to “provide a coherent solution” for force protection.

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<sup>240</sup> The Inquiry requested all meeting minutes from the FRES Steering Committee between 1 January 2005 and 1 January 2008. The MOD has been unable to locate any such records.

<sup>241</sup> Minutes, 26 May 2005, Executive Committee of the Army Board meeting.

<sup>242</sup> Paper ACGS, 8 June 2005, ‘Army Equipment Priorities for EP 07’.

<sup>243</sup> Paper ACGS, ‘Army Equipment Priorities for EP 07’; Minutes, 20 June 2005, Executive Committee of the Army Board meeting; Minutes, 6 July 2005, Executive Committee of the Army Board meeting; Minutes, 22 September 2005, Executive Committee of the Army Board meeting.

<sup>244</sup> Paper ACGS, 8 June 2005, ‘Army Equipment Priorities for EP 07’.

**463.** In introducing his paper to ECAB on 20 June, Maj Gen Rollo said it “was a realistic approach which recognised that requests for extra investment might require the identification of compensating reductions”.<sup>245</sup>

**464.** Gen Jackson said that ECAB was content with the priorities listed and “emphasised that war-fighting must continue to determine the Army’s equipment priorities”. He said that there should be “a sharper focus on FRES, emphasising the delivery of the programme”.

**465.** At the ECAB meeting on 22 September, Gen Jackson explained that, whilst progress on the FRES programme continued, “he feared a slip in the ISD”.<sup>246</sup> That “would be very damaging to the Army”. The minutes record that Gen Dannatt “reinforced this point”. ECAB would “need to make strong representations” to the Chief of Defence Procurement and DCDS(EC).

**466.** On 14 November, ECAB discussed a report of the Army’s performance between 1 July and 30 September.<sup>247</sup>

**467.** Maj Gen Rollo had produced a paper on the areas of under-performance, which reported that Gen Dannatt had emphasised “an equipment issue of immediate concern”.<sup>248</sup> Gen Dannatt was quoted as saying:

“Our patrol vehicles routinely deployed on current operations ... are vulnerable and we are suffering casualties. Snatch has poor mobility, inadequate protection and is unreliable due largely to its hard use. We are working with PJHQ to address vehicle and ECM issues and to develop TTPs, but there is a need to bring a clarity to the requirement for protected patrol vehicles. In addition, I am concerned at the lack of [Type] B vehicle protection more generally. I recognise that it may take time to deliver a solution, but we face the prospect of continuing operations in Iraq into 2008 as well as in Afghanistan.”

**468.** Maj Gen Rollo’s asked ECAB to note Gen Dannatt’s concern and “consider whether any additional measures can bring greater clarity to vehicle protection requirements”.

**469.** The minutes of the ECAB meeting on 14 November do not record any specific discussion of Gen Dannatt’s concerns at the meeting but the subject of protected mobility was discussed more broadly.<sup>249</sup>

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<sup>245</sup> Minutes, 20 June 2005, Executive Committee of the Army Board meeting.

<sup>246</sup> Minutes, 22 September 2005, Executive Committee of the Army Board meeting.

<sup>247</sup> Minutes, 14 November 2005, Executive Committee of the Army Board meeting.

<sup>248</sup> Paper ACGS, 10 November 2005, ‘The Army Second Quarter Performance Report AP 05/Army Risk Register Discussion Paper’.

<sup>249</sup> Minutes, 14 November 2005, Executive Committee of the Army Board meeting.

**470.** In considering the “failure to provide appropriate protected mobility on operations”, ECAB noted that the mitigating action to cover the risk included:

- “Improve ECM: two sets of the new equipment had been delivered to Iraq in a trial to meet the threat from IEDs.”
- “Replace Snatch 1 with Snatch 2/Vector: Snatch 2 was more reliable than Snatch 1 but still had the same protection and mobility characteristics. Although money had been allocated towards the Vector project, a vehicle solution had yet to be identified.”
- “Examine early replacement of Saxon with Warrior/improved FV430: Warrior is the only vehicle currently available to the Army which provided significant protection against EFP IEDs. Any additional battalions equipped with Warrior to fill the AV [Armoured Vehicle] gap on operations need only be trained on its use for mobility requirements and not full manoeuvre capability.”
- “Maintain FRES ISD of 2012.”

**471.** At its meeting on 19 January 2006, ECAB was given a presentation on the progress of the Assessment Phase for FRES in the light of the critical decisions required for the programme to maintain momentum, including the extent to which “the Army was prepared to compromise on capability ... to achieve an early ISD” for FRES.<sup>250</sup> Final decisions would be taken by Ministers on the advice of the IAB.

**472.** In a paper for ECAB about the FRES Fleet Review, Brig Moore concluded that further work was necessary and the earliest that an initial operating capability (which would meet the requirements for survivability and future growth) could be achieved was 2015 to 2018.<sup>251</sup>

**473.** The paper stated that full operating capability would not be delivered until beyond 2023. That meant that some elements of the current fleet would be over 60 years old before they were taken out of service, and additional funding would be required.

**474.** The paper stated that, although the US Stryker vehicle could be procured to fulfil the Utility FRES variant “around 2013”, that option had been discounted because it would only be available in its current configuration. For the “FRES era”, this model offered insufficient protection, lacked growth potential and the UK was unlikely to be able to make any necessary modifications to it.

**475.** A second paper by Brig Moore, on the implications of the Fleet Review on the Army’s AV capability, detailed how the FRES delays had “exacerbated” the Armoured Personnel Carrier (APC) vehicle gap; Saxon’s limitations made it unsafe for use on operations but there was currently no alternative vehicle available.<sup>252</sup> Gen Dannatt had

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<sup>250</sup> Minutes, 19 January 2006, Executive Committee of the Army Board meeting.

<sup>251</sup> Paper DEC(GM), 12 January 2006, ‘Future Rapid Effect System (FRES) Fleet Review Outcome’.

<sup>252</sup> Paper DEC(GM), 13 January 2006, ‘The Implications of the Outcome of the Future Rapid Effect System Fleet Review on the Armoured Vehicle Fleet’.

asked Brig Moore to identify the options to fill this gap until FRES was able to enter service.

**476.** In considering whether PPVs could offer a solution, Brig Moore outlined the differences between the FRES APC requirement and PPV capabilities:

“... PPV [sic] has a limited degree of protection and mobility, and is designed around a patrol mission of up to 8 hours. These vehicles are not organic to units, but are issued in theatre as required. Originally designed as a specialist NI capability, the requirement for PPV in all theatres is becoming enduring ...”

**477.** Brig Moore wrote that the in service PPV capability was provided by Snatch vehicles, which were being upgraded and completion was expected by August 2006. The Vector programme would deliver “about 80” vehicles. The original requirement had been for 153 but “further risk” had been taken “for reasons of affordability”. Vector would not replace Snatch and its protection levels would be “less than Saxon”.

**478.** Brig Moore stated:

“Whilst new PPVs cannot fill the APC gap, they may help to mitigate its impact, especially on operations in the short term. The longer term plan for PPVs is currently being scoped by DCI(A) [Brig Inshaw].”

**479.** Brig Moore concluded that the “most effective way” to address the issue was by “a combination of upgrading and managing in-service AVs”. That would have an impact on the AV fleet, but further work was necessary to “confirm the most operationally appropriate and cost effective mix” and to assess how much risk could be carried.

**480.** Gen Jackson stated at the meeting that the Army was “disappointed by the conclusions” of the review, “but it was vital that ECAB understood how such conclusions had been reached and the implications for the in-service armoured vehicle fleet”.<sup>253</sup>

**481.** ECAB agreed:

- “FRES was the Army’s highest priority and that, given the future threat, the requirement was fully justified. It would be important to get the DMB engaged in the whole Armoured Vehicle Fleet issue so that it was seen as a priority in terms of resources.”
- The FRES Fleet Review Outcome Paper with some amendments, including that:
  - The programme should “aim to achieve the earliest possible” ISD and full operating capability by “challenging traditional acquisition models and seeking an incremental introduction of capability”.
  - It would be necessary to update and upgrade FV430 and CVR(T) and replace Saxon.

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<sup>253</sup> Minutes, 19 January 2006, Executive Committee of the Army Board meeting.



- Purchasing new MOTS [modified-off-the-shelf] vehicles such as to meet the Mechanised Infantry APC gap, such as Stryker, “should not be considered further”.
- It endorsed the “aspiration” to withdraw Saxon from mechanised brigades and take it out of service “as soon as was practicable”.
- “The requirement to improve our PPV capability should be addressed as a related but separate piece of work.”

**482.** Reflecting ECAB’s discussion, Gen Jackson wrote to Lord Drayson, on 23 January, inviting him to note the delay in the forecast FRES ISD and that ECAB had commissioned further work on maintaining adequate military capability.<sup>254</sup>

**483.** Gen Jackson set out how the FRES programme had failed to keep up with planned timescales, with the earliest ISD being delayed from 2012 to “2015-2018” as a result of the requirement to meet the threats it would likely face. He described that conclusion as “extremely unpalatable”.

**484.** Gen Jackson wrote that ECAB had concluded that there was “an urgent non-discretionary requirement to maintain adequate military capability and protected mobility” until FRES came into service, and that there was “a clear moral responsibility to do the best we can to safeguard soldiers’ lives in the interim”. That would include plans “to run on – and upgrade” FV430 and CVR(T) vehicles to fill the gap.

**485.** Lord Drayson’s Private Office recorded that he had discussed the advice with Gen Jackson on 24 January and was not content to note the delay.<sup>255</sup> Lord Drayson viewed:

“... the suggested slip in (FRES) In Service Date as entirely unacceptable and, as agreed, intends to work with CGS [Chief of the General Staff] and IAB [Investment Approval Board] members over the next months to ensure a way ahead is found that meets the Army’s requirements.”

**486.** Lord Drayson spoke to Mr Bill Jeffrey, MOD Permanent Under Secretary, on 30 January, about armoured vehicle capability including those in use on current operations and FRES.<sup>256</sup>

**487.** Lord Drayson told the Inquiry that he had asked Mr Jeffrey:

“... to grip the FRES situation because I was not content with the proposal to further delay the project and because I was concerned that the MOD was not giving the issue of armoured vehicles sufficient priority.”<sup>257</sup>

<sup>254</sup> Minute CGS to PS/Min(DP), 23 January 2006, ‘Future Rapid Effects System (FRES) Fleet Review’.

<sup>255</sup> Minute APS/Minister(DP) to MA/CGS, 24 January 2006, ‘Future Rapid Effects System (FRES) Fleet Review’.

<sup>256</sup> [Minute DCDS\(EC\) to PUS \[MOD\], 3 February 2006, ‘Armoured Vehicle Capability’.](#)

<sup>257</sup> Statement, 15 December 2010, page 5.

**488.** On 3 February, Lt Gen Fulton advised Mr Jeffrey how the MOD intended “to deliver a coherent armoured vehicle capability which meets current and future needs, against the background of the wish to make an early announcement to reassure the public, industry and the Army that the MOD is on top of the issue”.<sup>258</sup>

**489.** Lt Gen Fulton recommended that Mr Jeffrey should note that:

- a. Urgent work is under way to identify and cost options to meet Defence’s short term need for armoured vehicles which meet the increased demand of current operations and to consider whether timescales and capability can be advanced by making an early commitment.
- b. The armoured vehicle work builds on the Defence Industrial strategy ... and the more general armoured fighting vehicle work with industry.
- c. Concurrent work is considering how the Future Rapid Effect System (FRES) project can be accelerated to meet Defence’s longer term need for armoured capability.”

**490.** Lt Gen Fulton advised that work “during the FRES Assessment Phase” had “indicated” that it was “very unlikely” that an initial operating capability could be achieved before 2015; and that was “principally driven by the need to ensure” that it was “capable of future weight growth (in order to achieve protection requirements over a long life) and technology insertion”.

**491.** Addressing the implications of that delay, including the need to retain existing armoured vehicles with recognised deficiencies, Lt Gen Fulton wrote: “Work has been under way since July 2005 to identify the full implications for the armoured vehicle fleet of these deficiencies, and to consider how to address them.” The FV430 and CVR(T) fleets were facing obsolescence but that could be managed to a degree. They would need up-armouring to meet the threat level faced in Iraq. Saxon was described as “insufficiently effective”. The funding provided for FRES in the Equipment Programme would be examined “to identify opportunities to fund enhancements to the existing AV fleet”.

**492.** Mr Jeffrey forwarded Lt Gen Fulton’s advice to Lord Drayson, agreeing that the issue should be looked at urgently for a number of reasons, including that “the increased demands of current operations” had “exposed weaknesses in what was already a fleet facing obsolescence”.<sup>259</sup>

**493.** Mr Jeffrey stated that the DMB would discuss the deficiencies of the existing armoured vehicle fleet on 9 March and it “may be that there will be opportunities to deploy funds previously earmarked for FRES”. FRES would be discussed by the IAB on 9 February.

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<sup>258</sup> Minute DCDS(EC) to PUS [MOD], 3 February 2006, ‘Armoured Vehicle Capability’.

<sup>259</sup> [Minute PUS \[MOD\] to Minister \(DP\), 3 February 2006, ‘Armoured Vehicle Capability’.](#)

**494.** Mr Jeffrey promised a progress report after the DMB in March, stating:

“My aim is to put the Secretary of State and you in a position to make a clear early public statement on FRES and plans for armoured vehicle capability in the intervening period before FRES comes into service, to give confidence that we are addressing the issue responsibly.”

**495.** The MOD has not been able to provide a complete record of the DMB meeting held on 9 March, but the summary of conclusions makes no specific reference to FRES.<sup>260</sup>

**496.** The summary of the record did state that the DMB had concluded “that there was a stronger continuing operational requirement for FV430 overhaul and upgrade than had been assumed in STP05”. It was decided that sufficient additional resources should be provided to cover this cost in 2006-2007 and the longer-term requirement would be reviewed in STP/EP07.

**497.** ECAB met on 16 March.<sup>261</sup>

**498.** The minutes of the meeting stated that Lord Drayson’s:

“... visit to Land had gone well, and the Minister understood the importance of FRES; the implications of the new ISD [In Service Date]; the need for an interim solution to plug the gap ... and the requirement to improve Protected Patrol Vehicles (PPVs).”

**499.** On 17 March, Mr Jeffrey wrote to Lord Drayson with an update on armoured vehicle capability following the DMB’s discussion of the subject on 9 March.<sup>262</sup>

**500.** Mr Jeffrey stated that the discussion was “set in the context of the wider financial position in 2006/07 and the other demands on our resources; including the desire to bring forward the buy of the 5th C17, higher fuel prices ... and a range of other matters”.

**501.** The DMB view was that “the majority of issues should be resolved in the wider EP/STP planning round, but that there were grounds for taking some decisions early”. That included replacing Saxon and the overhaul of the FV430 series of vehicles “to provide a better capability for mechanised infantry”. The resources for the conversion of vehicles for use on Op TELIC would be sought through a UOR.

**502.** Mr Jeffrey said that the DMB had discussed the “high priority” of ensuring FRES was delivered “as early as possible”. Lt Gen Fulton was tasked to prioritise the requirement for FRES funding in 2006/07 in the context of “other capability requirements, and any other cost pressures on the Equipment Programme” in 2006/07.

**503.** Other issues relating to armoured vehicle capability were to be taken forward within STP/EP07.

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<sup>260</sup> Minutes, 9 March 2006, Defence Management Board meeting.

<sup>261</sup> Minutes, 16 March 2006, Executive Committee of the Army Board meeting.

<sup>262</sup> Minute PS/PUS [MOD] to Min(DP), 17 March 2006, ‘Armoured Vehicle Capability – DMB Decisions’.

**504.** Mr Jeffrey's minute stated that the requirement for PPVs was "distinct from the armoured vehicle capability, but PPV may help to mitigate shortfalls over the next few years". The Vector contract "for at least 62 vehicles" was imminent and "options to deliver more" would be considered in the planning round.

**505.** On 24 April, Maj Gen Rollo told ECAB that co-ordinated work on "the FRES/AV Gap" was "in hand for STP/EP07 and STP/EP08".<sup>263</sup> Two programme reviews were ongoing, including an Armoured Vehicle strategy and "Armoured Vehicle Through Life Management Plan". Lord Drayson "was fully engaged in this issue and the Army should capitalise on this".

**506.** Mr Des Browne replaced Dr Reid as Defence Secretary in May 2006.

**507.** On 25 May, Mr Browne was advised by a junior MOD official to write to Mr Stephen Timms, Chief Secretary to the Treasury, to seek an uplift in UOR funding to begin up-armouring the FV430 fleet for Iraq "as soon as possible".<sup>264</sup> A business case for £6m to procure the "long-lead items" for this project had been approved in April 2006.

**508.** The FV430 fleet had not previously operated outside MNF bases as they fell short of the force protection levels required, but Mr Browne stated:

"It is anticipated that there will be an increasing requirement for the FV430 fleet to deploy in a more overt capacity over the coming months, necessitating appropriate protection against the associated exposure to prevalent threats."

**509.** Mr Timms approved the proposal on 15 June.<sup>265</sup>

**510.** On 21 June, the DMB received two presentations; one about medium weight capability, and one about FRES.<sup>266</sup> The minutes do not make clear what constituted medium weight capability for the purposes of the meeting but stated that it was a valuable "over the horizon" capability that was much broader than FRES, although FRES "formed an important part of it". It was a joint capability to which all three Services contributed. It did not appear from the minutes that either presentation related to PPVs.

**511.** The DMB concluded that FRES was the Army's highest priority equipment programme after support to operations. FRES would be in service for many decades and it would be essential that there was growth potential and realism about timelines. The Board noted "with concern" that the programme was taking longer than originally anticipated. That was attributed to the time it had taken to understand the requirement properly, to plan, research and de-risk the programme. The delays were operationally

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<sup>263</sup> Minutes, 24 April 2006, Executive Committee of the Army Board meeting.

<sup>264</sup> Note MOD [junior official] to PS/SoS [MOD] 25 May 2006, 'Iraq – Additional Funding for Urgent Operational Requirements (UORs)' attaching Letter [draft] SoS [MOD] to Chief Secretary [Treasury], undated, 'Iraq – Additional Funding for Urgent Operational Requirements'.

<sup>265</sup> Letter Timms to Browne, 15 June 2006, 'Iraq – Urgent Operational Requirements (UORs)'.

<sup>266</sup> Minutes, 21 June 2006, Defence Management Board meeting.

damaging and had led directly to the need for force protection enhancements to FV430 vehicles deployed in Iraq. The DMB stressed that it expected lessons to be learned.

**512.** The up-armoured FV430 vehicles, known as Bulldog, began to deploy to Iraq in December 2006.<sup>267</sup>

**513.** Following his trip to Iraq in late 2006, General Sir Timothy Granville-Chapman, Vice Chief of the Defence Staff, recorded:

“Bulldog (up-armoured and engined 430) received rave reviews for its protection (not yet fully tested), mobility in tight streets and reduction in road/kerb damage. The battlegroup’s hierarchy saw it as a sound medium capability for up to 10 years.”<sup>268</sup>

## PROJECT VECTOR

**514.** As the preceding text in this Section shows, the MOD had been considering the potential requirement to deploy PPVs concurrently in Iraq and Afghanistan since 2004. In February 2005, it had been decided that, alongside the Snatch conversion programme, 100 Vector vehicles should be procured.

**515.** A business case for Project Vector, requesting approval to purchase 62 Vector vehicles at a cost of £18.8m was submitted to the IAB on 13 March 2006.<sup>269</sup> Those vehicles were intended for Afghanistan. PJHQ accepted that the vehicles would not be available before March 2007.

**516.** The business case stated that “initial scoping studies” for a Vector vehicle solution had considered “an increased capacity Snatch” but that had not been successful and would not be considered any further as a suitable platform for Vector. That was due to a “complete inability” to meet the Key User Requirement concerning the weight it was expected to carry.

**517.** Snatch 2 vehicles had been deployed to Afghanistan but had been “restricted to urban patrols” because of their mobility issues and the extreme terrain. Vector would offer a “substantial increase in the performance to that of Snatch 2 in terms of protection, mobility and capacity”. On protection it stated:

“It can be seen that Vector can be used in a more hostile environment than Snatch as is anticipated on Op HERRICK once full operations are undertaken.”

**518.** The operational analysis had been conducted by DSTL.

**519.** The business case stated: “Vector is currently CinC (LAND) [Gen Dannatt]’s highest priority.”

<sup>267</sup> House of Commons Standard Note, SN/IA/5128, 14 July 2009, *Afghanistan: Equipment Issues*.

<sup>268</sup> Minute VCDS to CDS, 4 December 2006, ‘VCDS’s visit to Afghanistan and Iraq 27 Nov – 2 Dec 06’.

<sup>269</sup> [Paper DEC\(SP\), 13 March 2006, ‘Business Case – Project Vector’](#).

**520.** There was a reference to the SOR produced on 21 February 2005 stating that the requirement for PPVs on a global and enduring basis was 1,030 vehicles: 877 Snatch 2 and 153 Vector vehicles. The business case stated that financial limitations currently constrained the numbers to 624 Snatch 2 and 62 Vector vehicles. The risk arising from the shortfall in vehicles would be managed by “the PPV management committee” but:

“Initially all of the procured vehicles will be deployed on Op HERRICK due to the improved mobility that Vector offers over Snatch 2A.”<sup>270</sup>

**521.** A requirement for 166 PPVs had been endorsed for Op HERRICK. That would initially be met through the deployment of Snatch 2A but 62 would be withdrawn and replaced with Vector during roll-out. The 62 withdrawn vehicles would be “redeployed to reduce risk taken on expeditionary operations” which was “expected to be Op TELIC”.

**522.** A commercial off-the-shelf option was recommended as the means to deliver the capability as there were “a number of manufacturers who produce armoured vehicles which would fulfil the requirements of Project Vector” and some of those vehicles were in service with “other armed forces”. There was “insufficient time” to develop a bespoke option.

**523.** Lord Drayson’s copy of the business case was annotated by his Assistant Private Secretary on 7 March.<sup>271</sup> It stated:

“For info only and low priority. Worth a skim solely because it deals with armoured vehicles (albeit light ones), is described CinC Land’s ‘highest priority’ and you will see him on Friday!”

**524.** On 9 March, Lord Drayson noted: “Following visit let’s get focused on this project.”<sup>272</sup>

**525.** On 14 March, Lord Drayson’s Assistant Private Secretary wrote to the Directorate of Capability, Resources and Scrutiny (Battlespace Manoeuvre) (DCRS(BM)), noting the 3 March business case and Lord Drayson’s visit to Land Command.<sup>273</sup> Lord Drayson understood “that the vehicles are required for the March 2007 Afghanistan roulement”, and it would be important that work was completed “on schedule by September”.

**526.** The “Project Vector” business case was approved on 21 March.<sup>274</sup>

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<sup>270</sup> Snatch 2A was the latest variant of the Snatch Land Rover.

<sup>271</sup> Manuscript comment APS/Min(DP) on Paper DEC(SP), 3 March 2006, ‘Business Case – Project Vector’.

<sup>272</sup> Manuscript comment Drayson on Paper DEC(SP), 3 March 2006, ‘Business Case – Project Vector’.

<sup>273</sup> Minute APS/Min(DP) to DCRS BM, 14 March 2006, ‘Project Vector – Protected Patrol Vehicles’.

<sup>274</sup> Minute DCRS [junior official] to APS/Min(DP), 22 March 2006, ‘Project VECTOR – Protected Patrol Vehicles’.

**527.** On 22 March, Lord Drayson's Private Office recorded that:

“Given the present tempo of operations, and the threat the Army are typically facing during deployments, Lord Drayson believes it is imperative that we ensure we are providing them (in both the near and long term) with appropriately protected vehicles. This will clearly involve both addressing the present operational requirement, and ensuring that FRES is brought into service no later than 2012.”<sup>275</sup>

**528.** On 22 March, an MOD official from DCRS(BM) advised Lord Drayson on how the remaining 104 Vector vehicles (from the 166 total) might be procured with Treasury funding.<sup>276</sup> The manufacturer would be working “flat out” to produce the initial purchase and there was “no scope to produce either more vehicles [between March and May 2007], or bring forward the delivery timeline”.

**529.** Approval had been given to buy as many vehicles as the available funding would allow but, due to the late inclusion of an additional protection measure against EFPs, it was “possible” that fewer than 62 would be purchased.

**530.** The official added that there were “anticipated requirements for future PPV capabilities in the short and long terms”. Lord Drayson was advised that a follow-on purchase could be made in the short term either through UOR or Equipment Programme action to meet the “full Defence wide requirement”.

**531.** Considering the UOR route, the official wrote that the requirement for additional Vector vehicles had not been included in the financial estimate for Afghanistan approved by Cabinet. It was therefore not advised to approach Treasury until the operational requirement was “sufficiently mature”, coupled with some operational experience of Snatch's performance in Afghanistan. Delaying a UOR until September would not have an impact on the delivery schedule, given that the manufacturer was working at maximum capacity to deliver the first tranche of vehicles. “Initial informal soundings” from the Treasury were that:

“... not only would the requirement need to be robust (ie a clear explanation of why Snatch, for which they have already provided UOR funding is not appropriate at all for Op HERRICK, and that no other in-service vehicle ... would not fill the gap), but also that the costs would need to fall within our currently negotiated funding envelope.”

**532.** Raising an Equipment Programme enhancement option was an alternative route to secure the vehicles which again would not have an impact on the delivery schedule. The official advised that, whilst it was “likely” that procuring additional Vector vehicles would be seen as “a high priority across Defence”, it was noted that “other competing priorities

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<sup>275</sup> Minute Pfeffer to CM(BM) and DCRS, 22 March 2006, ‘Armoured Vehicles’.

<sup>276</sup> Minute DCRS (BM) [junior official] to APS/Min(DP), 22 March 2006, ‘Project Vector – Protected Patrol Vehicles’.

in EP07” meant that there was no guarantee that funding would be found. The official gave three examples of those priorities, one of which was additional FRES funding.

**533.** The official did not recommend which option Lord Drayson should approve. It was also stated that longer-term consideration was needed to understand “how this enduring capability might be met, to replace the Snatch/Vector mix”.

**534.** Lord Drayson was also informed that, of the £74.5m the DMB had allocated to the PPV programme in FY 2005/06, £11m would not be spent.

**535.** Gen Dannatt told the Inquiry that, from the time of the announcement in June 2004 that the Headquarters ARRC would be deployed to Afghanistan in 2006, “whatever was happening in Iraq and however Iraq was going to develop, there was going to be another operation in Afghanistan in the middle of 2006”; and that:

“... everything as far as I was concerned to do with Iraq from the time that I became Commander in Chief in March 2005 was not just in the context uniquely of Iraq, but in the wider context of ‘... and we are going to be involved in Afghanistan as well’.”<sup>277</sup>

**536.** Gen Dannatt told the Inquiry that, in his view:

- Afghanistan was “perhaps much more important to get right”;
- “resourcing the operation in Afghanistan was particularly important”; and
- “Afghanistan would always develop as being the main effort”.

**537.** Referring to the decision to procure Vector vehicles, Gen Dannatt told the Inquiry that one of the brigades going into Afghanistan “had no vehicles at all” and the Army “knew that by spring 2007 we had to have something for them”.<sup>278</sup> Gen Dannatt said that the Vector programme was decided “in something of a hurry”.

**538.** The procurement of the remaining 104 Vector vehicles, to bring the total to 166, was progressed as part of Maj Gen Applegate’s response to the armoured vehicle review in June 2006. That is addressed later in this Section.

## THE DECISION TO PROCURE ADDITIONAL VEHICLES FOR IRAQ

**539.** Further fatalities in Iraq prompted questions about what more could be done to provide better protection for British troops.

**540.** On 31 January 2006, Corporal Gordon Pritchard was killed whilst on patrol in Umm Qasr when the Land Rover in which he was travelling was hit by a roadside IED.<sup>279</sup> Three other soldiers were injured, one seriously, in the same incident.

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<sup>277</sup> Public hearing, 28 July 2010, pages 14-15.

<sup>278</sup> Public hearing, 28 July 2010, pages 52-53.

<sup>279</sup> GOV.UK, 31 January 2006, *Corporal Gordon Alexander Pritchard killed in Iraq*; BBC, 31 January 2006, *British forces suffer 100th Iraq death*.



**541.** On 28 February, Captain Richard John Holmes and Private Lee Ellis were killed in an IED attack in a joint Snatch and Warrior vehicle convoy in al-Amara.<sup>280</sup>

**542.** On 15 April, Lieutenant Richard Palmer was killed when his patrol vehicle hit a roadside IED north-west of Basra.<sup>281</sup>

**543.** On 13 May, Private Joseva Lewaicei and Private Adam Morris were killed while on patrol when their Snatch vehicle hit a roadside IED just outside of Basra.<sup>282</sup>

**544.** On 28 May, Lieutenant Tom Mildinhall and Lance Corporal Paul Farrelly were killed by a PIR EFP IED whilst on patrol in Snatch vehicles.<sup>283</sup>

**545.** Brigadier James Everard, Commander 20 Armoured Brigade, wrote in his post-operation tour report that a policy had been put in place from 29 May whereby all vehicles travelling around Basra City were led by Warriors.<sup>284</sup> He wrote:

“This measure proved its worth as SAF [small arms fire] and RPG contacts also increased from July and Warrior a magnet for enemy fires frequently drawing attention away from other less well protected vehicles ...”

**546.** In a debate in the House of Lords on 12 June, Lord Astor of Haver raised the question of when the Government intended to bring into service further patrol vehicles armoured to provide protection against IEDs.<sup>285</sup>

**547.** Lord Drayson responded that PPVs were:

“... only one of a range of vehicles available to commanders to allow them to balance mobility, protection, and profile based on the threat, the terrain and the task. PPVs offer a level of protection commensurate with their weight, size and role, together with good mobility and a low profile.”

**548.** Following a supplementary question from Lord Astor, stating that the Snatch “was not remotely adequate for patrolling areas where insurgents used land mines” and asking whether an assessment had been made of the RG31,<sup>286</sup> “which the Americans had bought in large numbers”, Lord Drayson responded:

“... I do not accept that Snatch Land Rovers are not appropriate for the role. We must recognise the difference between protection and survivability. It is important

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<sup>280</sup> GOV.UK, 1 March 2006, *Captain Richard Holmes and Private Lee Ellis killed in Iraq*; BBC News, 1 March 2006, *Troops in Iraq blast named*.

<sup>281</sup> GOV.UK, 16 April 2006, *Lt Richard Palmer of the Royal Scots Dragoon Guards killed in Iraq*.

<sup>282</sup> GOV.UK, 15 May 2006, *Private Joseva Lewaicei and Private Adam Morris killed in Iraq*; BBC News, 15 May 2006, *Dead British soldiers are named*.

<sup>283</sup> BBC News, 30 May 2006, *MoD names troops killed in Iraq*.

<sup>284</sup> Report, 15 December 2006, ‘HQ 20 Armd Bde Op TELIC 8 Post Operational Tour Report’.

<sup>285</sup> House of Lords, *Official Report*, 12 June 2006, columns 1-2.

<sup>286</sup> An RG31 is a 4x4 vehicle manufactured in South Africa.

that we have the trade-offs that we need for mobility. The Snatch ... provides us with the mobility and level of protection that we need.

“We had RG31s in Bosnia, which we took out of service some time ago due to the difficulties with maintenance. We have looked at the RG31 ... and concluded that the size and profile did not meet our needs. Size is important in the urban environment. The RG31 cannot access areas that Snatch Land Rovers can get to.”

**549.** Lieutenant General Nicholas Houghton, who succeeded AM Torpy as CJO in March 2006, visited Iraq from 13 to 15 June.<sup>287</sup> He reported:

“... I do have some concerns as I look ahead over the balance of the year ... If we are to match the wider campaign desire for a decisive six months we need to balance ourselves accordingly.”

**550.** On reducing troops and equipment in Iraq, he stated:

“Do not look for too big a dividend this year. Particularly we need to retain as much Warrior ... as LAND can afford. The reality is that Warrior gives us confidence and a protective edge over EFPs. The boys can manage Snatch – just; but they have no inherent confidence in it.”

**551.** Mr Ingram gave evidence about Snatch Land Rovers to the Defence Select Committee on 20 June.<sup>288</sup> He said that there was no “off-the-shelf” solution that would offer the “all-round protection we would seek with the same utility and manoeuvrability”.

**552.** Mr Ingram told the Committee that there was “a balance of risk” that needed to be taken. While the MOD was “very conscious of where the threats were coming from”, they did “not necessarily have every capacity to deal with those threats”.

**553.** On 26 June, Mr Browne announced a review of armoured vehicles in Parliament.<sup>289</sup> He stated:

“As I have already said to the House, it is open for commanders to deploy vehicles that have heavier protection than the Snatch Land Rover ... Other vehicles are available to them; there is a choice. However, commanders must be free to make decisions in relation to the operations for which they deploy soldiers. I have already said to the House that I am aware of the issue: I could not but be aware of it following my visit last week and, indeed, my earlier visit. I have asked for a review of what we can do in the long term and immediately. I shall see what we can do immediately to respond to the changing situation, although significant measures other than those in relation to the vehicle’s armour must be taken. We are at the leading edge of some of them, and electronic counter-measures, in particular.”

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<sup>287</sup> Minute Houghton to PSO/CDS, 16 June 2006, ‘Visit to Iraq 13 – 15 Jun 06’.

<sup>288</sup> Thirteenth Report from the House of Commons Defence Committee, Session 2005-06, *UK Operations in Iraq*, HC 1241.

<sup>289</sup> House of Commons, *Official Report*, 26 June 2006, column 7.

**554.** Mr Browne met Mr Ingram and Lord Drayson to discuss the review on 27 June.<sup>290</sup> He asked Lord Drayson to:

“... set the necessary work in hand to provide Ministers with urgent, realistic, costed advice on whether there is anything more we can do to protect troops ... and to enable them to achieve their mission(s). In particular, the review should examine whether there are any vehicles with a higher level of protection than Snatch Land Rovers which could be procured quickly (and if so, at what cost).”

**555.** Maj Gen Applegate provided a paper to Lord Drayson on “the capability that might be achieved with the investment of about £50m for the protection of soldiers in PPVs” on 28 June.<sup>291</sup> He recommended that Lord Drayson approve:

- a commitment of £2m for an “urgent study on options for an enhanced PPV”;
- the procurement of all 166 Vector vehicles for Afghanistan; and
- the purchase of additional armoured kits for FV430 for use in Iraq. The existing UOR would begin to deliver up-armoured FV430s in October 2006 and deliveries would be completed by January 2007.

**556.** Maj Gen Applegate advised Lord Drayson:

“PJHQ and LAND regard a broad systems approach to force protection as essential, linking ISTAR, situational awareness, tactic techniques and procedures, ECM and platform survivability. This systems approach seeks to defeat the system; if this fails defeat [sic] the device, and finally defeat the attack.”

**557.** Maj Gen Applegate highlighted that the UK had been criticised for not adopting the RG31, variants of which were in service with US and Canadian forces and which had been used by UK forces in the past. He wrote that RG31 had previously been discounted as a suitable alternative to Snatch. Brig Moore would be briefed on its development and growth potential when he visited South Africa on 29 June.

**558.** In relation to the study into future PPV capability, Maj Gen Applegate wrote:

“The threat continues to develop and there is a requirement to assess urgently how to sustain the PPV capability. The US is conducting a similar assessment. New developments designed to meet this threat are currently at the demonstrator stage and it would be prudent to examine these urgently to understand what capabilities they might offer. In general if we are to combat the developing threat we will require a heavier vehicle capable of carrying a higher payload in order to mount additional armour. The ability of such a vehicle to operate effectively in the urban environment will be part of the assessment.”

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<sup>290</sup> [Minute PS/SofS \[MOD\] to PS/Minister\(DP\), 27 June 2006, ‘Protected Patrol Vehicles: Review’.](#)

<sup>291</sup> Minute Applegate to APS/Min(DP), 28 June 2006, ‘Protected Patrol Vehicles (PPV)’.

**559.** Maj Gen Applegate recommended that additional funding be provided “to develop concurrently an enhanced PPV capability to match the emerging threat, with an anticipated fielding in the latter half of 2007”. In the interim, “and to provide the commander with sufficient flexibility to mitigate the weakness of Snatch, additional armour packs should be procured for FV430”. The possibility of accelerating the modification of FV430 and Vector was also being explored.

**560.** Lord Drayson approved the request the same day.<sup>292</sup> He asked Maj Gen Applegate to “engage with coalition partner to identify whether they may have excess PPV capacity which would provide a greater level of protection which could be made available to the UK”; and for further advice by 13 July.

**561.** Following his visit to South Africa, Brig Moore advised on 3 July that, should the Army decide that “a better protected PPV” was required, then the RG31 had “the potential to meet that requirement”.<sup>293</sup> In considering the requirement, Brig Moore wrote that there was a “conundrum” between a heavier vehicle that was able to protect soldiers against the mine or IED threat, and ensuring the vehicle was agile enough to access built-up areas. He added that “if the UK wants to provide its soldiers with the protection necessary to do their job, it will need a heavier PPV”.

**562.** On RG31, Brig Moore stated:

“It is now apparent that RG31 ... has sufficient stretch potential to take the additional weight associated with protection against [...]. In addition, LSSA [Land Systems South Africa] has a rigorous testing regime ... and this is fully compliant with DSTL thinking. LSSA is innovative, front running and is at the leading edge of their trade. Should the Army want a heavier and better protected PPV, RG31 would be a strong contender.”

**563.** In his summary, Brig Moore said that “the South Africans were open, engaging and ready to help in any way possible. Notwithstanding the considerable attributes of RG31, UK should exploit this opportunity.”

**564.** In response to a question from the Inquiry, about whether he had asked about potential alternatives to Snatch on the global market before June 2006, Lord Drayson wrote in his statement:

“Yes ... I was advised that there was no vehicle identified that could provide the mobility and small footprint offered by Snatch and that the vehicles used by the US such as Stryker and Humvee did not offer a better solution. The larger protected patrol vehicles (such as the RG31 ...) were regarded by the Army as unsuitable for Iraq ...

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<sup>292</sup> [Minute PS/Min\(DP\) to Applegate, 28 June 2006, ‘Protected Patrol Vehicles \(PPV\)’.](#)

<sup>293</sup> Minute Moore to APS/Minister (DP), 3 July 2006, ‘Protected Patrol Vehicles (PPV) – Exploratory Visit to South Africa: 30 Jun – 2 Jul 2006’.

“Following a visit to South Africa in July 2006, it was concluded by Brigadier Moore that the RG31 would be a strong contender should the Army want a heavier and better protected PPV. Getting the Army to want such a vehicle to the point where it was prepared to allocate funding to it was the key point. I pushed to try to make this happen.

“I asked Des Browne to direct me to look into this issue.”<sup>294</sup>

**565.** While discussions about the medium weight PPV were ongoing, Gen Dannatt wrote to Gen Jackson in July about the level of operational risk on current operations.<sup>295</sup> Gen Dannatt was to take over as Chief of the General Staff in August. He wrote:

“The pace and changing dynamics in theatre have brought into sharp relief the concerns that you and I have about support to current operations. In addition, Ministers have recently faced difficult questions in the House. Given that there are some important discussions in ECAB, Programme and Planning Strategy Group, and DMB in the next few days, I thought I should set out now very clearly my view of the unacceptable areas of risk.”

**566.** Gen Dannatt described four “major concerns as the Force provider”, protected mobility and protected patrol vehicles being his “first and overriding concern”.

**567.** Gen Dannatt wrote that the use of Vector, up-armoured FV430 and Warrior would “provide a balanced capability” in the short term which could be “tailored to met the different demands” of operations in Iraq and Afghanistan. It was “accepted” that Vector would not provide “full protection against all threats” but it would “increase survivability compared with Snatch improved protection, greater mobility and larger capacity)” and he believed that there was “no immediate or practicable alternative”.

**568.** Gen Dannatt stated that there was therefore “an urgent need to complete the buy of Vector now”. While plans in place meant that that “should achieve the immediate goal” for Afghanistan, it would leave forces in Iraq with Snatch “for the foreseeable future”. He wrote:

“How the remainder of the PPV capability shortfall should best be addressed will require further consideration. If a better PPV than Vector can be developed, and delivered in the right timeframe, then clearly we should pursue this line. However, I reiterate the need for a balanced capability ...”

**569.** “In parallel”, Gen Dannatt thought that there was “an urgent need to complete the upgrade of FV430s”.

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<sup>294</sup> Statement, 18 January 2011, pages 5-6.

<sup>295</sup> Letter Dannatt to Jackson, July 2006, ‘The Level of Operational Risk on Current Operations’.

**570.** On 4 July, Mr Browne sent Lord Drayson a note summarising a meeting they had earlier that day to discuss PPVs.<sup>296</sup> They agreed that Lord Drayson would pursue:

- clear confirmation from military commanders that there was a requirement for a medium weight armoured patrol vehicle as an alternative to Snatch or Tracked Armoured Vehicles;
- subject to that confirmation, a rapid investigation of options to deliver such a capability as an interim solution (around 50-100 vehicles, although that would need to be refined) whilst work continued on longer term solutions; and
- subject to both points, deploying the vehicles alongside the forces due to be deployed to Iraq in November 2006.

**571.** Mr Browne reported that he had discussed funding with Mr Gordon Brown, Chancellor of the Exchequer, following his meeting with Lord Drayson where it was concluded that the MOD could initially use the UOR contingency of £30m to fund the project; and that additional funds could be sought as required.

**572.** On 5 July, Lord Drayson asked Lt Gen Houghton for clear confirmation, “in consultation with Front Line Commands”, as to whether there was a requirement for a medium weight armoured patrol vehicle “as an alternative to use of Snatch or Tracked Armoured Vehicles on current operations”.<sup>297</sup>

**573.** Lt Gen Houghton provided that confirmation on 7 July, stating:

“I am clear that, in light of the increasingly sophisticated and potent asymmetric threat that we now face, a requirement for a medium weight PPV, in addition to the current and planned enhancements to light weight PPV and tracked armoured vehicles exists ...

“We need a medium weight PPV ... to provide a significantly enhanced physical protection against EFP IEDs and RPGs ... to prosecute our missions successfully without unnecessary casualties. Only a balanced force will give the operational commander the optimum flexibility to meet the range of tasks based on an assessment of threat and risk. The Frontline Commands share this assessment.”<sup>298</sup>

**574.** Lt Gen Houghton added that, as Lord Drayson was aware, physical protection was “only part of a balanced systems approach to delivering a Force Protection capability”; and that improvements to the ISTAR capability were “a key element in achieving the overall protection that we need”.

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<sup>296</sup> [Minute APS/SofS \[MOD\] to PS/Minister\(DP\), 4 July 2006, ‘Protected Patrol Vehicles \(PPV\)’.](#)

<sup>297</sup> [Minute APS/Minister\(DP\) to MA/CJO, 5 July 2006, ‘Protected Patrol Vehicles \(PPV\)’.](#)

<sup>298</sup> [Minute CJO to PS/Min\(DP\), 7 July 2006, ‘Protected Patrol Vehicle \(PPV\)’.](#)

**575.** On the same day, Lord Drayson asked Maj Gen Applegate:

“... for advice ... in consultation with CJO and Land by 1600 14 July setting out the number of vehicles required to meet present operational commitments ... [and] project plans for delivering the requisite number of vehicles in time to deploy on the next Iraq roulement in November 2006.”<sup>299</sup>

**576.** On 11 July, Mr Browne told the House of Commons Defence Committee that the increased IED threat had “generated a set of circumstances” where, in his view, the MOD needed “to look at whether there is a need for something between Snatch Land Rovers as a form of land transport and the Warrior”.<sup>300</sup> In ordering a review of the use of the Snatch, he had “accepted in principle” the need “to see if we can identify resources that can be procured and deployed in the timescale that would provide that [the required] level of protection while we wait for other armoured options becoming available”.

**577.** On 12 July, Brig Inshaw recommended that Maj Gen Applegate agree:

“Despite recent casualties, the requirement to operate PPVs on current operations endures and may increase as Defence is likely to be required to conduct concurrent ... campaigns over the next 3-4 years.”<sup>301</sup>

**578.** Brig Inshaw advised that there was a requirement for a “balanced PPV capability”. It should include a medium weight PPV, for which there was “an urgent requirement”, and light, agile PPVs “such as Vector”, although “commanders recognise that such a vehicle will never be protected against the most demanding threats”.

**579.** Brig Inshaw advised that Brig Moore had examined “a number of options” that were “either in development or in service elsewhere in the world”. Brig Inshaw wrote that commanders accepted all of these could produce solutions that were “significantly larger” or have “a more aggressive profile” than Snatch and Vector. It was accepted that this was “a penalty” commanders would “have to pay for the improved levels of protection”. Brig Inshaw added:

“To avoid confusion, it should be noted that PPVs will not deliver the capability or overall protection levels we would expect of an in-service APC [Armoured Personnel Carrier] (such as FV430 Mk 3) or of FRES, which will be designed to operate in a less permissive environment (where issues surrounding size and posture are far less important) and to defeat a significantly more demanding threat. A mixed fleet of light and medium PPVs would allow commanders to force package appropriately to the terrain and task.”

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<sup>299</sup> [Minute APS/Minister\(DP\) to CM\(BM\), 7 July 2006, ‘Protected Patrol Vehicles \(PPV\)’](#).

<sup>300</sup> Defence Committee, Session 2005-06, *Defence – Minutes of Evidence*, 11 July 2006, Q44.

<sup>301</sup> Minute DCI(A) to MA/CM BM, 12 July 2006, ‘Requirement for a More Capable Protected Patrol Vehicle (PPV)’.

**580.** In addition, Brig Inshaw wrote that there was “an urgent requirement for armoured vehicles to provide protected transport to move personnel for administrative purposes” because PPVs had “been used to fulfil this role” in the past. That would be addressed by the deployment of FV430s in November 2006 and LAND was “deploying additional up-armoured Warrior” vehicles to meet the requirement in “the very short term”.

**581.** Brig Inshaw advised that improved physical protection was only part of the solution; work was also under way to address battlefield helicopter and ISTAR shortfalls, and TTPs would continue to be adapted. He noted that fielding a larger PPV would “require some change to current operational practices”.

**582.** Initial calculations highlighted a shortage of PPVs in Iraq, Afghanistan and the training pool. Brig Inshaw wrote that the MOD was taking “some 30% risk in numbers against the requirement” and that could worsen between 2007 and 2008 when Snatch 1.5 was removed from service. He suggested that 808 medium PPVs were needed to meet the operational requirement, 510 of which would be for Iraq. He also advised that all PPVs in Iraq should be medium weight (as opposed to a combination of light and medium weight vehicles, which was the suggestion for Afghanistan). The planned procurement of Vector and up-armouring of the FV430s should continue.

**583.** On 13 July, Lord Drayson’s Assistant Private Secretary summarised a meeting that had been held between Lord Drayson and Maj Gen Applegate that evening.<sup>302</sup> Maj Gen Applegate had informed Lord Drayson that the requirement for 166 Vector and additional armour packs for FV430 had been confirmed. Lord Drayson had confirmed that the resources for those requirements “would not count against the new resources being provided by the Treasury to meet the medium weight PPV requirement”.

**584.** Maj Gen Applegate had advised Lord Drayson that 15 vehicles had been examined and “the only option to borrow vehicles was 25-50 Bushmasters that Australia could release” but there was no way of acquiring additional vehicles beyond this because “there was no manufacturing line”. Two options were “worthy of further consideration”: the Protector (a new variant of the RG31) and the Iraq Light Armoured Vehicle (ILAV) (derived from the Cougar which was already being used by the US Marine Corps and had survived around 1,000 IED attacks in Iraq). Both vehicles would meet the required protection capabilities; the key for the MOD was which vehicle could be delivered more quickly. The US was “willing to provide a couple of ILAV vehicles to the UK early for testing”.

**585.** Lord Drayson had suggested acquiring a number of both vehicles to reduce the delivery time and Maj Gen Applegate undertook to investigate it further. There was a discussion about “the difficulties posed” by Force Protection Inc being a new MOD supplier. Two possible options had been identified for expediting matters: either acquiring

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<sup>302</sup> [Minute APS/Minister\(DP\) to CM\(BM\), 13 July 2006, ‘Protected Patrol Vehicles \(PPV\)’.](#)



ILAV vehicles from the US under Foreign Military Sales with configuration for the UK's communications equipment, or acquiring the vehicles through a "call off contract".

**586.** Lord Drayson was grateful for the efforts which had been made and had stated that the "pace of work must now be maintained". He requested an update by 20 July, including advice on how "to achieve the necessary commercial arrangement".

**587.** Gen Granville-Chapman visited Iraq from 9 to 13 July.<sup>303</sup> He reported:

"On equipment, ISTAR and helicopters remain the key focus. Whilst clearly all acknowledge the limitations of Snatch, feeling was not as strong ... as I had expected. Very striking was great confidence in ECM equipment ... All I spoke to had faith that this, coupled with rigorous execution of the now highly developed TTPs, gave them confidence and a good level of protection. But they would welcome a new PPV, though were clear that any vehicle would need to be able to access the tight urban sprawl that characterises much of Basra – Vector, they felt, would take the trick in this respect, but their point about utility in tight urban areas will need to be taken into account in the Medium PPV work."

**588.** On 19 July, in the House of Commons, Mr Owen Paterson asked Mr Browne what the performance specifications of the new Vector vehicle were and how its protection levels compared to Snatch and the RG31.<sup>304</sup> Mr Browne replied:

"The key performance requirements for Vector are improved mobility, payload and capacity compared to Snatch. We do not comment on levels of armour protection ..."

**589.** The USUR for a medium weight PPV, for use in Iraq and Afghanistan, was articulated by Lt Gen Houghton on 19 July 2006.<sup>305</sup> He reported that, between July 2004 and July 2006, almost half of the UK's fatalities from hostile action, 20 of the 44 deaths, were personnel travelling in Snatch Land Rovers.

**590.** The USUR stated: "The IED and RPG threats" in Iraq and Afghanistan "are here and now; Snatch is both obsolete as a light weight PPV and the heightened EFP IED threat" in Iraq demanded that it "should be replaced by a Medium Weight PPV (MPPV)". It should "have as much protection as possible without compromising its function (capacity and mobility) providing as balanced an answer to the range of threats as is feasible".

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<sup>303</sup> Minute Granville-Chapman to Stirrup, 14 July 2006, 'VCDS Visit to Iraq and Afghanistan 9-13 Jul 06'.

<sup>304</sup> House of Commons, *Official Report*, 19 July 2006, column 505W.

<sup>305</sup> [Minute CJO to DEC GM – SO1 PLANS, 19 July 2006, 'Op TELIC and Op HERRICK – Urgent Statement of User Requirement for Medium Weight PPV'](#).

**591.** In explaining the justification for the requirement and the inadequacies of existing equipment, the points made by Lt Gen Houghton included that:

- “EC advice suggests that we have reached the engineering and technological limits of the physical protection that can be provided by Snatch and other light weight PPVs.”
- “ ... Defence has a moral responsibility towards our servicemen to ensure we have done everything that is reasonable to minimise loss to life and ensure operational success; there is still some way to go before that assurance can be offered.”
- “ ... [T]he public, political and media expectation is that military operations can now be conducted without significant casualties”.
- “A MPPV is needed in order to provide significantly enhanced physical protection against IEDs (incl EFP) and RPGs ... to prosecute the mission successfully without unnecessary casualties.”
- “Every effort should be made to enhance force protection measures – perversely this may mean that as troop numbers go down, PPV numbers remain broadly similar, thereby affording greater levels of protection to a larger part of the deployed TELIC force.”
- “ ... [O]nly a balanced force will give the operational commander the optimum flexibility to meet the range of tasks based on an assessment of threat and risk.”
- “ ... [H]elicopters are already in short supply and it is highly unlikely that additional aircraft will be available to meet the increased demand without severe impact on JHC [Joint Helicopter Command] ability to sustain the current and emerging operational requirements.”
- “Snatch is no longer fit for purpose as a light weight PPV and the increased threat requires a MPPV.”

**592.** When the Inquiry asked Lord Drayson why he had found it necessary to ask Lt Gen Houghton for confirmation that there was a requirement for a medium weight PPV, Lord Drayson wrote in his statement:

“It was necessary because I had become concerned about the growing casualties to personnel travelling in Snatch from IEDs in Iraq. The military had identified a requirement for a new light PPV for HERRICK (Afghanistan) which had been approved via the core equipment programme by PJHQ in March 2006 (the Vector vehicle) but no requirement had been identified for Iraq. I wrote to CJO to force the issue. The push to procure a medium weight PPV in time for the Nov 06 roulement of forces came from Ministers.”<sup>306</sup>

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<sup>306</sup> Statement, 18 January 2011, page 6.

**593.** The Inquiry asked Lt Gen Fulton why he thought the push for a medium weight PPV had to come from Lord Drayson instead of from the Defence Board or Chiefs of Staff:

“... I think there’s a sort of relationship there between the commander on the ground at whatever level, the commander in theatre, the Permanent Joint Headquarters, the chiefs, the equipment customer and a series of examinations of what was needed against what was ... available in the sense of, you know, did it exist?”

“I don’t think people were sitting on their hands saying, ‘It is all fine’. I think people were saying, ‘this IED problem is a whole theatre problem ...’<sup>307</sup>

**594.** Lieutenant General Andrew Figgures, who succeeded Lt Gen Fulton as DCDS(EC) in June 2006, told the Inquiry that the procurement of a medium weight PPV was not possible before 2006 because there was not a vehicle that could meet the requirement:

“... my judgement would be that every waking hour people had they were attempting to solve the problem in this area, but if there is no technical solution to it, however much effort you put into it, you can’t solve it.”<sup>308</sup>

**595.** The Inquiry asked Lord Drayson why the military chain of command had not identified the requirement earlier. He replied:

“I found it hard to understand why the military chain of command had not raised a requirement for a medium weight PPV when it was clear that it was not technically possible to procure a light weight PPV at that time with enough armour protection to overmatch the IED then being used against our troops. The thinking of the military throughout this period was that a small light weight vehicle of the size and weight of Snatch was needed to patrol in the way the British Army operated in Iraq. I accepted that buying a much bigger and better protected medium weight vehicle would not be suitable for this type of patrolling in narrow streets but I believed that providing commanders in theatre with the option of a bigger vehicle would allow them to choose when and where to use it.”<sup>309</sup>

## THE INTRODUCTION OF MASTIFF

**596.** A variant of the US Cougar vehicle was selected as the solution to the medium weight PPV gap. It was already in service with the US Army in Iraq.

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<sup>307</sup> Public hearing, 27 July 2010, pages 75-76.

<sup>308</sup> Public hearing, 27 July 2010, pages 77-82.

<sup>309</sup> Statement, 15 December 2010, page 6.

**597.** A business case for the procurement of 108 Cougar vehicles at an estimated cost of £73.1m was submitted to the IAB on 20 July.<sup>310</sup> It was a joint case from the DEC(GM) and SUV IPT teams. One company of vehicles would be delivered by November 2006 and the remaining vehicles by April 2007. The total requirement was for 510 vehicles for Iraq and 150 for Afghanistan.

**598.** The business case stated that a “significant proportion of IEDs are EFPs, which have constantly changing initiation methods and are difficult to detect”.

**599.** There were currently 380 Snatch vehicles in Iraq, against a theatre establishment of 420:

“The Snatch PPV provide the deployed force with a level of manoeuvrability and survivability in order to conduct operations, however, the rapidly evolving asymmetric threat faced on Ops TELIC and HERRICK have overmatched the capability envelope of the Snatch PPV. Moreover, the majority of Snatch deployed on Op TELIC are the 1.5 variant which is due to go out of service from January 2007. With a host of obsolescence issues, Snatch is no longer capable of matching the high level of threat faced in Iraq and Afghanistan.”

**600.** The business case stated that there was “no specific operational analysis to support the requirement” for a medium weight PPV but that it had been driven by the “rapidly evolving threat”, namely EFPs. Work had been initiated by Brig Inshaw “to define the longer term requirement to fulfil the future PPV capability”.

**601.** The business case considered four options:

- To do the minimum: deploy additional assets “and/or” reallocate assets to Op TELIC and Op HERRICK. In Iraq that was likely to mean more Warrior vehicles were deployed but “the current high usage rates” were already having a detrimental effect on the ability to sustain the Warrior fleet in the longer term. That option had “been discounted”.
- RG31: That solution was considered “immature” and had “been discounted”.
- Cougar 6x6: The preferred solution with “proven mine protection (in-service US Army data)” and sufficient payload to mount armour necessary for better protection.
- Bushmaster: An Australian vehicle with mine protection that was in service with Australian forces in Iraq. Up to 25 vehicles had been offered by the Australian Government which could meet the “challenging timelines” but it would need further investigation.

**602.** The business case proposed procuring the Cougar 6x6 through a Foreign Military Sales case with the US (see Box, ‘The Cougar vehicle’). In assessing the commercial

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<sup>310</sup> [Report AD CC DEC\(GM\) to IAB Sec. 20 July 2006, ‘UOR IO4165/AO1082 Business Case for Medium Protected Patrol Vehicles’.](#)

risk, the attached risk register said that there was “high level US military support for the planned acquisition”. The business case proposed to adopt “a single source acquisition strategy” that was based on “a world-wide market survey, paper technical assessment and industrial visits to ascertain the most suitable and cost effective solution”.

**603.** The business case stated that, although Cougar would provide a “significant enhancement in survivability” over Snatch and Vector, it would still be defeated by the most effective EFP and very large blast IEDs. It also highlighted that Cougar was “a large platform with good cross country mobility but less agility and terrain accessibility in the urban environment than Snatch and Vector”. It was reiterated that the chain of command should understand and explain the strengths and limitations of the platform to all potential users.

**604.** On 20 July, Lord Drayson wrote to Mr Timms seeking his agreement for an additional £89.2m of UOR funding to be found from the Reserve for Cougar vehicles and FV430 vehicles.<sup>311</sup> The £47.8m required for additional Vector vehicles for Afghanistan could be found from within the Defence budget.

**605.** Lord Drayson wrote that the review of protected vehicles announced by Mr Browne on 26 June had “confirmed” there was a capability gap in Iraq and Afghanistan’s protected vehicles. The “key threat in Iraq” was “now” the EFP IED. Warrior vehicles had been up-armoured to help meet this threat but that had led to an “over-reliance” upon it in theatre which meant that personnel in Warrior units were “significantly exceeding” guidelines for operational tour intervals.<sup>312</sup>

**606.** Lord Drayson stated that Snatch vehicles could not “be armoured sufficiently to defeat the EFP IED or RPG threats”: “As the media and a number of politicians have highlighted recently, there have been a significant number of deaths in Iraq from EFP IED attacks on Snatch.”

**607.** Lord Drayson said that, after “a very rapid evaluation” of “possible vehicles available worldwide”, the Cougar variant was best placed to meet “both the time and performance criteria”. He added:

“The fact that an early version is already in the UK service with Explosive Ordnance Disposal troops and it is also in service with both the US Army and Marine Corps gives us considerable confidence in it. We will be relying on the assistance of the US Government and military to deliver it as rapidly as possible and this is an excellent example of where the Special Relationship will have a direct impact on our capability on operations.”

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<sup>311</sup> [Letter Drayson to Timms, 20 July 2006, ‘Iraq and Afghanistan – Request for Additional Funding for FV430 Uparmouring and Medium Protected Patrol Vehicle Urgent Operational Requirements’.](#)

<sup>312</sup> The guidelines for operational tour intervals are detailed in Section 16.1.

**608.** Lord Drayson wrote that, given Mr Browne’s commitment to report back to Parliament “as soon as possible” and the start of recess on 26 July, he would be grateful for confirmation of the funding by the following day.

**609.** Mr Timms replied to Lord Drayson on Sunday 23 July, saying he realised that Mr Browne was “under pressure to make an announcement in the House on Monday” and the “considerable work” undertaken by officials “in scoping the requirement” within the tight deadline.<sup>313</sup> Mr Timms wrote that he fully recognised the need to provide “adequate protected mobility in these challenging environments” and that he supported the proposals.

**610.** While Mr Timms agreed that the MOD could enter into commercial arrangements to up-armour the FV430s and procure Cougar vehicles, he was “not comfortable” that the “commercial terms” had been reached for the requirements to be “properly costed”. He asked for an update once the full costs were finalised, at which point he would “formally uplift” the UOR funding.

### The Cougar vehicle

The Cougar is described by the US Department of Defense as “a hardened engineering vehicle that provides protection against armor-piercing rounds and high-explosive devices”.<sup>314</sup> It is used for “ordnance disposal, communications, command and control, and leading convoy missions”. It is available in two configurations: 4x4 and 6x6.

Both of these configurations have been integrated with UK systems to enable their use on UK operations: the 4x4 became the Ridgback, and the 6x6 became the Mastiff.

The main distinction between the two is their size. The British Army refer to Mastiff as Ridgback’s “bigger brother”.<sup>315</sup>

The US Marine Corps contracted Force Protection Inc to provide 28 Cougar vehicles in April 2004.<sup>316</sup> Three further orders were placed by the US Army for Cougar vehicles between May and June 2005, but for a Joint EOD Rapid Response Vehicle (JERRV) variant. Those were in both configurations (4x4 and 6x6) and were delivered in 2005.

The JERRV variant was a type of vehicle also known as a Mine Protected Vehicle, or more commonly a Mine Resistant Ambush Protected vehicle (MRAP) which is specifically designed to protect against landmine and IED attacks, making them suitable for Explosive Ordnance Disposal tasks.

The MOD has told the Inquiry that it cannot confirm details about US vehicles and their deployment to Iraq.<sup>317</sup>

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<sup>313</sup> [Letter Timms to Lord Drayson, 23 July 2006, ‘Protected Vehicles’](#).

<sup>314</sup> Report US Department of Defense, 27 June 2007, ‘Procurement Policy for Armored Vehicles’.

<sup>315</sup> British Army website, *Ridgback*. Website content correct as of date of publication.

<sup>316</sup> Report US Department of Defense, 27 June 2007, ‘Procurement Policy for Armored Vehicles’, pages 6-7; *USA Today*, 10 February 2007, *The truck the Pentagon wants and the firm that makes it*.

<sup>317</sup> Letter Duke-Evans to Hammond, 2 February 2016, [untitled].

The UK's EOD teams were using early versions of the MRAP Cougar, the 4x4 variant, from "2003-04" in Iraq and also deployed them to Bosnia (in 2004) and Afghanistan.<sup>318</sup>

To procure equipment from the US, the MOD is required to follow a Foreign Military Sales programme. That is where, under the US Arms Export Control Act, the two Governments enter into a government-to-government sales agreement.<sup>319</sup> It can be done where the President formally finds that to do so would strengthen the security of the US and promote world peace.

**611.** In anticipation of his written statement on the armoured vehicle review, Mr Browne was offered presentational advice on 21 July.<sup>320</sup>

**612.** The advice stated that one of the key messages to convey was:

"With current vehicles, including Snatch (which will remain appropriate for some tasks) this provides a coherent package of vehicles, offering a range of protection, mobility and profile. Commanders will have a significantly increased choice of vehicles to be used as they see fit to best meet the mission and counter the threat. No one vehicle is appropriate for every task.

"It will be important to make clear that while we are confident that the Med[ium] PPV being procured offers significantly greater protection against the key threats in both Iraq and Afghanistan than the Snatch, as with any other vehicle, it cannot be guaranteed to offer absolute protection ..."

**613.** According to the advice, the short timescales in which the medium PPV programme had been developed meant that the usual "full testing" of the vehicle had not been possible but the MOD was confident of its capability based on US use of the same base vehicle in Iraq.

**614.** The range of different vehicles would allow commanders "to balance protection against the requirements of the mission". Snatch was "still an appropriate vehicle for some tasks" and the additional vehicles did not mean Snatch was "not used at all".

**615.** The advice recognised that the announcement marked a significant change of direction. Answers to Parliamentary Questions in June had stated that the "requirement was for small, light, highly mobile vehicle that could operate in urban areas and vehicles such as RG31 and Cougar would not meet this requirement". It added:

"At that time the ECC [Equipment Capability Customer] was considering whether there was a long term answer to the need for a small, mobile but better protected

<sup>318</sup> [Minute DCRS \[junior officer\] to APS2/SofS \[MOD\], 21 July 2006, 'Enhanced Protected Patrol Vehicle: Presentational Advice'](#).

<sup>319</sup> Letter Duke-Evans to Aldred, 26 June 2015, 'Procuring Military Equipment'.

<sup>320</sup> [Minute DCRS \[junior officer\] to APS2/SofS \[MOD\], 21 July 2006, 'Enhanced Protected Patrol Vehicle: Presentational Advice'](#).

patrol vehicle ... The review [announced on 26 June] established that there was no small but better protected vehicle available now and the only immediate options for better protection were vehicles such as Cougar.”

**616.** The advice stated that the MOD “might be open to criticism” that it had only taken action “when forced to by the media”. Draft briefing for Press Office included:

**“Q. Why have you done this now, not a year ago?”**

“A. As recent events have shown, the situation in Iraq and Afghanistan changes rapidly and the threat is constantly evolving. In response, work was ongoing within the department to examine options for the procurement of a medium protected patrol vehicle. The review announced by the Secretary of State for Defence on 26 June enabled the acceleration of this work including by securing additional funding.”

**617.** The advice also considered the potential question of why Cougar had not been procured sooner, given that the US had been using it for “some time”. The suggested response was that that was because the situation in the UK’s Area of Responsibility was different to that of the US.

**618.** The advice acknowledged that the UK had “some very early versions” of the Cougar, such as the Mine Resistant Ambush Protected (MRAP) variant, which was used for Explosive Ordnance Disposal tasks and deployed to Iraq in “2003-4”. It had been bought in 2002 from Supacat Technical Solutions Group, a subsidiary of Force Protection Inc. The advice said the MRAP vehicles were “very different” to the Cougar vehicles being procured because the MRAP vehicle was not a patrol vehicle and would not meet the UK’s requirements. It did not elaborate on any of those points.

**619.** Mr Browne’s Written Ministerial Statement on 24 July said:

“It [the Armoured Vehicles Review] has confirmed that there is a growing requirement for a protected vehicle with capabilities between our heavy armour, such as Warrior, and lighter patrol vehicles, such as Snatch. The review has also identified feasible options to address the gap in the short term. We have now completed a very rapid assessment of those options and have identified three complementary ways forward ...”<sup>321</sup>

**620.** Mr Browne announced:

- the purchase of an additional 100 Vector vehicles for Afghanistan;
- the up-armouring of a further 70 FV430s for Iraq by spring 2007, in addition to the 54 already ordered; and
- the purchase of 100 Cougar vehicles for Iraq and Afghanistan.

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<sup>321</sup> House of Commons, *Official Report*, 24 July 2006, column 74WS.



**621.** Mr Browne concluded:

“The up-armoured FV430, the Cougar medium PPV, and Vector fill the requirements for varying degrees of protection, mobility and profile ... But I am confident that together these vehicles provide commanders with the right range of options to deal with the situations and threats they face.”

**622.** The MOD IAB approved the Cougar business case on 25 July.<sup>322</sup> It warned:

“There is clear risk of cost and time growth given the focus on satisfying the survivability requirement and the speed with which the case has been put together ... Due to the exceptional way in which this programme has been funded, it is important that it is understood that there is no scope for cost growth. The Treasury have indicated that they will pay no more than the stated cost of the vehicles ... Contrary to ... the Business case it is not correct to assume that additional funding will be available from the Department. Any cost growth must be contained within the approved cost, if necessary by reducing numbers.”

**623.** The IAB asked for a further note to be submitted following the examination of Bushmaster vehicles “as soon as possible, and by Sep 06”. It should report the results and, if necessary, seek the appropriate approval.

**624.** On 5 August, the DIS produced a report on the EFP threat in MND(SE).<sup>323</sup> It stated:

“Since May 2005 the use of Explosively Formed Projectiles (EFPs) has become increasingly common in MND(SE); 83 incidents have been reported with the monthly number peaking at 12 in April 2006 ...

“MND(SE) has a disproportionate number of EFP attacks in comparison to the rest of Iraq ... and they have accounted for [...] IED related fatality in the region since the end of May 2005.”

**625.** The DIS concluded:

“The supply of EFPs in Iraq has recently increased with a four to five fold increase in the number of EFPs in circulation for Apr to Jun 06 compared with the previous three months ... Recent incidents in MND(SE) have involved increasingly more EFPs and are becoming more complex, involving additional munitions and targeting entire convoys. It is likely that we will continue to see a widening of the charges and munitions used ...”

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<sup>322</sup> Minute IAB Secretariat 1d to DEC(GM) and SUV IPTL, 25 July 2006, ‘Medium Protected Patrol Vehicle (Med PPV) UOR Business Case: Approval (IAB Sec 1864)’.

<sup>323</sup> Report DIS, 5 August 2006, ‘EFPs in MND-SE Update’.

**626.** In its report on UK operations in Iraq published on 10 August, the House of Commons Defence Committee referred to its visit to Basra Palace in June:

“We heard that Snatch were very good vehicles, but they were old and could often break down. Many had previously been used in Northern Ireland. They were fast and manoeuvrable but not well armoured and were particularly vulnerable to IED attack. Similar concerns were voiced by UK troops at the Shaibah Logistics Base.”<sup>324</sup>

**627.** The Committee stated:

“We are concerned at the increasingly sophisticated nature of the threat and the consequent vulnerability of UK Forces travelling in Snatch Land Rovers. We welcome the Secretary of State’s review of the use of Snatch vehicles in Iraq and believe it is essential that this review be completed as quickly as possible. In the long-term, FRES may offer a solution to the difficulties associated with the Snatch, but its introduction is too far off to offer an answer to current operational needs in Iraq. The MOD should consider an ‘off-the-shelf’ purchase as an immediate and interim replacement for Snatch, even if it does not fulfil the long term capability requirement. It is unsatisfactory that the lack of capability was not addressed with greater urgency much earlier.”

**628.** Gen Dannatt wrote to Mr Browne on 31 August:

“I wrote to my predecessor [Gen Jackson] in July expressing my concerns about the levels of protection for our patrol vehicles, the shortage of intelligence and surveillance capability, the pressure on helicopters ... That said I am most appreciative of Lord Drayson’s recent efforts on the vehicle issue, but we have a deficit to make up and the threat/response cycle is very dynamic ...”<sup>325</sup>

**629.** The Inquiry asked Mr Gordon Brown, the Prime Minister, whether there were any requests for funding for armoured vehicles between 1997 and 2006, and if any concerns were raised with him about Snatch Land Rovers.<sup>326</sup> Mr Brown said that the question of expenditure in Iraq had to start from the “one fundamental truth” that “every request that the military commanders made to us for equipment was answered. No request was ever turned down.”

**630.** With regards to Snatch vehicles, Mr Brown told the Inquiry that:

“... the point at which the Ministry of Defence decided that, as a result of the change in tactics by insurgents against them, that they wanted additional and other vehicles to deal with the problems they faced in the Basra area, we immediately agreed with the Ministry of Defence that they should have the money ...

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<sup>324</sup> Thirteenth Report from the House of Commons Defence Committee, Session 2005-06, *UK Operations in Iraq*, HC 1241.

<sup>325</sup> Letter Dannatt to Browne, 31 August 2006, [untitled].

<sup>326</sup> Public hearing, 5 March 2010, pages 115-118.

“So the first time the request was made, we met it immediately with £90 million, and that was a decision that military commanders could make only themselves as to when and where they needed these new vehicles ...”

**631.** Sir Peter Spencer, the Chief of Defence Procurement from May 2003 to March 2007, told the Inquiry that he used to call regularly on the three single Service Chiefs of Staff, the Chief of the Defence Staff and the three Commanders in Chief and that: “If there had been concerns about UORs, they would have been raised.”<sup>327</sup>

**632.** Sir Peter later observed:

“... if it had been a problem somebody would have come to me and said ... Chiefs of Staff aren’t backwards in coming forward. If they think something is not right they let you know.”<sup>328</sup>

**633.** Several witnesses, in their evidence to the Inquiry, explained that hardening vehicles was just one way of protecting troops and emphasised the importance of tactics, techniques and procedures.

**634.** Asked whether he had been concerned about the vulnerability of Snatch in Iraq, ACM Stirrup replied:

“Very concerned. We wanted to get rid of Snatch outside the wire as quickly as possible but you can’t get rid of it by using just a big, heavy vehicle ... it is a mistake to believe that simply by increasing the armour on a vehicle, you can defeat an improvised explosive device. You have to take a broad spectrum approach. You have to improve your detection of the devices ... You have to provide as much physical protection in terms of armour as is consistent with the mission ... but, crucially, you have ... to attack the people who are doing this.”<sup>329</sup>

**635.** When asked specifically for his reflections on “the growth of the IED threat or Iranian influence”, in the context of a wider question on the development of particular trends or any notable events during his tenure, ACM Torpy wrote:

“During my time as CJO we saw a gradual, although not dramatic rise in the number of IED/EFP attacks against UK troops. Considerable effort was directed at developing tactics, techniques and procedures to mitigate the threat ... whilst at the same time seeking improvements to equipment, particularly the introduction of new electronic warfare equipment, additional vehicle armour and better body armour for personnel. Additional intelligence effort was also directed against IED/EFP networks to enable disruption operations to be undertaken.”<sup>330</sup>

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<sup>327</sup> Public hearing, 26 July 2010, page 27.

<sup>328</sup> Public hearing, 26 July 2010, page 31.

<sup>329</sup> Public hearing, 1 February 2010, page 71.

<sup>330</sup> Statement, 14 June 2010, page 7.

**636.** Major General Jonathan Shaw, GOC MND(SE) from January 2007 to August 2007, told the Inquiry:

“There is no such thing as a safe vehicle because if you look at ... what protection means, only a part of that ... is actually the hardening of the vehicle itself. Most protection is achieved by not being located or identified or targeted in the first place ...

“... more heavy armoured vehicles were hit than Snatch ... Snatch has come in for a lot of criticism, but actually it was an extremely effective weapon, and the soldiers really liked using it because, although it was risky, it avoided the damage [to roads and streets].”<sup>331</sup>

**637.** For the PPV programme, Sir Peter Spencer told the Inquiry that Lord Drayson had become “the catalyst” for moving it forward.<sup>332</sup> When asked if that was unusual, Sir Peter replied that it was “a leadership issue for the top of the shop in defence”.

**638.** The Inquiry asked ACM Torpy what direction he had provided about the appropriate levels of risk. He responded:

“I honestly do not believe it is CJO’s role to be giving direction to the in theatre commander as to the levels of risk he should be taking with his people ... Clearly we wanted to minimise risk to people, but recognising that we had a job to deliver as well ... So we would do the utmost we could possibly do in terms of providing improvements in terms of capability ... tactics and procedures, I have to say I left very firmly to the GOC ...”<sup>333</sup>

**639.** The Inquiry asked ACM Torpy whether he was reliant on or had challenged the GOC’s judgments. ACM Torpy replied:

“... that goes back to ... regular visits by senior officers.... not just me going out to theatre but CinC LAND ... General Jackson ... very experienced army officers. So I would have hoped if there was concern about what they were seeing on the ground that they would have put that in a visit report or come and tapped me on the shoulder and said, ‘Torpy, why hasn’t this been addressed?’ and that never happened.”<sup>334</sup>

**640.** When asked whether commanders on the ground were telling him that they had confidence in Snatch, ACM Torpy told the Inquiry that they:

“... saw it as a capability that they needed to fulfil the task ... they clearly would have liked a vehicle which offered better degrees of protection and extra armour was put on to Snatch vehicles. They had alternatives ... Warrior or, if necessary, a Challenger, but that ... has perception problems ... So ... there is a balance to

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<sup>331</sup> Private hearing, 21 June 2010, page 41.

<sup>332</sup> Public hearing, 26 July 2010, page 45.

<sup>333</sup> Public hearing, 18 January 2011, page 64.

<sup>334</sup> Public hearing, 18 January 2011, page 67.

be struck ... and the only person I believe who could take that is the commander on the ground.”<sup>335</sup>

**641.** Asked if he had discussed with Generals Jackson or Dannatt whether something else was needed for Snatch or if he had ordered any review of Snatch, ACM Torpy said:

“There was work going on ... Snatch had always been identified as a problem and I was very aware of the work ... going on in the equipment capability area and in the Front Line Command to look at what alternatives there were.

“The message ... of the equipment capability areas is that there is not another vehicle on the market which can provide that sort of mobility which we could go out and procure tomorrow ... The Americans didn’t have anything. They were still using Humvees ... they were having similar problems ...

“... from a PJHQ perspective ... we rely on the expertise which is in the equipment capability area and the Frontline Commands to deliver the requirements of the in theatre force ...”<sup>336</sup>

**642.** The Inquiry asked ACM Torpy if he had received any requests for the provision of a replacement for Snatch. He replied:

“No, not that I recall.”

**643.** Lt Gen Dutton told the Inquiry:

“Snatch served a really useful purpose in built-up areas where it was not easy – in some cases not even possible – to get more heavily armoured vehicles, so ... Snatch was not necessarily an unpopular vehicle ... depending on what was happening. But ... I recall ... there was a particularly nasty incident in Maysan, where ... soldiers ... were killed and they were in Snatch Land Rovers and that was IEDs, so it became obvious at that point that this vehicle was not optimised in any way to counter that.”<sup>337</sup>

**644.** The Inquiry asked Lt Gen Dutton whether it was difficult for commanders to decide when it was appropriate to use heavier armoured vehicles in Iraq.<sup>338</sup> He told the Inquiry:

“Yes, but there was an element of ‘You have got what you have got.’ So you might have to use them, even if you know they are not the vehicle optimised for that particular – and then you ask for different ones, and over time, they appear.”

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<sup>335</sup> Public hearing, 18 January 2011, pages 68-69.

<sup>336</sup> Public hearing, 18 January 2011, pages 69-70.

<sup>337</sup> Public hearing, 12 July 2010, pages 26-27.

<sup>338</sup> Public hearing, 12 July 2010, pages 28-29.

**645.** When asked by the Inquiry whether the need and subsequent requests for different levels of armouring was a feature of his time as GOC, Lt Gen Dutton replied:

“It must have been, but I don’t actually sort of recall it now ... we were certainly aware that, once the EFP arrived – we either needed to move people more by air or we needed different tactics, techniques and procedures or we needed more heavily armoured vehicles.”

**646.** The Inquiry asked Lord Drayson whether action to improve the effectiveness of electronic countermeasures or the level of protection afforded by Snatch was suggested to him when he took office in May 2005.<sup>339</sup> In a statement to the Inquiry Lord Drayson wrote:

“The briefings at that time did not indicate that action was required on the effectiveness of countermeasures against IEDs or the protection afforded by the Snatch Land Rover ... I was informed by the military advice that the Snatch was essential to the UK’s style of operations in Iraq that required a small, light and highly manoeuvrable vehicle to enable our troops to patrol in the narrow streets of Iraqi towns. The view expressed by the military at that time was that a heavily armoured tank like vehicle would not have been practical or consistent with the UK’s style of patrolling ‘amongst the people’.”

**647.** The Inquiry asked ACM Torpy whether the problem was that there was no agreement on what an alternative vehicle should be able to do.<sup>340</sup> He told the Inquiry that different commanders had different views, but that was not the problem. The problem was that “genuinely there was a lack of a product on the market” which could replace Snatch.

**648.** When asked if it was “ultimately pressure from Ministers” on the military chain of command which had led to the acquisition of heavier patrol vehicles, ACM Torpy replied that Lord Drayson had “created momentum for Mastiff to be introduced”, and “provided leadership in the MOD to make sure something was delivered”. That provided the in theatre commander with “another medium weight vehicle with a higher level of protection”. There was “no doubt that Mastiff was welcomed by the people on the ground” and that they “could undertake certain tasks”, but they “could not do what they were doing with Snatch previously”.

**649.** Asked why the pressure for a heavier vehicle had not come through the chain of command, ACM Torpy added:

“I think there was always pressure from the ... theatre ... to the MOD. I think the problem actually arises where you have an equipment programme which is under-funded and a desire ... on the one hand to make sure that the capabilities

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<sup>339</sup> Statement, 15 December 2010, page 1.

<sup>340</sup> Public hearing, 18 January 2011, pages 72-73.

we have to sustain our long-term defence capability against Defence Planning Assumptions, you have that conflict against today's problem in an operational theatre, and how do you balance the money? It took the Minister to say, 'We are going to do this'.<sup>341</sup>

**650.** Asked whether he had been pushing for an alternative vehicle to Snatch for deployment in Iraq, Gen Jackson told the Inquiry:

"This is one of those areas where it can be very frustrating as a single service chief, because you don't have the chequebook and you don't place the orders. At that time we were somewhat – what is the word I seek – quaintly known as Customer Two in the procurement construct, which says something about how the user was regarded ..."<sup>342</sup>

**651.** Gen Jackson added:

"... it leaves the single Services somewhat at arm's length from the process of acquiring equipment ... we need something better to use than Snatch – you may need something bigger ... That's the requirement from the user but it gets rather tortuous: it's a very arm's length relationship and therefore a very frustrating one."

**652.** Gen Jackson stated that the Defence Procurement Agency wrote the specifications; they were not handled by the service board and only in broad parameters by the Equipment Capability staff.

**653.** Responding to a comment from the Inquiry that General Kevin O'Donoghue, Chief of Defence Logistics 2005 to 2007 and Chief of Defence Materiel 2007 to 2009, had said Gen O'Donoghue only bought what the customer had requested, Gen Jackson replied:

"Yes, but who says 'it must withstand an explosion of this size'? Who says 'its ground pressure must not be more than that'? Who says 'it must not be more than this weight'? That's not the function of the Army Board. The Army Board says 'we want a vehicle that will do this' without going into that sort of detailed specification."<sup>343</sup>

**654.** Asked specifically whether he had tried to push back against the processes he was describing in relation to Snatch, Gen Jackson told the Inquiry:

"Yes, very much so. I have a recollection of what to me was a very important meeting with the then Procurement Minister, Lord Drayson, because I just felt we were not getting anywhere within the normal processes of the MOD, you know, and actually reflecting upon moral duty here."<sup>344</sup>

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<sup>341</sup> Public hearing, 18 January 2011, page 74.

<sup>342</sup> Public hearing, 28 July 2010, pages 76-77.

<sup>343</sup> Public hearing, 28 July 2010, page 81.

<sup>344</sup> Public hearing, 28 July 2010, pages 84-85.

**655.** In Gen Jackson's view, Lord Drayson:

"... was able, using his ministerial authority, and to be fair his commercial experience, to cut through some of the Gordian knots which seemed to surround what otherwise was this complex process."

**656.** The Inquiry asked Gen Dannatt about Sir Peter Spencer's comment that if the Commanders in Chief had concerns about UORs they would have been raised, and asked whether he was satisfied that the Army had had the equipment it needed to fight in Iraq coming through the UOR process.<sup>345</sup> Gen Dannatt replied:

"In general terms the answer is yes. There was a problem, though, which was ... that the process whereby the troops deployed on the front line saw a requirement and reported it back to PJHQ, the action in the PJHQ and the staff there, which were relatively small in number, were able to turn the opinion and the requirement of soldiers on the ground into a rapidly staffed requirement for new and changed equipment that could then be fired at the Defence Procurement Agency or whatever it was at the time.

"I felt that there was a greater role that ... Land Command, could have played to help out at least the horse power of those on the equipment staff of PJHQ, and also play our wider understanding of army requirements from our frequent involvements informally with the troops on the front line. I thought we could actually get a greater understanding, get it more quickly. I made several offers, and they were taken up eventually, to have my own equipment staff help the PJHQ equipment staff to try to convert the needs of the front line into identified requirements that the procurement system could then get on and act upon."

**657.** Gen Dannatt added that he "was never convinced" that "we were actually doing all we could be doing to make sure that we had the right equipment, in the right quantity in ... front line hands, as quickly as possible"; and that "there was a bit of deficiency in leadership and energy at times".

**658.** When asked specifically about why it had taken so long to find a replacement vehicle for Snatch, Gen Dannatt told the Inquiry:

"All commanders have accepted there is the need to have a light patrol vehicle. Narrow streets, small roadways and so on, that you have got a vehicle that can get down these places.

"That has been used as a justification to keep the existing Snatch in small numbers still in theatre for the present moment.

"Another line is ... and I was strongly of this view, let's get all the Snatch out as quickly as we can, but if you accept there is a need for a light patrol vehicle, it was

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<sup>345</sup> Public hearing, 28 July 2010, pages 43-45.



said by all those involved with industry and the procurement process that there was nothing available on the market to replace the sort of Snatch-type dimension very quickly.

“I think we have already ... mentioned the fact that even now the Ministry of Defence I understand is deliberating between two contenders for effectively a Snatch replacement. This is 2010. That was 2003/4.”<sup>346</sup>

**659.** Gen Dannatt continued:

“... it was said by the people whose advice one had to take, ‘There is nothing else out there’. I am not a scientist myself. If that’s what they say, one had to accept that.

“Therefore the next strand of argument was to really go for the work-arounds as to how do we protect our people with other vehicles? That’s where we get into the Mastiffs, the Bulldogs ... Many of these have been very successful. Mastiff very successful ... In the context of Iraq something that I found counterintuitive and had to agree to while I was Commander in Chief was the Bulldog. The old 430 lightly armoured personnel carrier that I grew up as a platoon commander in the early 1970s and I thought had had its day in the battlefield. When I said, ‘We must have a better vehicle’, eventually they came to me in middle 2005 and said, ‘Commander in Chief, the best option that we can get into the field quickly with good protection is to slap modern armour around a re-engined 430 series vehicle. That’s the best we can do’.

“I took a very deep breath and said, ‘If that’s the best we can do, then that’s what we are going to do’. For Iraq I think it played a significant role.”

**660.** When asked about the Ministerial review into PPVs in 2006, why it had taken so long and why it was a political rather than a military initiative, Gen Dannatt told the Inquiry:

“... it wasn’t money and was not industry capacity ... I think it was a deficiency in leadership and energy in solving this problem ... but really frustrating not to be able to get on with this, and the fact we have still not closed with the issue in 2010.”<sup>347</sup>

**661.** The Inquiry asked Gen Dannatt about where that lack of leadership and energy resided. He replied:

“... if you were going to identify a requirement that needed resources thrown at it, which couldn’t be funded immediately from the UOR process, it has to come from somewhere else in the core MOD Equipment Programme. That meant something else had to go and other people perhaps did not want to see other things they thought were very important going.

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<sup>346</sup> Public hearing, 28 July 2010, pages 49-51.

<sup>347</sup> Public hearing, 28 July 2010, pages 54-55.

“It would be wrong to say this was kicked into the long grass, but other solutions, work-arounds were preferred than tackling this one head-on ... I am not a technical person, I am not a scientist ...”

**662.** The Inquiry asked why the Mastiff programme had been initiated by Ministers rather than the Defence Board providing the answers to what, by then, was recognised every day in Iraq to be a serious problem.<sup>348</sup> Gen Dannatt replied:

“I was purely a member of the Defence Board, and there were many people around the table and many conflicting points of view. You can articulate your point of view as clearly as you can. Others might be persuaded by your argument or choose not to be persuaded by your argument. ... In many cases they chose not to be persuaded by my argument. So one had to accept the decisions that were taken, albeit with a degree of frustration.”

## CHANGES TO THE ARRANGEMENTS FOR IDENTIFYING AND FUNDING UORS

**663.** The earlier part of this Section, considering improvements in the MOD's procurement processes during Op TELIC, looks in more detail at the advice given by Lt Gen Houghton in 2006 on how to improve the way in which capability gaps were identified.

**664.** At the same time, concern was growing about the MOD's failure to control expenditure on UORs for Iraq and Afghanistan, leading the Treasury to seek a new arrangement for funding UORs.

**665.** When ECAB discussed a review of the Equipment Programme on 5 July 2006, it was pointed out “that considerable work had been undertaken (including the engagement of Ministers) on the PPV issue and protected mobility”, but there were remaining concerns about:

“... the ability of the routine procurement process to react quickly enough to match changing threats. The UOR process worked well at the start of a campaign, but was not designed to support enduring operations.”<sup>349</sup>

**666.** On 24 November, Mr Browne wrote to Mr Timms to request an increase of £460m in the combined UOR funding.<sup>350</sup> Despite tight controls, the requirements for UORs continued “at a rate higher than anticipated, and considerably above historical norms”, because of:

- the intensity of operations in Afghanistan;
- the slow drawdown of forces from Iraq;

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<sup>348</sup> Public hearing, 28 July 2010, pages 67-68.

<sup>349</sup> Minutes, 5 July 2006, Executive Committee of the Army Board meeting.

<sup>350</sup> [Minute MOD \[junior official\] to PS/Secretary of State \[MOD\], 24 November 2006, 'Additional Funding for Urgent Operational Requirements \(UORs\)'](#).

- the constantly evolving threat in both theatres; and
- “a decreased willingness, at all levels, to ‘make do’ with sub-optimal solutions and uncomfortable living and working conditions now that both operations [Afghanistan and Iraq] have become enduring”.

**667.** The size of the request prompted Mr Browne’s Assistant Private Secretary to do “a little digging” into the MOD’s UOR system.<sup>351</sup> He reported to Mr Browne:

“The UOR system – the people who make bids on it and those who sanction bids within it – are changing their attitude. There is greater willingness to ask for technical solutions to reduce risk and discomfort and less inclination to block such bids. Partly this is because there is a perception (rightly or wrongly) that the political environment has changed, and money is no longer the constraint it was. Whilst it never was for UORs/operations, many in the MOD became used to it as a constraint in restructuring and that attitude bled across to other things ...”

**668.** Mr Browne’s Assistant Private Secretary suggested a discussion of the UOR culture that was forming, and “whether we need to re-steer a little or accept that this is the new price of doing business”.

**669.** The request on 24 November prompted a series of discussions between the Treasury and the MOD about the adequacies of the UOR system.

**670.** Mr Timms was advised by a Treasury official on 9 January 2007 that:

“At official level, MOD have indicated that the underlying reason for the sustained high level of UORs is linked to a Ministerial judgement that soldiers must be provided with the optimum equipment, especially where force protection is at stake.

“HMT [the Treasury] have never refused a request to fund a UOR. Once forces are deployed and commanders are generating requirements it is difficult to deny the resources ... It follows that the mechanism for limiting the total cost of operations is to resist any expansion of troops committed to operations, rather than UORs to supply the troops already deployed in theatre.”<sup>352</sup>

**671.** Mr Timms was advised by a Treasury official on 20 April that the “step-change” in the level of UOR funding made the current UOR arrangement “unsustainable”.<sup>353</sup> The Treasury had provided £2.1bn to fund UORs relating to Iraq and Afghanistan since 2001, of which over half had been provided in the last two years:

“We [the Treasury] do not question the military judgment that there is a current operational need – but we believe that many of these items seek to provide

<sup>351</sup> Minute MOD [junior official] to Browne, undated, ‘UOR Funding – Iraq and Afghanistan’.

<sup>352</sup> Minute Treasury [junior official] to Chief Secretary, 9 January 2007, ‘Increase in the Urgent Operational Requirements Envelope’.

<sup>353</sup> Minute Treasury [junior official] to Timms, 20 April 2007, ‘Increase in the Urgent Operational Requirements Envelope’.

a general capability that could have been provided through the Equipment Programme. Many items appear to be kitting out the Army while the Equipment Programme has invested in ships and aircraft ... As such we think the UOR scheme is becoming a straightforward supplement to the EP [Equipment Programme] in a way that it was never intended to be, bailing out MOD of the need to prioritise in the kit they purchase and compensating for bad decisions in the past.”

**672.** The official advised that the UOR regime was not ideal for the UK military either, as:

- despite accelerated procurement, UORs were frequently not available until several months after a need had been identified. It would be better to plan to have the capability in advance;
- that would also enable soldiers to be trained on new equipment before their deployment to theatre, and for new equipment to be properly incorporated into military doctrine; and
- after one year, the ongoing costs of UORs reverted to the core defence budget. Those unplanned costs could be difficult to accommodate.

**673.** From June 2007, the process changed so that the Treasury cleared every UOR individually (rather than only those above £10m).<sup>354</sup>

**674.** The outline of a new UOR regime was agreed in late July, as part of the MOD’s settlement in the 2007 Comprehensive Spending Review:

- the Reserve would pay for the “first element” of total UOR costs each year;
- MOD and Treasury would share equally any costs in excess of this amount (with the Treasury meeting those excess cost up front, and then reclaiming them from MOD on a rolling three-year basis);
- MOD would receive £200m to assist with its first payments under this new arrangement, and;
- MOD would review its Equipment Programme with the intention of “rebalancing spend towards ... the current operating environment”.<sup>355</sup>

**675.** The changes to the UOR process, and discussions leading up to them, are considered in more detail in Section 13.1.

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<sup>354</sup> Minute Lester to Woolley, 30 October 2007, ‘Approach to UOR Funding Following the CSR07 Settlement’.

<sup>355</sup> Letter Burnham to Browne, 24 July 2007, ‘Comprehensive Spending Review 2007: Ministry of Defence Settlement’.

## Protected mobility between late 2006 and mid-2009

**676.** The security situation in MND(SE) continued to deteriorate into late 2006.

**677.** On 4 September 2006, Gunners Stephen Robert Wright and Samuela Vanua died as a result of injuries sustained when their Land Rover hit a roadside IED on patrol north of Basra.<sup>356</sup>

**678.** By the end of October, the security situation in Basra had deteriorated to the point where Mrs Margaret Beckett, the Foreign Secretary, decided that it would be necessary to withdraw the majority of civilian staff from Basra Palace.<sup>357</sup> That is addressed in Section 9.5.

**679.** A note from Brig Inshaw on 3 January 2007 advised Gen Dannatt that the first four Mastiff vehicles had been delivered to Iraq on 30 December 2006.<sup>358</sup> A further 11 vehicles were expected by the end of January.

**680.** Brig Inshaw acknowledged that those deliveries would miss by one month the “hard target” set by Lord Drayson for a company’s worth of vehicles to arrive in Iraq by 31 December, but that Gen Dannatt “may feel” that the work undertaken since July to get the Mastiff vehicles ready for theatre so quickly was “very impressive”.

**681.** Maj Gen Shirreff wrote in his post-operation tour report on 19 January 2007:

“Bulldog is proving itself in battle and has the confidence of the soldiers who fight from it. Mastiff has arrived and although it will take some time to prepare it for operations, it is an impressive beast and will significantly enhance our capability.”<sup>359</sup>

**682.** Mr Jeffrey visited Iraq from 12 to 13 March where he met Brigadier Paul Jacques, Chief of Force Support.<sup>360</sup> Mr Jeffrey was shown one of the new Mastiff vehicles and Snatch ECM equipment. Brig Jacques reported that 12 out of 54 Mastiff vehicles “had arrived and were proving highly capable, but even when the full complement was delivered there would be a continuing requirement for Snatch because of their manoeuvrability and speed”.

**683.** Brig Jacques praised the work that had enabled Mastiff’s arrival into service and “said they would welcome follow-up visits to discuss problems and potential improvements based on operational experience”. He thought in general that it would be helpful to have more frequent visits from IPT members, and for closer contact between theatre and the DECs on the progress of UORs.

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<sup>356</sup> GOV.UK, 5 September 2006, *Gunners Stephen Robert Wright and Samuela Vanua killed in Iraq*; BBC News, 6 September 2006, *MOD names soldier killed in Iraq*.

<sup>357</sup> Minute Cabinet Office [junior official] to Sheinwald, 30 October 2006, ‘Iraq Strategy Group, 27 October’.

<sup>358</sup> Minute DCI(A) to MA/CGS, 3 January 2007, ‘Mastiff’.

<sup>359</sup> Report Shirreff to PSO/CDS, 19 January 2007, ‘Post Operational Report – Operation TELIC’.

<sup>360</sup> Minute PS/PUS [MOD] to PS/SofS [MOD], 16 March 2007, ‘PUS Visit to Multinational Division South-East, 12 March 2007’.

**684.** IED attacks in MND(SE) continued to cause casualties, with an increase in the targeting of Warrior vehicles.

**685.** On 28 December 2006, Sergeant Graham Hesketh was killed when the Warrior vehicle in which he was patrolling hit a roadside IED in Basra City.<sup>361</sup>

**686.** On 5 January 2007, PJHQ informed Mr Browne that a Warrior vehicle had been penetrated by an IED attack on 27 December, resulting in seven minor casualties.<sup>362</sup>

**687.** PJHQ said there had been an increasing number of larger EFPs used against MNF vehicles over the last two months and, as a result, two further UORs to enhance the Warrior's armour had been submitted. A reserve pool of Warrior vehicles was maintained to replace those damaged beyond repair in theatre.

**688.** On 10 January, Mr Browne requested further advice on the nature of the advanced armour, when it was likely to be fitted and any intelligence held on the increased threat.<sup>363</sup>

**689.** Private Michael Tench was killed on 21 January when his Warrior vehicle suffered an IED attack while patrolling with three other Warrior vehicles.<sup>364</sup> Four other soldiers sustained injuries, one of which was very serious.

**690.** PJHQ submitted further advice to Mr Browne on 26 January.<sup>365</sup> It said that the recent attacks were the first to penetrate the Warrior vehicles but, while the number of EFP attacks had increased, "these large EFPs are not a new threat, as they were first seen in MND(SE) in Jul 05". Six Warriors had sustained serious damage since 1 November 2006.

**691.** PJHQ assessed that the increased targeting of Warrior was likely to be a result of their increased use in road convoys (due to the reduction in the use of Snatch Land Rovers). The two UORs for enhanced armour were predicted to be in service by the end of April.

**692.** On 5 February, Second Lieutenant Jonathan Carlos Bracho-Cooke died as a result of injuries sustained when his Warrior vehicle suffered an IED attack on patrol in Basra City.<sup>366</sup>

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<sup>361</sup> GOV.UK. 29 December 2006, *Sergeant Graham Hesketh killed in Iraq*.

<sup>362</sup> Minute PJHQ [junior official] to APS2/SofS [MOD], 5 January 2007, 'Op TELIC: Improvised Explosive Device (IED) Attack on Warrior'.

<sup>363</sup> Minute APS/SofS [MOD] to PJHQ [junior officer], 10 January 2007, 'Op TELIC: Improvised Explosive Device (IED) Attack on Warrior'.

<sup>364</sup> Minute PJHQ [junior officer] to PS/SofS [MOD], 21 January 2007, 'Iraq: Op TELIC: Death of British Soldier Basra City'.

<sup>365</sup> Minute PJHQ [junior officer] to APS/SofS [MOD], 26 January 2007, 'Op TELIC: Improvised Explosive Device (IED) Attacks on Warrior'.

<sup>366</sup> GOV.UK, 6 February 2007, *Second Lieutenant Jonathan Carlos Bracho-Cooke killed in Iraq*.

**693.** On 9 February, Private Luke Daniel Simpson was killed when his patrol vehicle hit a roadside IED.<sup>367</sup> Private Simpson had been driving the lead vehicle in a convoy of three Snatch Land Rovers in Basra.

**694.** Lord Drayson visited Iraq on 8 March and discussed various equipment issues in theatre, including force protection.<sup>368</sup> The report of his visit stated that “the overall opinion” on Mastiff and Bulldog “seemed to be positive” although there were some performance issues and suggestions for improvement. With Mastiff, there were “a number of minor issues” that “could be easily solved” with a visit from IPT. Those included: a lack of servicing schedule or handbook; radio batteries not generating sufficient power for good communications; and air conditioning units not adequately cooling the ECM, creating a risk of overheating. The “most significant concern” was that “the vehicle would be a victim of its own success”; there had been cases of visitors “insisting on travelling in Mastiff, relegating them to VIP taxis rather than the patrol tasks they were bought to fulfil”. Lord Drayson “made it clear that they should not be abused in this way”.

**695.** Lord Drayson was told that there were “many problems” with the Snatch 2 platform. The Snatch 2A was “a lot more reliable than the Snatch 2” but needed modifications to improve night vision and communications equipment.

**696.** The visit report highlighted that Mastiff was too large for use inside Basra City. There were some areas where Bulldog was also too large to go and Snatch was deployed because the threat of IED attacks in those areas was “minimal”. The US was using less protected vehicles, Humvees, for that role but “protected them through aircover”. The report stated:

“Given the scientific limits on the amount of armour that could be applied to a vehicle the size of Snatch, any vehicle used to carry out tasks in confined urban areas was inevitably going to be at risk – but it was safer than carrying out the tasks by foot, or by helicopter.”

**697.** Lord Drayson was told:

“Overall there was a clear perception in theatre that UK MOD was not taking account of the rate of change. UORs too often sought to deliver a perfect capability, but in doing so delivered so late the requirement had changed or theatre were without any capability for too long. It was suggested that if there were greater dialogue between theatre and the ECC/ABW [Equipment Capability Customer/Abbey Wood<sup>369</sup>] on individual UORs then trades ... could be made.”

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<sup>367</sup> GOV.UK, 10 February 2007, *Private Luke Daniel Simpson killed in Iraq*; BBC News, 26 September 2007, *Iraq soldier ‘unlawfully killed’*.

<sup>368</sup> Minute APS/MIN(DES) to PSSC/SofS [MOD], 26 March 2007, ‘Minister(DES) Visit to Iraq’.

<sup>369</sup> Abbey Wood is the location of the Defence Procurement and Support Agency (DE&S).

**698.** The report concluded by saying that “the lack of faith in the UOR process” and the suggestion of a “fundamental mismatch” between theatre’s requirements and the “ECC/IPTs endeavours to deliver the perfect capability in a more extended timeframe was concerning”. Lord Drayson asked for advice, by 10 April, from Maj Gen Figgures on how to address that and for him and the Chief of Defence Materiel “to reinforce the urgency that everyone should attach to delivering UORs”.

**699.** In his evidence to the House of Commons Defence Committee on 20 March about UK operations in Afghanistan, Lt Gen Houghton said that the deployment of Mastiff and Vector was expected to be complete by the end of autumn.<sup>370</sup> He said that, by that time, all Snatch vehicles would have been removed from theatre.

**700.** On 18 May, Lord Drayson was advised that a total of 49 operational Mastiff vehicles out of 108 had been delivered so far: 14 in Iraq, 16 in Afghanistan and 19 in the UK.<sup>371</sup>

### Capacity to improve the UOR system

Following Lord Drayson’s request for advice on how to address the “fundamental mismatch” between theatre’s requirements and the delivery of capability, Lt Gen Figgures advised on 4 April that the UOR process continued to be “agile and reactive, with an average of just seven months between the PJHQ endorsement of a requirement and the in-service date of the UOR-ed equipment”.<sup>372</sup> Those seven months included:

- identification of a solution;
- the drafting and approval of a business case;
- the placing of a contract;
- the manufacture and/or integration of the equipment; and
- the delivery of that equipment to theatre.

Lt Gen Figgures acknowledged the rise in USURs during FY 2006/07 and stated that “the more heavily loaded” teams, the Departments of Equipment Capability (DECs) and Directorate of Capabilities Resources and Scrutiny (DCRS), had augmented their staff “so as to be able to continue to react rapidly to the increase in volume and not slow the process down”.

Time was “the key driver for UORs” and it was “universally accepted” that UORs only had to meet “an 80+ percent solution”, on the basis that it was “preferable to rapidly fill the capability gap that exists in theatre rather than achieve a technically perfect outcome”.

Considering potential reasons for delay, Lt Gen Figgures wrote that there had been “a gradual evolution” in the type of UORs being submitted over recent months from “traditional” UORs that sought to modify or enhance existing equipment to UORs “asking for entirely new systems” which inevitably would take longer to deliver.

<sup>370</sup> Thirteenth Report of the House of Commons Defence Committee, Session 2006-07, *UK operations in Afghanistan*, HC 408.

<sup>371</sup> Minute SO1 DCC [DEC(GM)], 18 May 2007, ‘Medium Protected Patrol Vehicle Mastiff’.

<sup>372</sup> Minute DCDS(EC) to PS/Min(DES), 4 April 2007, Minister(DES) Visit to Iraq – Equipment Issues’.



Lt Gen Figgures added that perceived delays could also potentially be attributed to optimism bias and the six-month duration of rotations, the latter meaning that some personnel might not stay in theatre long enough to see equipment enhancements arrive during their tour.

On communications between the UK and theatre, Lt Gen Figgures advised that PJHQ remained “in constant *daily* contact” with Equipment Capability (EC) cells in theatre. The DECs were also “in frequent dialogue” with the EC cells. There had been various visits from teams engaged in the procurement chain and those would continue in balance with theatre’s priorities.

Recognising that some improvements could be made, Air Commodore Brian Bates, Director Directorate of Joint Capability, and Mr Guy Lester, Director DCRS, were going to join PJHQ’s monthly video conference calls with theatre as of that month.

Lt Gen Figgures concluded:

“Indeed, this already regular dialogue with theatre made the concerns expressed to the Minister all the more surprising as reports from theatre on UORs tend to be very positive.”

On 23 April, Lord Drayson met Lt Gen Houghton and Lt Gen Figgures “to discuss the apparent discrepancy between the view of troops in theatre and PJHQ/MOD on equipment and UORs”.<sup>373</sup> VAdm Style sent a note of the meeting to Lord Drayson on 21 May after consulting with PJHQ and EC cells.

VAdm Style reported that the average length of UOR delivery time had fallen over the last three years from an average of 9.3 months to 7.5 months. A “longer term analysis” indicated delivery times at the start of Op TELIC were shorter, taking 5 months in 2002 and 3.1 months in 2003, but it was felt that “reflected the simpler nature of the UORs processed”.

VAdm Style wrote that the overall feedback on UORs remained “very positive” with “94 percent/100 percent” of Op TELIC and Op HERRICK UORs being rated as effective or highly effective.

The recent comments about perceived failures in the UOR process were “a source of concern”. VAdm Style suggested several ways to address the “causal factors” for those comments:

- a review of pre-deployment UOR training;
- better communication of what had been done and what was being done;
- a clearer flow of information from theatre because direct communication between theatre and the Equipment Capability Customer (ECC) was “still the exception rather than the rule”;
- assessing staff shortfalls in “key” Integrated Project Team (IPT) posts; and
- finding ways to “aggressively and imaginatively bear down upon UOR timelines”.

<sup>373</sup> Minute DCDS(C) to Min(AF), 21 May 2007, ‘Meeting with CJO and DCDS(EC) – Equipment Requirements in Theatre’.

On 28 June, VAdm Style reported that progress had been made against all actions, “but it would be premature to state that they may have been met or that the underlying issues have been resolved”.<sup>374</sup>

To improve the communication flow with theatre, DEC desk officers had been encouraged to engage directly with theatre EC cells instead of through PJHQ. There was greater sharing of information such as sending copies of the UOR database and all approved business cases to EC cells.

**701.** The threat in Iraq continued to increase and further improvements to force protection were agreed.

**702.** On 29 March 2007, Mr Browne wrote to Mr Timms to outline UOR funding requirements for financial year 2007/08.<sup>375</sup> That included:

- An additional £15m plus for ECM: “Anti-coalition forces in both Iraq and Afghanistan are developing the methods they employ in the use of Improvised Explosive Devices; we are in a stronger position as a result of additional better-protected vehicles procured last year (by summer 2007 there will be over 50 Mastiff and Bulldog in theatre), but the best way to protect against attack remains to stop the IEDs before impact ...”
- £50m for a Counter Rocket, Artillery and Mortar (C-RAM) system capable of detecting, providing warning of and intercepting indirect fire (IDF).
- £87m plus for intelligence and surveillance capabilities for both Iraq and Afghanistan, including ISTAR enhancements.

**703.** On 5 April, Second Lieutenant Joanna Dyer, Corporal Kris O’Neill, Private Eleanor Dlugosz and Kingsman Adam James Smith were killed when an IED exploded underneath the Warrior vehicle in which they were travelling.<sup>376</sup> A local civilian interpreter was also killed in the attack.

**704.** On 17 April, the Chiefs of Staff were briefed that the security situation in MND(SE) “had been dominated by the two under belly IED attacks against a Warrior and a Challenger 2”.<sup>377</sup> That type of attack had been seen elsewhere in Iraq but was unusual for MND(SE). The implications were still being assessed but “appeared not to represent a migration of this type of attack to the South, rather a response by a resourceful and adaptive enemy responding to MNF operations – operating procedures continued to be reviewed and refined in theatre”.

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<sup>374</sup> Minute DCDS(C) to Min(AF), 28 June 2007, ‘Equipment Requirements in Theatre – Update of Actions’.

<sup>375</sup> Letter Browne to Timms, 29 March 2007, [untitled].

<sup>376</sup> GOV.UK, 6 April 2007, *Second Lieutenant Joanna Yorke Dyer, Corporal Kris O’Neill, Private Eleanor Dlugosz and Kingsman Adam James Smith killed in Iraq*.

<sup>377</sup> Minutes, 17 April 2007, Chiefs of Staff meeting.

**705.** On 19 April, Corporal Ben Leaning and Trooper Kristen Turton were killed when their Scimitar vehicle was struck and badly damaged by an IED attack in Maysan province.<sup>378</sup> Three other soldiers were injured in the attack. The vehicle had been providing protection for a convoy.

**706.** On 6 May, Private Kevin Thompson died as a result of injuries sustained when the vehicle in which he was travelling hit an IED in the early hours of 3 May.<sup>379</sup> He had been taking part in a routine convoy to re-supply the Contingency Operating Base at Basra Air Station.

**707.** Maj Gen Shaw sent an update to CJO on 7 June, stating:

“Our vehicles are protecting us but at an unsustainable rate. On average we are losing an armoured vehicle due to damage beyond local repair at a rate of a vehicle every nine days; faster than the UK can resupply them.”<sup>380</sup>

**708.** Maj Gen Shaw told the Inquiry that the vehicle he was referring to in his update of 7 June was Warrior.<sup>381</sup> When asked what he had in mind in making that statement, Major Gen Shaw said:

“It was the unsustainability of what we were doing ... alerting people that what we were doing was unsustainable.”

**709.** When asked by the Inquiry what was being done to deal with that problem, Maj Gen Shaw said: “I can’t recall.”

**710.** On 22 June, Corporal John Rigby died from injuries sustained by a roadside bomb attack in Basra.<sup>382</sup>

**711.** On 28 June, Corporal Paul Jozsko, Private Scott Kennedy and Private James Kerr were killed by a roadside IED in Basra.<sup>383</sup> The soldiers had dismounted the Warrior vehicle in which they had been patrolling when the device detonated.

**712.** On 7 July, Lance Corporal Ryan Francis was killed when an IED hit the Warrior vehicle in which he was travelling north of Basra.<sup>384</sup> LCpl Francis was taking part in a large scale operation to detain insurgents in Basra City. Corporal Christopher Read was

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<sup>378</sup> GOV.UK, 20 April 2007, *Corporal Ben Leaning and Trooper Kristen Turton killed in Iraq*.

<sup>379</sup> GOV.UK, 7 May 2007, *Private Kevin Thompson dies in UK from injuries sustained in Iraq*.

<sup>380</sup> Private hearing, 21 June 2010 pages 40-42. This evidence was quoted to Maj Gen Shaw during his hearing.

<sup>381</sup> Private hearing, 21 June 2010 pages 40-42.

<sup>382</sup> GOV.UK, 24 June 2007, *Corporal John Rigby killed in Iraq on Friday 22 June 2007*.

<sup>383</sup> GOV.UK, 29 June 2007, *Corporal Paul Jozsko and Privates Scott Kennedy and James Kerr killed in Basra roadside bomb attack on 28 June 2007*.

<sup>384</sup> GOV.UK, 7 July 2007, *Lance Corporal Ryan Francis 2nd Battalion The Royal Welsh killed in Iraq 7 July 2007*.

also killed as a result of the operation, through injuries sustained from small arms fire attack, and a third soldier was injured.<sup>385</sup>

**713.** On 31 July, Corporal Steve Edwards was killed when the Warrior vehicle in which he was patrolling was struck by an IED in Basra City.<sup>386</sup>

**714.** On 9 August, Lance Sergeant Chris Casey and Lance Corporal Kirk Redpath were killed when their Snatch Land Rover was hit by an IED during an operation to the west of Basra City.<sup>387</sup>

**715.** On 3 September, UK forces withdrew from Basra Palace and moved to Basra Air Station. The move and the arrangements surrounding it are addressed in Section 9.6.

**716.** In its review of UK land operations in Iraq, published on 3 December 2007, the House of Commons Defence Committee acknowledged the introduction of Mastiff and Bulldog.<sup>388</sup> It stated that that had “significantly improved the force protection available to our Forces in Iraq”.

**717.** Major General Graham Binns became GOC MND(SE) in August 2007. He told the Inquiry that when he arrived in Basra, the security situation was “difficult”:

“Every move outside our bases required detailed planning and was high risk. I thought that we were having a limited effect on improving the security situation in Basra. 90 percent of the ... violence was directed against us ...”<sup>389</sup>

**718.** Maj Gen Binns told the Inquiry that the move to Basra Air Station in September 2007 coincided with other changes that helped to reduce the threat to forces.<sup>390</sup> He said that protected mobility of vehicles “improved significantly” with the upgrade of Warrior vehicles and introduction of Mastiff, the latter being “a very good vehicle for the role on roads”.

**719.** On 13 September 2007, the Defence Board endorsed a request to use MOD funding to pay for additional Mastiff vehicles as a UOR.<sup>391</sup> In discussion, it was said that procuring more Mastiff vehicles “was the right thing to do. They had already proved their worth in theatre in Iraq and Afghanistan and there was a clear operational requirement.”

**720.** On 2 October, a DCRS official advised Lord Drayson that the MOD had initiated the procurement of an additional 147 Mastiff vehicles.<sup>392</sup> Force Protection Inc, the

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<sup>385</sup> GOV.UK, 7 July 2007, *Corporal Christopher Read 3rd Regiment Royal Military Police killed in Iraq*.

<sup>386</sup> GOV.UK, 2 August 2007, *Corporal Steve Edwards 2nd Royal Tank Regiment killed in Iraq*.

<sup>387</sup> GOV.UK, 10 August 2007, *Lance Sergeant Chris Casey and Lance Corporal Kirk Redpath killed in Iraq*.

<sup>388</sup> First Report of the House of Commons Defence Committee, Session 2007-08, *UK land operations in Iraq 2007*, HC 110.

<sup>389</sup> Public hearing, 15 January 2010, page 3.

<sup>390</sup> Public hearing, 15 January 2010, page 35.

<sup>391</sup> Minutes, 13 September 2007, Defence Management Board meeting.

<sup>392</sup> Minute DCRS [junior officer] to APS/Minister(DES), 2 October 2007, ‘Announcement of Additional Mastiff’.

manufacturer, was “not yet on contract” to provide the vehicles but IPT was “maturing the Business Case” and “negotiating with both the United States Marine Corps (USMC) and the manufacturer”. The USMC held “considerable influence” over Force Protection Inc’s production “as it accounts for a significant proportion of the manufacturer’s order book”.

**721.** DCRS advised that the MOD’s request for additional Mastiff vehicles would be considered at the next US Joint Chiefs of Staff on 11 October. Without its approval, Force Protection Inc was unable to make any commitment to the MOD.

**722.** On presentational advice, DCRS stated that “any attempt to directly influence the US Congressional process would be unhelpful and so an announcement” should be “considered carefully”. It added that an announcement would, “however”, offer “significant advantages” because it “would illustrate the Department’s intent to procure additional protected mobility vehicles, in order to improve force protection and operational effectiveness”.

**723.** The UOR for an additional 147 Mastiff vehicles for Afghanistan was submitted to the IAB by DEC(GM) and the Specialist Utility Vehicle IPT on 4 October.<sup>393</sup> That would increase the total Mastiff fleet to 280: 76 for Iraq and 204 for Afghanistan. Of Iraq’s 76 vehicle allocation, 54 would be deployed (including eight ambulances) and there would be 22 vehicles in the training fleet (including two ambulances).

**724.** The UOR stated that an additional 26 vehicles were to be deployed “to the user” by 31 April 2008. That would meet Iraq’s requirement but would leave Afghanistan with insufficient vehicles “to meet the operational, training and maintenance requirements”. There were currently 49 Mastiff vehicles available in Iraq, with 18 vehicles in the UK in a training pool shared with operations in Afghanistan.

**725.** While it had been “originally envisaged that Vector would be suitable to provide the bulk of the protected mobility” in Afghanistan, it was “now clear that the situation, threat, mission and nature of operations demand[ed] a different capability”. A “comprehensive review of protected mobility” in Afghanistan had shown that “the capabilities required for the bulk of the combat troops are best met by a combination of ATV(P) Viking and Mastiff”.

**726.** The UOR stated that Mastiff was “now essential to operations on Op TELIC”. It was “the most appropriate vehicle for long distance convoy escort operations where movement is canalised on the main supply routes” between the Contingent Operating Base and Kuwait, where logistic elements were based. It was “not possible” to draw down Iraq’s Mastiff fleet to support Afghanistan without an impact on operations. It added: “The shortfall in ambulances with commensurate protection and mobility is constraining commanders (or forcing them to take risk).”

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<sup>393</sup> Minute DEC(GM) to IAB Sec, 4 October 2007, ‘MASTIFF Urgent Operational Requirement (UOR) Uplift IQ4165/AO1082 Review Note’.

**727.** On 8 October, Mr Brown announced that the MOD was placing an order for an additional 140 Mastiff vehicles.<sup>394</sup>

## INTRODUCTION OF A NEW PROCESS TO DETERMINE THE ACCEPTABLE LEVEL OF RISK IN OPERATIONS

**728.** In September 2007, the DOC reported on its “extensive review and analysis of the UK’s current Force Protection (FP) capability in order to expose risk, provide assurance and present strategic recommendations to COS [Chiefs of Staff]”.<sup>395</sup>

**729.** The review was not specific to Iraq or Afghanistan but drew heavily on the UK’s experience there. The review focused on:

- risk and governance;
- the application of theatre entry standards;
- training;
- lines of communication;
- protection in the land, air and maritime environments;
- operational level protection; and
- UOR procured equipment.

**730.** The review stated:

“Before undertaking an operation, COS should collectively reach a judgement on sensitivities, likely benefits and consequences as well as the appetite – amongst public, politicians and ministers – for sustaining casualties and prosecuting operations that carried a certain degree of risk. This risk/benefit analysis would be articulated and reviewed through the Strategic Estimate process. Any guidance would have to be balanced to ensure that it was not overly prescriptive ... or, conversely, too generic ...”

“... The management of FP risk must be based on a thorough identification of strategic and operational threats to ensure that a balance of research, investment and training is achieved commensurate with the threat ...

“In deriving an assessment of cumulative risk, PJHQ should have a clear understanding of the totality of known risk in the forces declared to it. This should include all the equipment and other limitations which were accepted in the procurement of force elements; all the subsequent limitations evident in practice together with manpower, training or logistic support issues. If this risk capture process works efficiently, CJO will be able to form an accurate judgment of the risk to the protection of UK forces, which in turn would allow him to engage on palliative measures required early in the operational planning process.”

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<sup>394</sup> House of Commons, *Official Report*, 8 October 2007, column 24.

<sup>395</sup> Report DOC, September 2007, ‘Protection of the Deployed Force Operational Audit Report 1/07’.

**731.** One of the points the Chiefs of Staff were asked to note was that, while the UK had “a first class capability to neutralise and mitigate the IED threat”, “significant continued investment” was necessary “to keep pace” with its rapid development. The review stated: “Physical protection levels against the more capable anti-armour IEDs are, however, probably approaching engineering and material limits.”

**732.** On protected mobility, the review stated:

“The commander needs a range of protected vehicles to provide different levels of protection and mobility depending on the specific operation. This includes the need to operate in urban areas where larger, tracked vehicles may not be able to enter.”

**733.** The review stated that, while the Snatch Land Rovers had been upgraded, they were “still very vulnerable to roadside bombs and RPG”.

**734.** The review stated that “the need for a replacement wheeled protected vehicle was previously identified and Vector ... PPV was procured with money being pulled forward from the programme that already sat within the EP. Vector delivers increased protection and greater capacity in comparison to Snatch and a total of 166 vehicles have been procured.” There were 34 vehicles in Afghanistan and 22 in the training fleet; the remaining 110 were due to be delivered by 31 October 2007.

**735.** The review also referred to Mastiff’s rapid procurement and said that early reports suggested it was “performing well”.

**736.** There was “still no clearly defined Theatre Entry Standard for minimum levels of protection and equipment that must be fitted to all vehicles” and that “an overall assessment of the protection levels” would be “appropriate”.

**737.** The Chiefs of Staff endorsed the recommendations on 26 September, including the need to understand and articulate the level of risk that was acceptable on any operation.<sup>396</sup>

**738.** As a result of the DOC audit, the MOD produced a force protection policy in November 2007.<sup>397</sup> It stated:

“The central tenet of this Force Protection (FP) policy is that the application of FP measures to achieve a tolerable level of risk ... enables, rather than constrains, our freedom of manoeuvre.”

**739.** In the policy document, the MOD mandated “the employment of a standard risk methodology across all activities to ensure a common approach to the implementation of FP [Force Protection] measures”. Oversight across the department would be achieved through an FP Co-ordinating Committee (FPCC) chaired by Air Commodore Brian Bates,

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<sup>396</sup> Minutes, 26 September 2007, Chiefs of Staff meeting.

<sup>397</sup> Paper MOD, November 2007, ‘Policy for the Protection of UK Forces’.

Director Directorate of Joint Capability. The committee, with the DECAs, would ensure that FP development was “coherent across the DLODs [Defence Lines of Developments] and prioritised in accordance with current and future vulnerabilities”.

**740.** The risk management process was laid out as:

- “**Identify.** The key to efficient risk management is the identification of adversary, natural and human threats to the Force, which, if not tempered, would otherwise impact upon mission success. That includes the anticipation of increasing and emergent threats, particularly where it may take time to develop countermeasures.”
- “**Assess**” – assessing the probability and impact of the identified threats on mission success.
- “**Address.** Resource constraints inevitably mean that Defence cannot protect against all threats at all times in all circumstances.” That meant that investment in capabilities had to be prioritised. It added: “Where a lack of resources or mitigation activity could impact adversely on mission success, commanders must communicate, through the chain of command, the need to review the risk level.”
- “**Review.** Staff and commanders must manage risk proactively by monitoring the risk profile, assessing the effectiveness of risk mitigation measures and reporting upwards FP shortfalls or unavoidable risk issues.”

**741.** Although the policy did not refer specifically to Theatre Entry Standards for minimum levels of protection, it did identify the leads for a comprehensive range of force protection elements, and what their considerations should be.

**742.** The policy lead for platform protection was the Directorate of Joint Capability but responsibility for its capabilities was spread across the relevant DECAs and was co-ordinated on behalf of DCDS(EC) through the Joint Capabilities Board. It said:

“Procurement staffs must balance key user requirements and forecast operational exigencies against current and future threats to deliver the appropriate degree of platform protection ... Operational staffs must risk manage the employment of platforms according to the threat and the level of tolerable risk.”

**743.** The policy said that the Joint Commander<sup>398</sup> owned the operational risk for forces under his command. The CDS was responsible for articulating the risk for specific operations and the Defence Secretary owned the risk inherent in the activities of the Armed Forces on behalf of the Government.

**744.** The MOD told the Inquiry that the latest iteration of the force protection policy, dated 21 May 2015, “defines risk ownership and governance more clearly than

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<sup>398</sup> Confirmed by the MOD as CJO for Operation TELIC; Letter Duke-Evans to Aldred, 26 June 2015, ‘Procuring Military Equipment’.



its predecessors”.<sup>399</sup> The MOD said this had been integrated into wider MOD risk management processes which had also been revised.

**745.** The MOD said that the Operational Commander (which for Iraq was the CJO), is accountable to CDS for understanding, quantifying and reducing risk to the force and mission respectively. This risk response may require changes to activities or capabilities.

#### THE REQUIREMENT FOR AN “URBAN” PPV

**746.** Fatalities in Afghanistan meant the continued use of Snatch Land Rovers remained the subject of media and political debate.

**747.** Baroness Taylor of Bolton became the Minister of State for Defence Equipment and Support in November 2007.

**748.** On 22 April 2008, a junior officer from DCRS advised Mr Browne that the requirement for light PPVs was likely to continue in Afghanistan, albeit at a reduced level, and with the introduction of more heavy and medium PPV variants.<sup>400</sup> The advice had been prompted by a series of fatalities on Op HERRICK where personnel had been travelling in General Service Land Rovers; vehicles that offered less protection than Snatch Land Rovers.

**749.** While operations in Iraq were not addressed in the note, the junior officer did cover broader protected mobility issues and “the constant need to balance protection against mobility”: “A range of vehicles, with different protection and mobility capabilities is required.” The choice of vehicles available to commanders had been increased significantly, and the delivery of more Mastiff, combined with the introduction of Ridgback, would “harden” the Op HERRICK force considerably.

**750.** A summary of the UK’s current and planned PPV range was provided in an annex, where the Mastiff was described as a “heavy” PPV as opposed to the “medium” Ridgback, and “light” Vector and Snatch vehicles. It stated that the Force Protection Inc’s Cougar vehicle, the 4x4 variant, had been selected as the model for the Ridgback in December 2007. Its expected interim operating capability date was October 2008.

**751.** On Baroness Taylor’s copy of the minute, her Assistant Private Secretary had written: “This useful note ... has been triggered by Matt Cavanagh [Special Adviser to Mr Brown] who wants to see zero use/casualties of Snatch ...”<sup>401</sup>

**752.** In April 2008, the UK began to deploy Military Training Teams (MiTTs) alongside the Iraqi Security Forces (ISF). The roles of those teams and the rationale behind them are explained in Section 12.1.

<sup>399</sup> Letter Duke-Evans to Aldred, 26 June 2015, ‘Procuring Military Equipment’.

<sup>400</sup> Minute EC DCRS [junior officer] to PS/SofS [MOD], 22 April 2008, ‘The Use of Light Vehicles on Operations’.

<sup>401</sup> Manuscript comment MOD [junior officer] on Minute EC DCRS [junior officer] to PS/SofS [MOD], 22 April 2008, ‘The Use of Light Vehicles on Operations’.

**753.** In his weekly report on 17 April, Major General Barney White-Spunner, GOC MND(SE) from February 2008 to August 2008, wrote that one of the lessons learned about “MiTTing” was that the MiTT teams “must have the same mobility as their Iraqi partners”.<sup>402</sup> Maj Gen White-Spunner said that AFVs were perceived as “too aggressive (by both the Iraqi leadership and by Basrawis)” and whilst the Mastiff had a reduced profile, it was “still too large” to manoeuvre around “a complex urban environment”. He described it as “an elephant compared to the Humvees of the US and Iraqis”.

**754.** Maj Gen White-Spunner wrote that “the mobility challenges presented by Mastiff” also increased the risk of it being “vulnerable to attack”. He concluded: “There is an urgent requirement to consider if there are protected mobility vehicles that might best suit this task, although we are now clear that the solution is not Humvees.”

**755.** On 20 April, the EC Branch in MND(SE) submitted a USUR for an “urban” PPV that provided better manoeuvrability around Basra City than what was possible with the existing, larger PPVs.<sup>403</sup>

**756.** The USUR stated that both Warrior and Bulldog were considered to be unsuitable because tracked vehicles were unable to operate in urban areas. There was a concern that Bulldog would “be considered as a tank” and affect the local perception about the nature of the tasks being undertaken.

**757.** The USUR described Mastiff as being used “through necessity, not choice” because of restrictions on Warrior and Snatch. Mastiff’s size, kerb weight and manoeuvrability made it unsafe in urban areas. Snatch was assessed as providing insufficient force protection.

**758.** On Snatch the USUR said:

“There would be political concern associated with the use of SN2A [Snatch 2A] in the city. SN2A was withdrawn from use in the city in 2006 due to the high rate of fatalities when vehicles were attacked. The equipment is not suitable for the task in its current form and is not considered further.”

**759.** The EC Branch identified the Cougar Ridgback as its preferred solution; US MiTTs were using the US version of the Ridgback, the Cougar 4x4, and “generally” did not have any problems accessing Iraqi Army units within the city. It also had good levels of protection and some commonality with the Mastiff.

**760.** In reviewing the potential vehicle solutions, the EC Branch said that the Australian Bushmaster had good protection and mobility comparable with the Ridgback but required “another Foreign Sales agreement”, had no commonality with the Mastiff and the Australian fleet was being withdrawn in June 2008.

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<sup>402</sup> Minute White-Spunner to CJO, 17 April 2008, ‘GOC MND(SE) Weekly Letter – 17 April 2008’.

<sup>403</sup> Minute ECB MND(SE), 20 April 2008, ‘Op TELIC – Urgent Statement of User Requirement for a Urban Protected Patrol Vehicle (UPPV)’.

**761.** On 29 April, Lieutenant General Peter Wall, DCDS(C), briefed the Chiefs of Staff that the protected mobility options for the MiTTs in Basra “had been investigated and Bulldog had been determined as the most applicable solution”.<sup>404</sup>

**762.** The minutes do not record that that was said to be the best option in the interim, but the documents that follow suggest that Bulldog was only ever intended to be a short-term solution until Ridgback came into service at the end of 2008.

**763.** In his weekly report, on 2 May 2008, Maj Gen White-Spunner stated:

“The provision of suitable vehicles for the remaining MiTTs is going to be a tricky one and we are grateful for all the hard work being done in the UK to find a solution. We have accepted ... that we will have to manage with Mastiff and Bulldog in the short term, and at least until Ridgback becomes available later in the year. This is not ideal, as you know; Mastiff, as well as being in short supply, are having considerable difficulty keeping pace with IA [Iraqi Army] Humvees through narrow obstructed streets and Bulldog, being tracked, will be unpopular with both the Iraqi chain of command and ... with the Baswaris.

“I understand that Ridgback simply cannot be delivered in the required timeframe even if diverted from their original target in Afghanistan, and my point is simply to emphasise the urgency of procuring them as fast as possible. In the meantime, we can make up some of our Mastiff shortfall for MiTTs if we are prepared to replace some of those Mastiff on less vulnerable tasks (such as in Umm Qasr) with Vector, which we understand are readily available in the UK.”<sup>405</sup>

**764.** Ministers continued to take a close interest in the provision of protected mobility for deployed forces.

**765.** On 6 May, the Chiefs of Staff were told that Vector would be used from the UK training fleet to backfill vehicles used in lower threat areas to release Mastiff for use by the MiTTs.<sup>406</sup> Options for the use of Ridgback in the longer term were being investigated.

**766.** On 22 May, a junior official advised Mr Browne that:

- The UK’s PPV requirement for “comprehensive MiTTing” was 60 vehicles. Mastiff was “the most appropriate vehicle” to fulfil the task, of which MND(SE) had 51 employed across a range of tasks and 43 could be re-allocated to MiTTing.
- The Chiefs of Staff had endorsed military advice that, in order to make the 43 vehicles available, Mastiff vehicles operating elsewhere in Iraq would be replaced with Vector, “at manageable risk to personnel on those tasks”.

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<sup>404</sup> Minutes, 29 April 2008, Chiefs of Staff meeting.

<sup>405</sup> Minute White-Spunner to CJO, 2 May 2008, ‘GOC MND(SE) Weekly Letter – 1 May 2008’.

<sup>406</sup> Minutes, 6 May 2008, Chiefs of Staff meeting.

- The shortfall of 17 vehicles would be met by Bulldog in the short term “to provide the best protection available”, although this could “have a negative effect on Baswaris and ISF consent”.<sup>407</sup>

**767.** The junior official’s advice recognised that re-allocating Mastiff vehicles to MiTTing would “inevitably incur greater risk elsewhere” but that PJHQ and GOC MND(SE) considered that “to be acceptable”. The use of Vector vehicles would be restricted to lower threat areas where the risk was “manageable” and would be subject to “a continuous MND(SE) intelligence-based threat assessment” based on Maj Gen White-Spunner’s recommendation.

**768.** The advice recognised that the decision to deploy Vector would reduce the number of vehicles in Afghanistan’s regeneration pool but that was seen as “manageable in the short term”.<sup>408</sup> If the consent for using Bulldog vehicles in the MiTT role deteriorated “to an unacceptable level”, Mastiff vehicles planned for Afghanistan could be diverted to Iraq, albeit creating a delay of one to two months for Mastiff vehicles to reach Afghanistan. The impact of using Bulldog vehicles in a MiTT role would be assessed at the end of July.

**769.** Mr Browne was advised that industry could not produce “an adequately protected vehicle” in less than six to nine months. Ridgback vehicles were being procured for Afghanistan but the earliest those could be deployed was “early 2009” and the provisional timeline for completing MiTTing in Iraq was May 2009 (see Section 12.1). DCRS had advised that the Treasury was “most unlikely to fund a new vehicle or modifications to existing vehicles” given the timelines.

**770.** On presentation, the junior official warned that as Vector was “originally procured to meet a lesser threat” in Afghanistan, it had “considerably lower levels of ballistic protection than either Mastiff or Bulldog”. That potentially meant that “accusations could be levelled” that Vector was “providing unacceptably low levels of protection to UK forces”. A handling plan was being developed to address that.

**771.** On the same day, Mr Browne’s Private Secretary replied to an MOD official, stating that Mr Browne had discussed the note with HQ MND(SE) and was “not clear” that Maj Gen White-Spunner’s intent on the use of Vector was “indeed as set out”.<sup>409</sup>

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<sup>407</sup> [Note DJC \[junior official\] to APS/SofS \[MOD\], 22 May 2008, ‘Iraq: MND\(SE\) Military Transition Team Concept – Provision of Protected Mobility’.](#)

<sup>408</sup> Email DJC-Sec-7 to SofS-PS, 22 May 2008, ‘FW: 20080521 – TELIC – MiTT PM plan MinSub v1 2 – SUKEO’. This email clarified that the number of Vector vehicles being damaged and destroyed in Op HERRICK had reduced and would continue to reduce as new PPVs were rolled out to Afghanistan and the “reliance on Vector in the higher threat areas” lessened.

<sup>409</sup> Email PS/SofS [MOD] to DJC-Sec7, 22 May 2008, ‘RE: 20080521 – TELIC – MiTT PM plan MinSub v1 2 – SUKEO’.

**772.** Mr Browne asked that PJHQ check that point with Maj Gen White-Spunner and that “a robust narrative” be developed “ASAP” to explain the discrepancy between the reason Vector was originally procured and its planned deployment in Iraq.

**773.** On 23 May, an MOD official submitted revised advice to Mr Browne, reducing the figure of Mastiff vehicles that should be re-allocated from 43 to 39 and stating that Maj Gen White-Spunner was content.<sup>410</sup>

**774.** Mr Browne agreed the advice, but reiterated the necessity to generate a narrative which explained the use of Vector in southern Iraq.<sup>411</sup>

**775.** Lt Gen White-Spunner explained to the Inquiry that the difficulty of using Mastiff vehicles for a MiTT role was:

“... for MiTT to really work well, it wants to always be slightly unobtrusive ... and we had large protective vehicles because of the dangers we had been facing ...”<sup>412</sup>

**776.** Lt Gen White-Spunner commented that a vehicle which balanced protection needs with the desired military profile was not possible: “Industry just can’t do this, they are not in the showroom.” He added:

“So we had to use the Mastiff vehicles, which ... is an excellent vehicle ... it is just slightly large for going down the more delicate bits of the Hanaya.”

**777.** On 17 June, Corporal Sarah Bryant, Corporal Sean Reeve, Lance Corporal Richard Larkin and Paul Stout were killed by an IED while patrolling in Lashkar Gar in Afghanistan.<sup>413</sup> Their deaths prompted further questions in the media and in Parliament about Snatch vehicles.

**778.** During a House of Commons debate about defence procurement on 19 June, Mr Patrick Mercer asked Mr Bob Ainsworth, Minister of State for the Armed Forces from June 2007 to May 2009, when Snatch vehicles would be taken out of service.<sup>414</sup>

**779.** Mr Ainsworth referred to the introduction of Ridgback but added:

“Whether we will be able to take away these small platforms without taking away a whole area of capability will need to be thought about very seriously. Snatch has suffered some considerable setbacks; we have lost lives in Snatch Land Rovers. However, I am being told by commanders on the ground that they still need Land

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<sup>410</sup> Email SofS-APS1 [MOD] to SofS-Private Office [MOD], 23 May 2008, ‘FW: 20080521 – TELIC – MiTT PM plan MinSub v1 2 – SUKEO (13)’ attaching Note DJC [junior official] to APS/SofS [MOD], 22 May 2008, ‘Iraq: MND(SE) Military Transition Team Concept – Provision of Protected Mobility’.

<sup>411</sup> Minute APS/SofS [MOD] to DJC SEC 7, 27 May 2008, ‘Iraq: MND(SE) Military Transition Team Concept – Provision of Protected Mobility’.

<sup>412</sup> Public hearing, 7 January 2010, pages 47-48.

<sup>413</sup> GOV.UK, 19 June 2008, *Corporal Sarah Bryant, Corporal Sean Reeve, Lance Corporal Richard Larkin and Paul Stout killed in Afghanistan*.

<sup>414</sup> House of Commons, *Official Report*, 19 June 2008, columns 1125-1128.

Rover-based platforms ... and will do for the foreseeable future. Ridgback will not entirely do that job, because it will not be able to get into the narrow, compounded urban areas in Helmand province, however much we would like it to.”

**780.** Mr Ainsworth said that he was “aware of some of the opinions about Snatch” but that he had received military advice that Snatch vehicles were still necessary. Mr Ainsworth was also challenged by Mr Mike Penning, who argued that commanders could only use what vehicles they have available.

**781.** Mr Ainsworth said that commanders were provided “with a range of vehicles” that allowed them “to select the platform most suited to the immediate task in hand”. Protected mobility requirements were kept “under review” and that was why Mr Brown had announced the procurement of Ridgback.

**782.** On 25 June, Mr Browne called a meeting with senior military figures and Baroness Taylor “at short notice” to “discuss future plans for the protected vehicle fleet, particularly in Afghanistan”.<sup>415</sup>

**783.** While the meeting had “in part been prompted” by the recent Snatch fatalities, Mr Browne “recognised that the issue ran wider” and there were vulnerabilities associated with other patrol vehicles such as Vector that “were stories waiting to happen”.

**784.** Mr Browne had:

“... made clear his intent: namely, to deliver as quickly as possible a balanced and sustainable protected vehicle capability in Afghanistan, with all patrol vehicles ... mine-protected, commensurate with their weight. This might infer [sic] the removal from theatre of Snatch, Vector, Pinzgauer and GS Land Rover.”

**785.** Air Chief Marshal Sir Jock Stirrup, who had become Chief of the Defence Staff in April 2006, said that they “needed to start” by understanding the operational requirement for lighter vehicles in Afghanistan and Iraq, and what the impact would be if PPVs with a lower weight and protection level than Ridgback were no longer used.

**786.** Sir Jock said that if a light PPV was “mission critical, whether to secure access, increase flexibility or avoid the corrosion of popular consent, then the second question was whether Snatch was the best vehicle available on the market to fulfil any of that requirement”. If it was, then they “could collectively stand behind its continued use; if not, it should be replaced”.

**787.** It was agreed at the meeting that “all vehicles had their vulnerabilities” but:

“... if we were able to demonstrate that we had replaced, or had clear plans to replace, all sub-optimal vehicles, then that would allow us to build a convincing

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<sup>415</sup> [Minute PS/SofS \[MOD\] to APS/Min\(DES\), 25 June 2008, ‘Protected Vehicles’.](#)

narrative around our intent, which should also give confidence to deployed service men and women that vehicle vulnerabilities are being addressed.”

**788.** A discussion followed about the options for replacing the current fleet of light armoured and unarmoured vehicles “in full” and it was agreed that those should be pursued. The deployment of Ridgback into theatre was “Ministers’ first priority”.

**789.** Mr Browne “emphasised the need for a clear and coherent public narrative” about what had been achieved and what was being done “to enhance the robustness” of the PPV fleet. He asked for a Written Ministerial Statement to be produced before Parliament rose for the recess on 22 July.

**790.** A Written Ministerial Statement on protected mobility was not made until 29 October 2008.<sup>416</sup>

**791.** Mr John Hutton, who had succeeded Mr Browne as Defence Secretary earlier in October, stated:

“We have already achieved a great deal in improving the protected mobility options available to commanders on operations. Mastiff is unquestionably a success story. For its role, Mastiff is delivering the very highest levels of protection available anywhere in the world. Where it can be used, and its size and weight mean it has its limitations, it is clearly the vehicle of choice. That is why the Prime Minister announced a further order of these vehicles last year ...

“It is not only through Mastiff that we are delivering a world class protected vehicle capability; we are also delivering Ridgback. Using the smaller Cougar 4x4 chassis, and innovative, cutting-edge UK armour technologies, we will be able to deliver protection levels close to that of Mastiff in a package that is able to better access urban areas, increasing the survivability of troops in these roles ...”

**792.** On Snatch Land Rovers, Mr Hutton said:

“Inevitably, any statement on protected mobility must address the role of the Snatch Land Rover, a vehicle which has received considerable criticism. First, to be absolutely clear, I can inform the House that – in addition to the regular reviews that are conducted into protected mobility – senior operational commanders were asked to specifically consider the requirement for the Snatch Land Rover and its importance to operations. The response was clear: commanders need a vehicle of the size, weight and profile of Snatch Land Rover, capable of transporting men, to fulfil their tasks in theatre. Further, the availability of such a vehicle is considered mission critical ...”

**793.** Mr Hutton said that that did not mean there was “no action” to be taken on Snatch. There was a programme in place to learn lessons from the development of Mastiff and

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<sup>416</sup> House of Commons, *Official Report*, columns 28WS-30WS.

Ridgback and the Snatch vehicle would continue to be modified, although, as with any vehicle, it could never be made “invulnerable”.

**794.** The latest variant, the Snatch Vixen,<sup>417</sup> had been especially configured for Afghanistan, and the MOD had “already fielded a small number of these vehicles”.

**795.** On 7 November, Lt Gen Houghton advised Sir Jock Stirrup on “an urgent review of the impact of limiting the use of all variants of Snatch Land Rover”.<sup>418</sup> The advice suggested that Lt Gen Houghton had issued separate, earlier advice in July to Sir Jock following the meeting with Mr Browne on 25 June and the 7 November advice was because he had been asked again to consider the impact of limiting the use of all variants of Snatch in Iraq and Afghanistan.

**796.** Lt Gen Houghton wrote that the justification for retaining Snatch had not changed since his previous advice in July; Snatch vehicles remained “mission critical” in both theatres due to their profile, manoeuvrability and carrying capacity.

**797.** Lt Gen Houghton said that limiting the use of Snatch outside secure bases in Iraq would have a “significant impact” on operations by reducing patrols’ situational awareness and restricting movements.

**798.** The “interim solution” of Snatch Vixen in Afghanistan had “started to deliver”. DEC(GM) was “working towards a final solution” but there was no light PPV “on the market that could be delivered within a year”. The Ridgback and Mastiff programmes for Afghanistan had been delayed and were not now likely to be delivered until the beginning of 2009.

**799.** Lt Gen Houghton added:

“Given the wider political and media sensitivity, however, we should maintain our intent to deliver the planned SN2A [Snatch 2A variant currently in use] replacement as quickly as possible, increase the numbers of PM [Protected Mobility] vehicles in UORs and conduct rapid work on operational solutions to remove SN2A from outside secure bases as quickly as possible. SN3-Vixen would appear to be the fastest way of achieving this.”

**800.** Major General Andrew Salmon, GOC MND(SE) from August 2008 to March 2009, told the Inquiry that, when he arrived in Iraq, “security was getting better”.<sup>419</sup> The number of rocket attacks “was down to about four or five a month”, compared with over 200 a month before the Charge of the Knights (see Section 12.1). There were still IEDs set on roads but “the level of violence had much reduced”.

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<sup>417</sup> Referred to in some MOD papers as Snatch 3-Vixen.

<sup>418</sup> Note CJO to PSO/CDS, 7 November 2008, ‘Limiting the Deployment of Snatch Outside Secure Bases’.

<sup>419</sup> Public hearing, 20 July 2010, page 6.



**801.** Maj Gen Salmon wrote in his post-tour report:

“The determination of the most appropriate mobility platform for any environment requires a delicate balance between speed, manoeuvrability, firepower and protection. Presentational constraints over the employment of Snatch were well understood and acknowledged. Nonetheless, while offering good protection, Mastiff generated other risks: heightened profile; regular collateral damage (with associated cost to local approval) while manoeuvring in tight confines; and an inability to keep up with ISF HMMVs [Iraqi Security Forces’ Humvees] in the City. This was set in the context of CG MNF-I’s (Gen Petraeus) determination that troops should ‘get out and walk’ – in order to influence the population directly. The solution was found in a command decision to strip MiTTs down to the bare minimum and travel with Iraqi counterparts in ISF in Iraqi vehicles. The ability to mentor improved immediately and markedly and the level of protection afforded by ISF paintwork arguably exceeds that of CF protective technology. It worked well.”<sup>420</sup>

**802.** Maj Gen Salmon said that that was a “defining decision” for building relationships but that “the UK political sensitivities over any trade off between protection and manoeuvre should not be underestimated”. He added: “Strategic risk aversion over casualties was a real planning consideration that routinely shaped tactical operations.”

#### FRES AS A DISTINCT REQUIREMENT

**803.** On 23 July, a note about FRES highlighted the capability gap that would remain until FRES was delivered:

“PPVs do have some utility ... but not in areas where they are likely to have to operate within the range of enemy medium or heavy forces. PPVs do not meet the protection, capacity, or tactical mobility requirements of FRES as a whole, although it is possible that they could meet part of the requirement in the FRES BCU [Basic Capability Utility] family ...”<sup>421</sup>

**804.** The note added:

“Current operations show that we need to use a combination of armoured vehicles ... and PPVs ... to operate in different roles, in different areas, to meet different circumstances. However, PPVs are particularly important at the moment because, in many cases, we have to use them where we would use FRES if it were available. Therefore if FRES was in service now we would need to deploy fewer PPVs.”

**805.** In its review of defence equipment for 2008, the House of Commons Defence Committee outlined a number of concerns about the ongoing delays to the FRES

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<sup>420</sup> Report Salmon, 15 May 2009, ‘COMUKAMPHIBFOR Op TELIC 12/13 (HQ MND(SE)) Post Operational Report (POR)’.

<sup>421</sup> [Minute DCI\(A\), 23 July 2007, ‘The Future Rapid Effect System \(FRES\) – Information Note’](#).

programme.<sup>422</sup> It asked the Government to set out how the acquisition of Mastiff vehicles for Iraq and Afghanistan had impacted on the FRES requirement.

**806.** In response, the MOD stated that there was “no impact on the FRES programme resulting from the procurement of Mastiff”.<sup>423</sup> The department had “a coherent two track approach” to AFVs which made “a clear distinction between the urgent, short term need for Protected Patrol Vehicles, such as Mastiff, designed for peace support operations” and AFVs needed to “provide an effective FRES capability across the full spectrum of future operations”. The MOD stated that Vector and Mastiff were designed to address the risks faced by service personnel in the short term; FRES was always seen as a longer-term requirement.

**807.** Sir Peter Spencer told the Inquiry that there had been a difficulty in specifying a requirement for PPVs as the threat developed; and that “one of the major problems the Army had had for over a decade was deciding what it wanted its new fleet of armoured fighting vehicles to be”.<sup>424</sup>

**808.** When asked about the procurement strategy for PPVs, Sir Peter referred to the FRES programme: “... a hugely ambitious programme which was never going to be delivered in this decade ... There were very difficult requirements stated for mobility and protection and weight.”<sup>425</sup>

**809.** The Inquiry asked Sir Peter whether the issues with FRES had made it harder to deal with PPVs. He replied:

“... the difficulty became in the amounts of money which were available and if you were going to use money from the capital equipment programme to deal with the short term ... then that had a fratricidal effect on your ability to move the FRES programme forward.”<sup>426</sup>

**810.** Lt Gen Fulton told the Inquiry that FRES and the replacement for Snatch were “two completely different questions”.<sup>427</sup> He said that “to put something in” to the Defence programme, “something ha[d] to come out”; the resources had to be balanced out. Lt Gen Fulton did not think that created a reluctance to give a Snatch replacement a high priority.

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<sup>422</sup> Tenth Report of the House of Commons Defence Committee, Session 2007-08, Defence Equipment 2008, HC 295.

<sup>423</sup> Seventh Special Report from the House of Commons Defence Committee, Session 2007-08, *Defence Equipment 2008: Government response to the Committee’s Tenth Report of Session 2007-08*, HC 555.

<sup>424</sup> Public hearing, 26 July 2010, pages 28-29.

<sup>425</sup> Public hearing, 26 July 2010, page 41.

<sup>426</sup> Public hearing, 26 July 2010, pages 49-50.

<sup>427</sup> Public hearing, 27 July 2010, pages 70-72.

**811.** Lt Gen Figures told the Inquiry that “FRES had been used as a regulator for the defence programme. Money had actually been taken out of the FRES programme in order to attempt to balance the programme.”<sup>428</sup>

**812.** Mr Hutton told the Inquiry that, if it had gone ahead on the original timescale, some of the equipment from FRES would have been available for deployment in Iraq.<sup>429</sup>

**813.** In Mr Hutton’s view, the problem had been:

“We couldn’t settle on the specification. We changed our mind about certain aspects of how we wanted to go ahead with the procurement. We started, we stopped.”

**814.** ACM Stirrup told the Inquiry that the FRES programme was “overcomplicated and overcomplex”.<sup>430</sup> He said that the “critical battleground” was the need to “interact with the population”. That required “smaller and lighter vehicles”; “commanders need a wide range of vehicles”. FRES “would not have solved the problems that we had been facing in Iraq and Afghanistan, with, perhaps, one exception, which is the Scout variant ... our top priority at the moment ... to replace the CVR(T)”.

**815.** Gen Jackson told the Inquiry:

“As the situation deteriorated in southern Iraq of course the vulnerabilities of the Snatch Land Rover became tragically more and more apparent, and we then enter a difficult and muddled story as to the replacement, or the addition of better protected vehicles into the deployed army’s inventory, and the whole FRES story comes into this as well.

“... there is a limit to the amount of metal you can stick on a vehicle ... and the ability of the opposition to up the kinetic energy that can be applied can go rather faster than our ability to withstand that. So the amount of metal on a vehicle is important but it is not the complete answer, and you would finish up with a vehicle which is far too large often to go down small streets in an urban area. So again the picture is not black and white, and there is not some sort of fence you can jump over and all of a sudden you have a vehicle which is immune to whatever your opponents may try to do.”<sup>431</sup>

**816.** Gen Dannatt suggested to the Inquiry that FRES had been delayed by the MOD so that funding originally allocated in the Equipment Programme for the FRES in 2007-2009 could be used for other priorities.<sup>432</sup>

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<sup>428</sup> Public hearing, 27 July 2010, page 73.

<sup>429</sup> Public hearing, 25 January 2010, pages 24-25.

<sup>430</sup> Public hearing, 1 February 2010, pages 68-71.

<sup>431</sup> Public hearing, 28 July 2010, pages 75-76.

<sup>432</sup> Public hearing, 28 July 2010, pages 58-62.

**817.** Gen Dannatt referred the Inquiry to the ECAB meeting in January 2006<sup>433</sup> where the Board was informed that there would be further delays to the FRES programme:

“What we decided to do was to persuade Lord Drayson, then the Defence Procurement Minister, that we had a major problem, and it was decided to lay on equipment demonstration on Salisbury Plain and get him to come and see it on the basis seeing is believing, and then come to Headquarters Land and discuss the issues. As Commander in Chief I was given the task to put that together.

“We took one of everything that we had and Lord Drayson saw what we had and saw what we didn’t have and quite clearly what we didn’t have was anything in that medium bracket ... on the one hand we had these good heavy equipments, on the other hand some good light equipments. In the middle we had nothing.

“In the car on the way back from Salisbury Plain to Headquarters Land he said to me, ‘I didn’t know the army had a problem. Since I have become Minister of Defence Procurement I have been focusing on jets and on aircraft carriers. I didn’t realise the army had a problem’. To his great credit he then realised we had a problem and began to put some leadership and energy into it.”<sup>434</sup>

**818.** Mr Brown told the Inquiry that FRES was the programme “that was interesting the military the most”, but his understanding was that “even if it had been carried out in full”, it would “not have given us the right vehicles ... for Iraq”.<sup>435</sup>

**819.** The Inquiry asked Lord Drayson about the concerns about FRES expressed by Generals Jackson and Dannatt, and the relationship between progress on FRES and concerns about Snatch.<sup>436</sup> Lord Drayson replied:

“The FRES project had become delayed, partly because the experience on operations ... led to repeated changes to the specification, and partly because the user requirement had become much too complicated ...

“The project to improve/replace Snatch was always separate ... The Generals stressed the urgent need to replace the ageing fleet of Army Fighting Vehicles as a whole when voicing their concerns over delays to FRES ... Snatch was a Protected Patrol Vehicle rather than an AFV ... In terms of augmenting Protected Patrol Vehicles such as Snatch the focus in early 2006 for the Army was ... Vector which in March 2006 I was told was General Dannatt’s highest priority ...

“Progress on FRES and concerns about Snatch should not have been connected in theory ... In reality however, I believe the Army’s difficulty in deciding upon a

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<sup>433</sup> Gen Dannatt’s evidence during his public hearing was that this meeting was in 2005. Based on the papers provided, the Inquiry has concluded this must have been an error in his recollection.

<sup>434</sup> Public hearing, 28 July 2010, pages 64-68.

<sup>435</sup> Public hearing, 5 March 2010, page 117.

<sup>436</sup> Statement, 15 December 2010, pages 3-4.

replacement to Snatch was in part caused by their concern over the likelihood of FRES budgets being cut to fund a Snatch replacement vehicle.

“The impression I gained was the delivery of FRES by 2012 was a higher priority for the Army than finding funding for Snatch from the core equipment budget. I was concerned that the Army were focusing on the Vector ... for Afghanistan and upgrading the FV430 (Bulldog) and that no requirement had been identified for a new medium weight protected patrol vehicle.

“The push to replace Snatch or to procure a new medium weight PPV so that commanders would not have to use Snatch came from Ministers, not the military ...”

**820.** General Sir Michael Walker, CDS from 2003 to 2006, told the Inquiry that there was no difficulty in securing funding for Iraq UORs but that the spending round in 2004 threatened longer-term “big ticket items”.<sup>437</sup> He said that there was “a list of stuff” where decisions had to be made but he could not recall what was included.

**821.** Gen Walker told the Inquiry that the procurement process for the FRES programme had been “horrid” and a “sorry saga of debates and delays; delays because of the lack of money”:

“... it was not as advanced as many other projects, it seemed to me to get delayed and delayed and delayed, time after time, because the funding, and ... if we had gone with it originally, we might well have saved ourselves quite a lot of pain and agony and death by having a vehicle that we could have used in the appropriate circumstances in places like Afghanistan.”<sup>438</sup>

**822.** Lord Drayson was explicit that the decision to fund the Mastiff programme as a UOR had been an important factor in reaching agreement on the requirement for a medium weight PPV:

“There was concern that the FRES programme would be delayed or lose resources as a result of buying a new vehicle. Ministers ensured that the funding ... came from a new UOR funded separately by the Treasury thus ensuring that the purchase ... had no detrimental impact on the FRES project.”<sup>439</sup>

**823.** Lord Drayson wrote that there was resistance from within the MOD to reprioritisation of the core Equipment Programme to support current operations:

“... because the Services were concerned that their long term programmes would be cannibalised and lose funding to short term operational needs ... it was quite unusual for core equipment funding to be redirected to operational needs. This only happened when the military had a strong desire for it – for example with Vector ...”

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<sup>437</sup> Public hearing, 1 February 2010, pages 42-43.

<sup>438</sup> Public hearing, 1 February 2010, pages 48-49.

<sup>439</sup> Statement, 15 December 2010, pages 6-7.

## CALL FOR A PUBLIC INQUIRY INTO THE USE OF SNATCH

**824.** On 7 November 2008, Hodge Jones & Allen solicitors wrote to Mr Hutton on behalf of Ms Susan Smith, requesting a public inquiry into the use of Snatch Land Rovers in the Iraq and Afghanistan conflicts.<sup>440</sup> Ms Smith's son, Private Phillip Hewett, was killed on 16 July 2005 in an IED attack in al-Amara whilst travelling in a Snatch Land Rover.

**825.** Treasury Solicitors replied on 15 December, enclosing a letter from Mr Hutton to Ms Smith.<sup>441</sup> Mr Hutton's letter said that, "after thinking very carefully about what has been said on this issue ... a public inquiry would not be the right way to proceed". He would be issuing a Written Ministerial Statement the following day but had wanted to write to Ms Smith personally.

**826.** Mr Hutton explained that the reasons for not holding a public inquiry into the use of Snatch were:

- The clear advice from military commanders, unanimously endorsed by the Chiefs of Staff, was that Snatch vehicles were "essential to the success of operations in both Iraq and Afghanistan".
- Heavier vehicles such as Warrior or Mastiff could not replace Snatch because they could not "be used for all purposes" and were "simply unable to access" the necessary places to deliver the UK's objectives.
- Better armoured vehicles, which tended to be larger and heavier, were "viewed by the local population as aggressive and intimidating". That made it more difficult for the military to engage with local people and win their confidence. The larger vehicles also could cause "serious damage" to local infrastructure such as roads, buildings and drainage systems. Those factors could "inflare local opinion against UK troops" and increase the threat level overall.

**827.** Mr Hutton said that that meant "a critical requirement" for a light PPV such as Snatch remained. He referred to the "number of technical enhancements" to Snatch since its first deployment to Iraq in 2003. He stated that the introduction of its new variant, the Snatch Vixen, along with the procurement of additional Mastiff vehicles, would enable the UK "to continue reducing the scope of the Snatch 2A vehicle's role until it is used only within [UK] camps".

**828.** In his Written Ministerial Statement on 16 December, Mr Hutton referred to the "widespread public concern over the thirty-seven deaths of British servicemen and women in Iraq and Afghanistan as a result of injuries sustained while using Snatch Land Rovers".<sup>442</sup>

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<sup>440</sup> Letter Cockburn [Hodge Jones & Allen] to Hutton, 7 November 2008, 'Snatch Land Rovers'.

<sup>441</sup> Letter Kennedy [Treasury Solicitors] to Cockburn [Hodge Jones & Allen], 15 December 2008, 'Snatch Land Rovers' enclosing Letter Hutton to Smith, 15 December 2008, [untitled].

<sup>442</sup> House of Commons, *Official Report*, 16 December 2008, columns 103WS – 104WS.

**829.** Mr Hutton repeated the reasons he had provided to Ms Smith as to why he had decided not to hold a public inquiry into the matter. He said it was “also important to be clear” that it could not be assumed that the 37 servicemen and women would have survived if they had been in more heavily armoured vehicles. Any vehicle could be overmatched and armour was only one part of the tactics, techniques and procedures that were used to protect troops.

**830.** On 10 July 2009, Ms Smith won a right to a judicial review, on limited grounds, of the Government’s decision not to hold a Snatch Inquiry.<sup>443</sup>

**831.** A letter from the Treasury Solicitors to Ms Smith’s solicitors on 15 September stated that that had prompted a “fresh decision” by Mr Bob Ainsworth, who became the Defence Secretary in June 2009. He had again considered the question of whether an inquiry should be held and decided that an inquiry would be an inappropriate use of public resources given the extent to which the subject had already been examined.

### **Legal action taken by families over the use of Snatch Land Rovers**

On 19 June 2013, the Supreme Court ruled that relatives of three soldiers killed in Iraq, and two others seriously injured, had a right to sue the Government for negligence and pursue damages under human rights legislation.<sup>444</sup> In doing so, the Court rejected the MOD’s arguments that the principle of combat immunity applied; the MOD had a duty of care over soldiers regardless of whether they had left the British base in the line of duty.

The proceedings concerned three sets of claims, one of which was brought by Ms Smith (the mother of Private Phillip Hewett) and the relatives of Private Lee Ellis over the MOD’s alleged breach of Article 2, the Human Right to Life, in the preventative measures available to protect the lives of troops travelling in Snatch vehicles. Private Ellis’s relatives also brought a claim of negligence against the MOD.

The case against the Government for damages and negligence was still continuing at the time of the Iraq Inquiry’s publication.

The Iraq Inquiry has considered material provided by Hodge Jones & Allen solicitors and has taken account of that when putting questions to witnesses during the public hearings and when drafting its Report.

<sup>443</sup> Letter Kennedy [Treasury Solicitors] to Cockburn [Hodge Jones & Allen], 15 September 2009, ‘Snatch Land Rovers, R (oao Susan Smith) v. Secretary of State for Defence’. Mr Justice Mitting in the High Court ruled that the right was limited in that the past use of Snatch could be investigated, but its present and future deployment was unimpeachable.

<sup>444</sup> *Smith and Others (Appellants) v. The Ministry of Defence (Respondent); Ellis and another (FC) (Respondents) v. The Ministry of Defence (Appellant); Allbutt and Others (FC) (Respondents) v. The Ministry of Defence (Appellant)* [2013] UKSC 41.

## SNATCH AFTER IRAQ

**832.** Ridgback entered service in June 2009 in Afghanistan. It was not deployed to Iraq.

**833.** On 6 March 2010, the BBC reported that Mr Brown visited troops in Afghanistan and said that 200 new patrol vehicles would arrive in late 2011 to replace the Snatch Land Rover.<sup>445</sup>

**834.** That new patrol vehicle was the Foxhound, which arrived in Afghanistan on 17 June 2012.<sup>446</sup> The MOD's announcement about its arrival did not refer to the Snatch Land Rover, or any other PPVs.

**835.** The MOD told the Inquiry:

“The Foxhound is a Protected Patrol Vehicle. It underwent final testing in the Helmand desert before being deployed on operations. Foxhound was specifically designed and built in Britain to protect against the threats faced by troops in Afghanistan, but it is an agile and versatile vehicle which will be a mainstay in the Army for years to come. Being lighter and smaller than other protected vehicles, Foxhound brings a new capability to the Army and is ideal for soldiers operating in mentoring and partnering roles.”<sup>447</sup>

**836.** The Snatch 2 Land Rover remains in service with the British Army.<sup>448</sup> The British Army's website states that it is “deployed for general patrolling in low threat areas” and is “being extensively replaced by Vector and Mastiff”.

## The impact of Afghanistan on the equipment available in Iraq

**837.** In June 2004, the UK had made a public commitment to deploy HQ ARRC to Afghanistan in 2006, based on a recommendation from the Chiefs of Staff and Mr Hoon, and with Mr Straw's support. HQ ARRC was a NATO asset for which the UK was the lead nation and provided 60 percent of its staff. That decision is described in Section 9.2. By October, that decision had become an important factor in considering resources for Iraq.

**838.** In July 2005, the DOP agreed proposals for both the transfer of the four provinces in MND(SE) to Iraqi control and for the deployment of the UK Provincial Reconstruction Team then based in northern Afghanistan to Helmand province in the South, along with an infantry battlegroup and full helicopter support – around 2,500 personnel. That decision is described in Section 9.4.

**839.** On 26 January 2006, the UK announced that it would be deploying 3,300 troops to Helmand province.

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<sup>445</sup> *BBC News*, 6 March 2010, *Gordon Brown visits Afghan troops amid defence row*.

<sup>446</sup> *GOV.UK*, 17 June 2012, *Foxhound arrives in Afghanistan*.

<sup>447</sup> Letter Duke-Evans to Hammond, 2 February 2016, [untitled].

<sup>448</sup> *British Army website*, [undated], *Equipment/Snatch 2 Land Rover*. Correct as of date of publication.



**840.** This Section describes the provision of ISTAR and support helicopters to Iraq leading up to, and after, the decision to deploy UK troops.

## Existing capability gaps before 2006

### ISTAR

**841.** Intelligence, Surveillance, Target Acquisition and Reconnaissance (ISTAR) is a key military capability that generates and delivers specific information and intelligence to decision-makers at all levels in support of the planning and conduct of operations.<sup>449</sup>

**842.** In 2008, the House of Commons Defence Committee defined three broad categories of ISTAR:

- **strategic** – including systems that provide early warning of ballistic missile threats to the UK and the Nimrod R1 system that provided Manned Airborne Surveillance (MAS);
- **operational** – systems that can operate from naval platforms or land and provide air and surface surveillance using a mix of sensors; and
- **tactical** – man-portable and vehicle-mounted systems that provide electronic surveillance for land forces.<sup>450</sup>

**843.** ISTAR is delivered through “two distinct but inter-related capability areas”:

- **“The collection side** – which aims to provide capabilities that can gather accurate and timely information across the environments and can detect, track and identify enemy, neutral and friendly entities within a defined area, day and night, and in all weathers.
- **The direction, processing and dissemination side** – which aims to provide capabilities that can direct collection effort and then process and disseminate derived information and intelligence to all levels in national and coalition operations.”

**844.** An Unmanned Aerial Vehicle (UAV) is an important means of collecting ISTAR information.

**845.** The *Strategic Defence Review* (SDR) in 1998 had emphasised the importance of ISTAR assets, “not only to maintain a qualitative edge in combat but to facilitate the often rapid decision-making needed in complex political circumstances”.<sup>451</sup>

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<sup>449</sup> Thirteenth Report from the House of Commons Defence Committee, Session 2007-2008, *The contribution of Unmanned Aerial Vehicles to ISTAR capability*, HC 535, para 1.

<sup>450</sup> Thirteenth Report from the House of Commons Defence Committee, Session 2007-2008, *The contribution of Unmanned Aerial Vehicles to ISTAR capability*, HC 535, paras 12-13.

<sup>451</sup> Ministry of Defence, *The Strategic Defence Review*, July 1998.

**846.** The SDR stated that a range of advanced systems were planned or already entering service, including the airborne ground surveillance radar, Astor, and a battlefield unmanned target acquisition vehicle, Phoenix.

**847.** *The Strategic Defence Review: A New Chapter* in 2002 reiterated that ISTAR was a key element of the MOD's network-centric capability.<sup>452</sup> It stated that the US had demonstrated in Afghanistan the effectiveness of such systems in providing persistent surveillance without putting aircrew lives at risk: "Our Watchkeeper project has the same purpose; and we intend to accelerate the programme."

**848.** The Watchkeeper programme was initiated to address the capability gap for a tactical UAV that could provide operational commanders with a persistent, all-weather ISTAR capability.

**849.** On 7 January 2004, Lt Gen Fulton told the House of Commons Defence Committee that Watchkeeper was "due in service in 2005-06".<sup>453</sup>

**850.** The Government's Response to the Committee's report on 8 June stated that the main investment decision was "due later in 2004", at which point a formal In Service Date (ISD) would be set.<sup>454</sup>

**851.** That date was provided in the National Audit Office (NAO) report on the MOD's Major Projects in November 2004.<sup>455</sup> The target date for Watchkeeper's Main Gate approval was December 2004 and the internal planning assumptions for its entry into service was November 2006.

**852.** A minute from Lieutenant General Andrew Ridgway, Chief of Defence Intelligence, on 22 June 2004 indicated that Phoenix was the only UAV in service in 2003.<sup>456</sup> It had been procured in 1988 against a requirement to support operations in north-west Europe, predominantly as a target acquisition system. The system was subsequently used in the Balkans and in Iraq.

**853.** Lt Gen Ridgway wrote that it had been described as "battle winning equipment" during the invasion and had successfully been deployed on wider surveillance roles in addition to providing target acquisition information. Phoenix had not, however, been designed "to operate in the extreme heat of Iraq".

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<sup>452</sup> Ministry of Defence, *The Strategic Defence Review: A New Chapter*, July 2002.

<sup>453</sup> Third Report from the House of Commons Defence Committee, Session 2003-04, *Lessons of Iraq*, HC 57-I, para 235.

<sup>454</sup> First Special Report of the House of Commons Defence Committee, Session 2003-04, *Lessons of Iraq: Government Response to the Committee's Third Report of Session 2003-04*, HC 635, para 104.

<sup>455</sup> National Audit Office, 10 November 2004, *Ministry of Defence: Major Projects Report 2004*.

<sup>456</sup> [Minute CDI to APS/SofS \[MOD\], 22 June 2004, 'ISTAR Provision to Op TELIC – UK UAV Operations'](#).

**854.** On 28 April 2003, MND(SE) produced a USUR for an “enhanced enduring ISTAR capability for the UK land component”.<sup>457</sup> It explained that Phoenix had been supporting Phase III operations at “rates far greater than previously foreseen in sustainability planning guidance, and in temperatures exceeding the design specification”.

**855.** The USUR noted that experience in Bosnia and Kosovo had demonstrated that ISTAR systems that were “flexible, responsive, not manpower intensive, and with a low ground footprint” were key to maintaining the Commander’s situational awareness and protecting UK forces. In those areas, “with small AORs”, Phoenix had been used “to great effect”.

**856.** The USUR stated that 75 Phoenix UAVs had been deployed or moved into theatre since operations started. By 15 April 2003, only 29 of those were still “fit” for use in theatre. Seven had been lost to hostile action and 24 had crashed because of a fault in the Phoenix’s system.

**857.** There was no explanation of what had happened to the remaining 15 UAVs.

**858.** Without “corrective action”, the USUR stated that current attrition rates meant that there would be no Phoenix UAVs left in theatre by 6 May (without deploying War Maintenance Reserve (WMR) stock), or that stocks would reduce to zero by 10 June (if the WMR stock was fully deployed).

**859.** A package of measures were “in train” to fix the fault causing Phoenix crashes and to increase its availability in high temperatures. Neither set of measures would, however, increase its endurance or the range at which it could be used. While Phoenix would continue to be used in Iraq “by necessity”, there was an operational requirement for an ISTAR system to support the duration of Op TELIC “with the required levels of persistence, flexibility, responsiveness and in all climatic conditions, with the required resolution to be able to identify and monitor difficult and often fleeting targets”.

**860.** An initial operating capability was required “as soon as possible” with full operating capability “not later than mid October 2003”.

**861.** The covering minute, sent on behalf of Major General Graeme Lamb, GOC MND(SE), recorded:

“The GOC sees provision of an enhanced UAV capability as essential to mitigate reduced force structures in an extensive and complex AO [Area of Operations]. CJO [Lt Gen Reith] was briefed on this requirement during his visit to the Division on 26 April.”

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<sup>457</sup> Minute MND(SE) [junior officer] to PJHQ, April 2003, ‘USUR for an Enhanced UAV’ attaching Paper, MND(SE), 28 April 2003, ‘Urgent Statement of User Requirement for a UK Land Component Enhanced Enduring ISTAR Capability’.

**862.** An email exchange between PJHQ officials on 2 May stated that Major General Peter Wall, Deputy Chief of Joint Operations (Operations), had “now approved the progression of this” and the USUR should proceed as soon as possible.<sup>458</sup>

**863.** The UOR update to Lord Bach on 9 May highlighted the urgent requirement for “a longer-range, more persistent UAV platform” and such a UAV was “seen as an enduring requirement that would allow a reduction in force levels”.<sup>459</sup>

**864.** A footnote stated:

“To date Phoenix losses on Op TELIC have been 20 airframes lost in action and a further 16 damaged beyond local repair (with a further three reported missing in the last few days). This attrition rate leaves a capability gap of at least 36 air vehicles against medium scale operations until Phoenix OSD [Out of Service Date]. Phoenix is still being deployed therefore the attrition rate could rise.”

**865.** At Lord Bach’s UOR meeting on 12 May, it was reported that options being considered to meet the UAV requirement included “an off-the-shelf solution” and bringing forward the Watchkeeper programme.<sup>460</sup>

**866.** AM Stirrup’s UOR update to Lord Bach on 30 May included a progress report on the UAV UORs from the ISTAR Directorate of Equipment Capability (DEC(ISTAR)).<sup>461</sup>

**867.** It stated that, prior to the USUR being articulated, “a number of possible solutions” had been identified that “could be delivered within six months, including advancing certain hardware elements of Watchkeeper, but stopping short of providing an early Watchkeeper capability”.

**868.** The DEC also explained that UOR action had previously been “put on hold” while an engine modification for Phoenix was pursued, to try and improve its performance in extreme temperatures.

**869.** The DEC proposed a “layered” system to meet the requirement:

- Nimrod Mk2 would be used to provide wide area surveillance;
- “other air-based assets (such as fast jet tactical reconnaissance) would provide medium/low level surveillance”; and
- a “small UAV system” would be procured to provide “low level ‘through the window’ surveillance”. That could be implemented, “at least in part, almost immediately”.

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<sup>458</sup> Email PJHQ [junior official] to PJHQ [junior official], 2 May 2003, ‘Requirement for an Enhanced UAV’.

<sup>459</sup> Minute CM(M) to PS/Min(DP), 9 May 2003, ‘Iraq: Op TELIC Phase 4 UORs’.

<sup>460</sup> Minute APS/Min(DP) to CM(M), 12 May 2003, ‘Iraq: Op TELIC – UORs’.

<sup>461</sup> Minute DCDS(EC) to PS/Min(DP), 30 May 2003, ‘Iraq: Op TELIC Phase 4 UORs’ attaching Paper DDEC (ISTAR) TS, 30 May 2003, ‘Update on Phoenix Capability UORs’.

**870.** The DEC's proposal would "relieve some of the pressure" on the Phoenix Out of Service Date (OSD) but there was a risk of a capability gap between the Phoenix OSD and the Watchkeeper ISD:

"An analysis of the availability of Phoenix for future operations (whatever they may be) when considered in light of the introduction of Watchkeeper, has indicated that there is a risk of a capability gap developing. We will not be able to quantify this fully until the repair situation on Phoenix is better understood. However, work is in hand to look at options for mitigating this risk, including re-opening the Phoenix production line ..."

**871.** AM Stirrup warned Lord Bach that the DEC's update must be "put in context", noting the "considerable success" of UAVs during combat operations and indicating that the capability gap had arisen because UK forces had entered a new phase in operations.

**872.** On 25 June, the House of Commons Defence Committee took evidence from Lord Bach, Sir Peter Spencer and Lt Gen Fulton on the progress of the MOD's Equipment Programme.<sup>462</sup>

**873.** Asked why the Watchkeeper programme could not be accelerated, Lord Bach said that "some elements" would be in service by "late 2005". Concern was expressed by the Committee that the MOD should not put its "head in the sand", delaying the introduction of Watchkeeper to the extent that "by the time it comes out, the concept has already moved on".

**874.** The Chairman finished the line of questioning by saying that the project should be watched closely "because the military requires it and requires it to be done pretty damned quickly".

**875.** In its subsequent report, the Committee stated that the Watchkeeper and FRES programmes both exemplified the MOD's efforts to "bring important new capabilities into service more quickly". They also highlighted that, in conflict with the desire to speed up progress, the MOD had maintained a cautious approach in both with a view to reducing project risks. That demonstrated that the MOD was still finding it difficult to balance "increased agility against decreased risk".

**876.** On 26 June, the DMB endorsed a paper from Mr Colin Balmer, MOD Finance Director, on investment priorities for 2004's Equipment Programme (STP/EP04).<sup>463</sup> Network-enabled capability and deployable ISTAR were two areas of "vital ground" that Mr Balmer suggested that the DMB should protect.

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<sup>462</sup> Eighth Report from the House of Commons Defence Committee, Session 2002-03, *Defence Procurement*, HC 694, para 18 and evidence session from 25 June 2003.

<sup>463</sup> Paper Finance Director [MOD], 20 June 2003, 'Defence Strategic Audit and Guidance for STP/EP04'; Minutes, 26 June 2003, Chiefs of Staff meeting.

**877.** An annex to the paper stated that enhancement of Intelligence Surveillance Reconnaissance capability had emerged as “a priority Op TELIC lesson”.

**878.** On 1 September, MND(SE) produced a Forces and Resources Review to examine the resources required in MND(SE), for both short-term and enduring operations.<sup>464</sup>

**879.** The Review reiterated the requirement for greater surveillance capability. It stated:

“The evolving threat from terrorism in Basra City leads to the urgent requirement for airborne surveillance of urban areas. Force protection measures limit the ability to observe a situation from the ground, or to track vehicles/people along busy streets, or to observe the situation remotely. Airborne surveillance would clearly enhance both force protection and the ability to catch or kill terrorists ... A surveillance capability ... could be fitted to the existing allocation of helicopters on Op TELIC.”

**880.** On UAVs, the Review cited the USUR submitted to PJHQ in May. It added:

“The increasing significance of the international borders and the need for pylon line surveillance has re-emphasised the importance of this capability. In addition, counter-terrorist operations in urban areas and more focused operations against both border activity and organised crime indicate that HQ MND(SE) will confirm the value of redeploying Phoenix once the weather becomes sufficiently accommodating in the Autumn.”

**881.** The Review also identified a protected mobility requirement which is addressed earlier in this Section.

**882.** Major General Robin Brims, the Deputy Chief of Joint Operations, provided a written update to the Chiefs of Staff on the Forces and Resources Review on 2 September.<sup>465</sup> He wrote that one of the “key elements” was the enduring requirement to “increase force protection, commence ICDC [Iraqi Civil Defence Corps] training and to improve the ISTAR capability in MND(SE)”.

**883.** Maj Gen Brims recommended the Chiefs agree that “DEC(ISTAR) should do all that is possible to accelerate the introduction of a new UAV, Desert Hawk, not currently believed to be available until Dec 03 at the very earliest”. Phoenix UAVs would be deployed in the interim when the weather conditions became “appropriate”.

**884.** On 4 September, Mr Hoon’s Private Office sent a letter to Mr Matthew Rycroft, Mr Blair’s Private Secretary for Foreign Affairs, informing him of the outcome of the Forces and Resources Review.<sup>466</sup>

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<sup>464</sup> Paper MND(SE) [junior officer], 1 September 2003, ‘HQ MND(SE) Forces and Resources Review’.

<sup>465</sup> Minute SECCOS to PSO/CDS, 1 [sic] September 2003, ‘OP COS paper: Op TELIC – UK Force and Resources Review An Update’ attaching Minute Brims, 2 September 2003, ‘Op TELIC – UK Force and Resources Review – An Update’.

<sup>466</sup> [Letter Williams to Rycroft, 4 September 2003, ‘Iraq: UK Forces and Resources Review’.](#)

**885.** Gen Jackson visited Iraq from 12 to 15 September.<sup>467</sup> His report to General Sir Michael Walker, Chief of the Defence Staff (CDS), stated that the Coalition was finding it difficult to “obtain a cohesive picture” of the various threats it was tackling. He wrote that he believed it was “time to reprioritise some of our intelligence gathering assets”.

**886.** Gen Jackson recommended switching the focus of in-theatre intelligence gathering assets from weapons of mass destruction to counter-terrorism.

**887.** On 1 October, the DMB endorsed a paper from Mr Ian Andrews, MOD Second Permanent Under Secretary, that identified potential savings of £300m across the DLO and DPA.<sup>468</sup> That is described earlier in this Section in the context of savings made against FRES.

**888.** ISTAR was also an area identified for savings and included:

- £4m to delay the practical experimentation of UAVs by six months, which would delay the “de-risking activity necessary to inform Watchkeeper and other ISTAR and network-enabled capability related programmes”; and
- delaying the Watchkeeper Assessment Phase, due to be concluded in April 2004, by six months. The interim operating capability would consequently be delayed by a year to 2007.

**889.** On 6 October, Mr Hoon’s Private Secretary wrote to No.10, confirming that Mr Hoon would be implementing £500m of savings across the Defence budget and where some of those savings would fall.<sup>469</sup> He highlighted that the MOD would delay ISDs for “new equipments such as the Watchkeeper (a key SDR New Chapter capability)”.

**890.** Mr Hoon’s Private Secretary wrote:

“These measures would not directly impact on the operations in Iraq, but would begin to cut into the training and support needed for motivated Armed Forces capable of sustaining the operations there, especially if the situation on the ground escalated, or in responding to new crises.”

**891.** Maj Gen Lamb’s post-operation report on 30 January 2004 stated that, in October 2003, the Joint Helicopter Force (Iraq) (JHF-I) was “augmented by three Gazelle and two Puma for ISTAR operations”.<sup>470</sup>

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<sup>467</sup> Minute CGS to CDS, 17 September 2003, ‘CGS visit to Op TELIC 12-15 Sep 03’.

<sup>468</sup> Minutes, 1 October 2003, Defence Management Board meeting; Paper 2nd PUS, 30 September 2003, ‘In-Year Management: AP03 update’.

<sup>469</sup> Letter Davies to Heywood, 6 October 2003, ‘Ministry of Defence Budget’.

<sup>470</sup> Report Lamb, 30 January 2004, ‘Post Operation Report – version 1 Operation TELIC 2/3’.

**892.** A later report stated that Gazelle had subsequently been withdrawn from theatre because it had “proved too vulnerable to ground attack”.<sup>471</sup>

**893.** On 18 November, Mr David Williams, MOD Director of Capabilities, Resources and Scrutiny, wrote to Mr John Dodds, Head of the Defence, Diplomacy and Intelligence Team in the Treasury, seeking advice on how to take forward new force protection measures within the agreed UOR “ceiling”.<sup>472</sup> Mr Williams flagged a new requirement for £22m of UOR funding for area surveillance. Mr Williams’ request for the funding of electronic countermeasures is addressed earlier in this Section with regards to protected mobility.

**894.** Mr Williams described the need for air surveillance assets as “effectively a ‘force multiplier’ in that a greater effect could be achieved by cueing and focusing fewer ground assets than by maintaining large bodies of troops in static guarding roles”. The existing arrangement, whereby UK military personnel were guarding key sites within MND(SE), had prevented troops from being employed in more “proactive, deterrent or offensive security tasks” and raised more suspicion than would be the case with more remote surveillance, such as helicopters and UAVs.

**895.** Mr Williams wrote:

“The potential solution to the requirement is to seek area surveillance capabilities since our forces lack UK-dedicated, persistent (in terms of time/duration over the areas/targets we wish to watch) near real-time and long-range capabilities, suited to the differing requirements in urban and rural areas, that can produce pictures ...”

**896.** Mr Williams stated that, to date, the MOD had deployed a combination of assets in its inventory but only as an interim solution and this had not been effective for urban areas. In addition, the interim systems would suffer in spring when the weather became hotter and some aircraft would be required to return to Northern Ireland.

**897.** Mr Williams wrote that this was being addressed by:

- a surveillance solution based on a UAV that would cost approximately £10m for which three potential suppliers had been sent an Invitation To Tender;
- potentially using Lynx helicopters with a surveillance pod for the urban requirement; and
- a manned surveillance platform for the “pan-Iraq” requirement.

**898.** Further work was being done to develop business cases for the latter two options.

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<sup>471</sup> Report DOC, 22 February 2005, ‘Operation TELIC Lessons Study Volume 2’.

<sup>472</sup> Letter Williams to Dodds, 18 November 2003, ‘Additional Operation TELIC UORs’.



**899.** The UK procured the Desert Hawk ‘mini UAV’ from the US Air Force in December 2003.<sup>473</sup> Lt Gen Ridgway reported that the US had “successfully employed the system on operations in Iraq and Afghanistan”.

### The impact of savings measures between 2004 and 2005 on ISTAR provision

On 26 February 2004, the Defence Management Board (DMB) agreed a large number of service enhancements and savings measures that should be offered as part of a Spending Review.<sup>474</sup>

The DMB considered a paper by Mr Trevor Woolley, MOD Finance Director, which detailed all the measures.<sup>475</sup> It proposed cutting the budget of £33m for the practical experimentation of UAVs over the following two financial years, which would retain a team to conduct trials and inform future CONOPS development but:

“... there would be significantly reduced pull-through to programmes addressing capability gaps in the persistent deep ISTAR of land and close or complex terrain. This option is entirely dependent on the deferral of £4m from 03/04 ...”

That measure was one which the DMB felt needed further consideration because of the impact on other programmes.

On 26 January 2005, the DMB discussed proposals in a paper by Mr Woolley on the ‘Future Defence Programme’.<sup>476</sup>

On network-enabled capability and ISTAR, Mr Woolley wrote that it had been “necessary to assume significant savings” within the Equipment Programme, despite attempts to mitigate them “as far as possible”. Those savings would require “careful consideration” and included the decision to defer Watchkeeper by one year, “but with a planned limited interim capability to support deployments from 2006”.

The minutes from the DMB meeting recorded that the measure to defer Watchkeeper would incur additional short-term costs for supporting “older, less capable equipment” but those had been allowed for.<sup>477</sup> The measure was approved.

**900.** On 30 January 2004, Mr Adam Ingram, Minister of State for the Armed Forces, was advised that a UAV capability gap remained.<sup>478</sup> Phoenix was due to be withdrawn from theatre in April because it struggled to operate in the heat of the summer months.

**901.** To provide “a stand alone UK capability”, officials had investigated procuring either the US Predator UAV system or the Hermes 450 UAV system but both options had been ruled out because of “unacceptably high risk”. That risk was not explained.

<sup>473</sup> [Minute CDI to APS/SofS \[MOD\], 22 June 2004, ‘ISTAR Provision to Op TELIC – UK UAV Operations’.](#)

<sup>474</sup> Minutes, 26 February 2004, Defence Management Board meeting.

<sup>475</sup> Paper Finance Director, [undated], ‘ST/EP04: Years 1 and 2’.

<sup>476</sup> Paper Finance Director [MOD], [undated], ‘Future Defence Programme 05’.

<sup>477</sup> Minutes, 26 January 2005, Defence Management Board meeting.

<sup>478</sup> Minute AD Sec(Iraq) to PS/Min(AF), 30 January 2004, ‘Op TELIC Wide Area Surveillance – Preparations for a Joint UK-US Predator Unmanned Aerial Vehicle (UAV) Task Force’.

It was noted that pursuing the Hermes system could also potentially “disrupt” the Watchkeeper programme because it could involve the same contractor.

**902.** Mr Ingram was advised that a third option had emerged: the creation of a Joint Predator Task Force with the US, using US equipment but drawing on UK manpower to support an additional US Predator in the UK’s Area of Responsibility (AOR). It was viewed as “the most promising option” in terms of performance, cost and time.

**903.** As training on the Predator took at least 40 days, it had already been agreed that RAF personnel would begin the next available course starting on 2 February.

**904.** Mr Ingram received an update on what became the Combined Joint Predator UAV Task Force (CJPTF) on 30 April.<sup>479</sup> An official wrote that a drawback of the proposal had been “the inability to provide a full capability until the turn of 2004/05”, largely because sufficient Predator ground stations were “not available until then”.

**905.** While the US expected, “depending on the circumstances”, to allocate increasing amounts of existing Predator time to the UK AOR as the UK’s participation in the CJPTF grew from June 2004, “there would be no immediate solution to the existing capability gap”.

**906.** The official wrote that it had “therefore been agreed” to provide an interim solution by fitting a datalink to five Nimrod MR2 equipped with the necessary sensors. The datalink equipment would be loaned by the US and would “enable the Nimrod to provide near real time imagery to ground stations in a manner very similar to Predator”.

**907.** That solution could not be sustained “beyond the turn of the year” because all five Nimrods required “major servicing” and the official accepted it was not a cost-effective solution to the capability gap.

**908.** On 22 June, Lt Gen Ridgway wrote to Mr Hoon, at his request, with advice on ISTAR capability in Iraq.<sup>480</sup> He wrote:

“We currently have no aerial surveillance capability available in theatre – this is a significant capability gap.”

**909.** Lt Gen Ridgway asked Mr Hoon to note that:

- Phoenix had performed well but had been withdrawn for the summer months.
- Nimrod MR2 was providing “some” photographic capability.
- Desert Hawk, the mini UAV, was non-operational for technical reasons. That was being investigated and it was possible that Desert Hawk would become operational again later that year.

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<sup>479</sup> Minute DCRS4 to PS/Minister(AF), 30 April 2004, ‘Op TELIC Wide Area Surveillance – UK-US Combined Joint Predator Task Force (CJPTF)’.

<sup>480</sup> [Minute CDI to APS/SofS \[MOD\], 22 June 2004, ‘ISTAR Provision to Op TELIC – UK UAV Operations’.](#)

- The CJPTF would “provide some capability” at the end of the year and in the meantime a number of Predators had been assigned to MND(SE). The use of Italian Predators within the CJPTF was being investigated.

**910.** Lt Gen Ridgway warned that, despite those initiatives, “this major capability gap” was likely to prevail until “end 04 with a particular shortfall over the summer months”.

**911.** In considering solutions, the provision of a new UK UAV system had “been discounted”. That included options provided by the Watchkeeper contractors and the loan of a number of Predator systems from the US because:

“Detailed work identified that current MOD policy for airworthiness and safety for UAV systems would not allow the use of a new system or the use of Predator under UK regulation in a timely and cost-effective manner.”

**912.** Lt Gen Ridgway wrote that the Watchkeeper programme was expected to proceed to Main Gate later that year, with “an element of capability to be available from 2006”.

**913.** Mr Hoon’s Private Office replied on 23 June that Mr Hoon had:

“... noted that we currently have no aerial surveillance capability in theatre, and the steps that are being taken to close this capability gap. He notes, however, that despite these initiatives the capability gap is likely to continue until the end of this year.”<sup>481</sup>

**914.** On 13 July, Major General Andrew Stewart, GOC MND(SE) from December 2003 to July 2004, wrote in his post-operation report:

“Dedicated UK airborne ISTAR assets have been a pretty sorry tale with availability described as fragile at best. For operations of this nature a stand-off covert airborne system is critical to success, and something close to 24 hour coverage is demanded. For the UK only Nimrod MR2 offers a truly covert capability and it has been superb for endurance over wide land areas. More of this sort are needed.”<sup>482</sup>

**915.** Maj Gen Stewart added:

- “Phoenix has given outstanding service long into the heat of the summer but its overall utility became severely constrained beyond April.”
- “Desert Hawk has been a joke.”
- “Access to US ISTAR capabilities have, as expected, been subject to perceived far higher priorities outside the Division’s AO [Area of Operations] and have therefore been unreliable.”

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<sup>481</sup> Minute PS/Secretary of State [MOD] to PS/CDI, 23 June 2004, ‘ISTAR Provision to Op TELIC – UK UAV Operations’.

<sup>482</sup> Report Stewart, 13 July 2004, ‘Post Operation Report Operation TELIC 3/4 – 28 December 2003 – 13 July 2004’.

- “The conclusion is that the UK needs an all-weather airborne UAV in sufficient numbers to guarantee availability in operations of this nature.”

**916.** In October, there was a suggestion that the Apache attack helicopter should be deployed to Iraq as an additional ISTAR asset but it was decided that the attack helicopter programme was not of sufficient maturity and there was no immediate operational requirement for such a measure.<sup>483</sup>

**917.** In his post-operation tour report on 4 December, Major General William Rollo, GOC MND(SE) from July to December 2004, wrote:

“There is a constant demand across the Division for airborne imagery. NIMROD MR2 does an excellent job, but it is in short supply due to a finite number of aircraft and insufficient flying hours. P4 [Puma] is available and in high demand, but is difficult to maintain and although there is a surge capacity to use two, it is constrained by lack of spares. Phoenix can only fly from November to April due to temperature restrictions. It is also restricted to rural areas. Predator is technically available, but only if the division has a mission of sufficiently high priority ... This means that there is a continual shortage of overhead ISTAR within the Division resulting in operations being planned around ISTAR availability, rather than ISTAR being available for operations. There is a requirement for more airborne reconnaissance platforms with greater endurance to allow for observation of pattern of life of both people and places and to assist asset tracking.”<sup>484</sup>

**918.** On 22 February 2005, the MOD’s Directorate of Operational Capability (DOC) produced its second volume of ‘Operation TELIC Lessons’, to cover the period from 1 August 2003 to 30 November 2004.<sup>485</sup> The preface stated:

“Military activities within a continuum of operations have varied widely, but after an upsurge in the level of violence, the campaign has become a unique Counter-insurgency (COIN) operation – an evolution that fits no neat recent historical or doctrinal model.”

**919.** The report highlighted ISTAR as one of the five key lessons for the Chiefs of Staff to consider:

“Future ISTAR procurement strategies should recognise the UK’s limited capability to find and track targets, and obtain post-attack Battle Damage Indications from the air, particularly in urban environments and extreme climatic conditions. This lesson

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<sup>483</sup> Minute Harper to PJHQ ACOS J3, 20 October 2004, ‘Deployment of Attack Helicopter for ISTAR role’; Minute Fry to COSSEC, 1 February 2005, ‘Deployment of Attack Helicopter (AH)’; Report Rollo to PJHQ MA to CJO, 4 December 2004, ‘Post Operation Report Operation TELIC 4/5 – 14 July – 1 December 2004’; Minute DCDS(C) to COSSEC, 1 February 2005, ‘Deployment of Attack Helicopter (AH)’.

<sup>484</sup> Report Rollo to PJHQ MA to CJO, 4 December 2004, ‘Post Operation Report Operation TELIC 4/5 – 14 July – 1 December 2004’.

<sup>485</sup> Report DOC, 22 February 2005, ‘Operation TELIC Lessons Study Vol. 2’.

represents the most significant capability shortfall on Operation TELIC Phase IV and is likely to remain an enduring requirement, particularly for asymmetric warfare.”

**920.** The report stated:

“UK forces lack sufficient ISTAR capability to provide persistence and the ability to stream imagery in real time and cross-component, over a wide range of climatic conditions ... This capability shortfall has been highlighted on all recent UK operations ... Some rotary platforms have proved too vulnerable to ground attack, and whilst the covert characteristics of UAVs make them well suited to the ISTAR role, the Phoenix UAV can only operate for half the year in-theatre due to temperature restrictions.”

**921.** The report highlighted that use of US Predator and “several UORs” to increase manned airborne surveillance capabilities had helped to alleviate the capability gap.

**922.** The Chiefs of Staff discussed the DOC Report on 22 February.<sup>486</sup>

**923.** The minutes recorded that “connectivity was key to bridging the ISTAR capability gap and enhancing the overall operational agility”. Lt Gen Fry had advised that “a layered review” had already been undertaken to assess the overall ISTAR programme. ACM Bagnall undertook to arrange an ISTAR update for the Chiefs of Staff.

**924.** The ISTAR update was provided to the Chiefs of Staff on 22 March, with two presentations: one about the UK’s existing assets and one about the capability gap and ISTAR strategy to 2020.<sup>487</sup>

**925.** The minutes recorded:

“... it was emphasised that the ISTAR architecture that had been illustrated ... represented a significant step forward in connecting the many previously stove-piped collection assets into a coherent ISTAR plan. Much work was still required and three key investment decisions were identified:

- The balance of investment between ISTAR and other military capabilities.
- The apportionment of investment between collection, data management and dissemination of information.
- The degree of overlap required from different ISTAR assets in order to provide multi-source verification.”

**926.** Sir Kevin Tebbit “highlighted the importance of investment decisions in EP07 and emphasised that given the uncertainty surrounding the availability of resources in the future, the ISTAR architecture would need to be sufficiently robust to develop incrementally as resources became available”.

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<sup>486</sup> Minutes, 22 February 2005, Chiefs of Staff meeting.

<sup>487</sup> Minutes, 22 March 2005, Chiefs of Staff meeting.

**927.** The Chiefs of Staff also placed emphasis on ensuring that the correct structures were in place to disseminate intelligence effectively to commanders on the ground.

**928.** The Chiefs of Staff agreed that a further ISTAR report would be produced in early 2006.

## SUPPORT HELICOPTERS

**929.** During operations, the role of a support helicopter can involve transportation of personnel and supplies, surveillance or medical evacuation. That is different from the role of an attack helicopter which delivers fire support to troops on the ground. This Section focuses on support helicopters and how they complemented the land operation in Iraq.

**930.** The term “battlefield helicopter” can cover both types but in the material that follows it appears to refer largely to support helicopters.

**931.** The UK’s campaign in Iraq, following the invasion, was classified as a medium scale operation in terms of MOD planning assumptions. The MOD told the Inquiry that, in 2003 for a medium scale ground operation, the maximum number of helicopters would be:

- 21 heavy support helicopters;
- 41 medium support helicopters; and
- 44 light support helicopters.<sup>488</sup>

**932.** The MOD told the Inquiry that the UK’s support helicopter fleet in 2003 comprised a “forward fleet” of:

- 31 Chinook Mk2/2a;
- 18 Merlin Mk3;
- 33 Sea King Mk4; and
- 34 Puma Mk.<sup>489</sup>

**933.** Those aircraft were supported by Gazelle and Lynx light helicopters.

**934.** An MOD report published in July 2003 stated that 137 helicopters were deployed as part of the combat operations between 19 March 2003 and 15 April 2003.<sup>490</sup> Those figures are broken down in Table 2.

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<sup>488</sup> Letter MOD to the Iraq Inquiry, 31 January 2011, ‘MOD Evidence – Equipment Issues’ attaching Report, September 2003, ‘Annex H – Maximum Scales of Effort’.

<sup>489</sup> Paper [MOD], 1 March 2011, ‘Request for Evidence, Support Helicopters’.

<sup>490</sup> Ministry of Defence, *Operations in Iraq: First Reflections*, July 2003.

Table 2: UK helicopters deployed during the invasion

Army	Royal Air Force	Royal Navy <sup>491</sup>
16 Gazelle	20 Chinook	20 Sea King
18 Lynx	7 Puma	5 Chinook
11 Chinook		13 Lynx
7 Puma		6 Gazelle
10 Sea King		4 Merlin

**935.** On 11 June 2003, Mr Hoon updated the House of Commons on the drawdown of forces.<sup>492</sup> He stated that “some 80 helicopters” had returned to the UK and that the Joint Helicopter Force (JHF-I) retained a “balanced rotary-wing presence, 18 helicopters comprising Chinook, Sea King, Puma and Gazelle”.

**936.** The DMB was advised on 26 June that the recuperation of helicopters deployed on Op TELIC could place rotary wing support to operations and training “at risk”.<sup>493</sup> Measures for contracting out inspection and maintenance for those helicopters were being considered.

**937.** On 30 September, the DMB was told that the recuperation process would not be complete until FY 2006/07.<sup>494</sup>

**938.** On 29 January 2004, Mr Hoon requested a short note from each of the Single Service Chiefs on the impact of maintaining the current and forecast levels of military commitment.<sup>495</sup>

**939.** Gen Jackson replied on 3 February.<sup>496</sup> He wrote that, on equipment:

“... in meeting essential short term operational demands we must take care not to prejudice our ability to meet longer term rebalancing goals ... Measures in the EP threaten our ability to meet our strategic objectives in the longer term ... Reductions in rotary aircraft are also a particular concern as they are such a vital force multiplier, allowing a modern army to generate the high tempo required for success.”

<sup>491</sup> The report suggested that some of the Royal Navy’s helicopters were deployed until May and August.

<sup>492</sup> House of Commons, *Official Report*, 11 June 2003, columns 51-52WS.

<sup>493</sup> Paper Finance Director [MOD], 20 June 2003, ‘Defence Strategic Audit and Guidance for STP/EP04’; Minutes, 26 June 2003, Chiefs of Staff meeting.

<sup>494</sup> Paper 2nd PUS, 30 September 2003, ‘In-Year Management: AP03 Update’.

<sup>495</sup> Minute Zambellas to PS/SofS [MOD], 9 February 2004, ‘Operational Tempo’.

<sup>496</sup> Minute CGS to PSO/CDS, 3 February 2004, ‘Operational Tempo’.

**940.** On 6 February, Air Chief Marshal Sir Jock Stirrup, the Chief of Air Staff, replied:

“The RAF can sustain its current commitments, but with the likely increased involvement in Afghanistan our air transport, support helicopters and possibly RAF Regiment forces will be seriously stretched.”<sup>497</sup>

**941.** The minutes of the DMB on 26 February 2004 agreed a large number of service enhancements and savings measures as part of the Spending Review.<sup>498</sup>

**942.** The DMB recognised that rotary capability “had been a constraint for some time”. Helicopters were “used everywhere, and were one of the key ingredients of lower intensity operations”. On that basis, several proposed measures affecting “key operational enablers (Puma, Gazelle, Sea King, Chinook) had already been relieved” but a number of remaining measures reduced DLO support capability.

**943.** The DMB considered a paper by Mr Woolley which detailed all the measures.<sup>499</sup>

**944.** Mr Woolley wrote: “The Army’s current and planned operational tempo exceeds Defence Planning Assumptions.” His paper had taken into account work from commitments and programmes staff, in conjunction with Front Line Commands and PJHQ, to assess the UK’s current and likely future military commitments over the following 30 months. That assessment was:

- Iraq would continue to be a medium scale operation until the end of March 2006 when it would downsize to a small scale operation.
- The Afghanistan commitment would remain small scale until January 2005 when it would increase to a “small(+) to medium scale(-)” until the end of January 2006. It would become a small scale operation from the end of January 2006.

**945.** Mr Woolley wrote that Land Command had previously taken a number of measures into its core programme to contain expenditure within control levels, including the reduction of rotary environmental training by 25 percent which had “impaired battlefield helicopter readiness and constrained operational flexibility in Northern Ireland”. There had been further reductions in rotary wing activity in Northern Ireland as part of a deliberate switch in operational focus to Iraq.

**946.** Mr Woolley wrote:

“Collectively, these measures have already started to erode the Army’s core competencies in war-fighting at formation level, and overall readiness levels. The cumulative effect of this will be to progressively degrade the effective delivery of force elements within the Land component.”

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<sup>497</sup> Minute CAS to PSO/CDS, 6 February 2004, ‘Operational Tempo’.

<sup>498</sup> Minutes, 26 February 2004, Defence Management Board meeting.

<sup>499</sup> Paper Finance Director, [undated], ‘ST/EP04: Years 1 and 2’.



**947.** The recommended savings measures included further reductions in rotary wing activity that would “restrict the support to Land collective training to 60 percent of the requirement, impacting directly on operations and tour intervals for pilots”. Mr Woolley added:

“This conflicts with an increased rotary wing requirement to support the likely uplift in operations in the Balkans and Afghanistan over the next two years.”

**948.** The MOD told the Inquiry that, until 2004, it had been planning to replace its Puma and Sea King fleets through the Support Amphibious Battlefield Helicopter (SABR) programme.<sup>500</sup> The Initial Gate business case in late 2003 had suggested that “the most likely solution” was the procurement of 50 to 60 additional Chinook aircraft with the first six expected in 2012/13 and the full order by 2025.

**949.** The MOD told the Inquiry that, during the planning round in 2004, as part of a broad departmental affordability exercise, a £1.4bn saving was taken from the total helicopter programme.

**950.** The MOD abandoned the SABR programme and, following a revision of the wider helicopter procurement strategy, created the Future Rotorcraft Capability (FRC) programme.

**951.** The Inquiry asked the MOD whether the £1.4bn referred to in its statement was the result of the savings measures proposed in Mr Woolley’s paper. It replied:

“Not quite. The paper presented by [Mr] Trevor Woolley ... explored ways of removing costs from the first two years of the Defence Programme. Among the proposals it recommended were measures intended to save some £420m from helicopter acquisition and support. These savings were spread across the ten year equipment programme and the four year equipment support programme but ... were heavily weighted towards the years 2004/05 and 2005/06. Separate work, known as the Medium Term Workstrands, looked at ways to balance the defence programme against available resources in the years beyond 2005/06. The outcome of this work was presented to the Defence Board in April 2004. It included recommendations to reduce spending on helicopter acquisition and support by a further £1bn. The £1.4bn saving mentioned in our statement of 1 March 2011 therefore arose from two separate but closely related exercises.”<sup>501</sup>

**952.** On 26 January 2005, the DMB discussed proposals on the ‘Future Defence Programme’ in a paper by Mr Woolley.<sup>502</sup> The background to that paper is addressed earlier in this Section, including that no specific provision had been made for the “extra equipment costs required to support the possible deployment of a UK brigade to Afghanistan alongside the ARRC HQ”.

<sup>500</sup> Paper [MOD], 1 March 2011, ‘Request for Evidence, Support Helicopters’.

<sup>501</sup> Letter Duke-Evans to Hammond, 2 February 2016, [untitled].

<sup>502</sup> Paper Finance Director [MOD], [undated], ‘Future Defence Programme 05’.

**953.** For battlefield helicopters, Mr Woolley wrote that “planned activity levels over the next two years remain at or above the maximum concurrency assumed in provisional DPAs”. Commitments were only being met by compromising the Harmony Guidelines<sup>503</sup> and using crews and key support staff at four intervals of “1on/2off or less” instead of “1on/4 off”.

**954.** Mr Woolley concluded:

“Increasing significantly the size of rotorcraft fleet and training more crews are not realistic options, nor in the short term is reducing the level of operational commitment. The only viable strategy is to accept a reduced harmony ratio of 1on/2 off over the next two years, requiring careful management of key personnel. The Puma and Chinook fleets are currently under the greatest pressure.”

**955.** The £3.2bn across 10 years for investment in the FRC programme had also been affected, with £60m from the first eight years having been re-profiled. Mr Woolley wrote that “considerable effort” had gone into identifying the consequences of that decision for existing helicopter fleets and “the most significant risk” would be sustaining Puma and Lynx through to the introduction of their replacements. Additional funding had been allocated to Lynx to extend its time in service until its replacement was available, albeit at a reduced fleet size of 66 (from 82).

**956.** The DMB agreed that a measure to reduce Joint Helicopter Command (JHC) activity levels should be offset by measures to restore Chinook and Puma funding because “it was felt that these additional costs were an acceptable financial risk, given the significant operational benefits”.<sup>504</sup>

**957.** A proposed reduction in Gazelle activity was rejected, with compensating savings to be found elsewhere in the land budget. The activity reductions for other helicopters “although unwelcome, were acceptable”.

**958.** The MOD told the Inquiry that it withdrew its Chinook helicopters from Iraq in 2005 in order to prepare for operations in Afghanistan and replaced them with the Merlin helicopters.<sup>505</sup> The MOD stated that was because Chinook helicopters were better suited to the challenging conditions found in Afghanistan.

**959.** In a statement to the Inquiry, ACM Torpy explained:

“... as confidence in Merlin grew it was possible to withdraw Chinook from Iraq to allow the force to recuperate from a prolonged period on operations. It also gave the force the opportunity to prepare for operations in Afghanistan, where the hot

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<sup>503</sup> Harmony Guidelines described the maximum time that Service Personnel should spend away from their families (known as Individual Separated Service) and the minimum time that they should have between operational deployments (known as tour intervals). Harmony Guidelines are addressed in detail in Section 16.1.

<sup>504</sup> Minutes, 26 January 2005, Defence Management Board meeting.

<sup>505</sup> Paper [MOD], 1 March 2011, ‘Request for Evidence, Support Helicopters’.

and high conditions and heavy lift requirements singled out Chinook as the obvious favourite to support operations in this demanding environment.”<sup>506</sup>

**960.** On 4 May 2005, Mr Hoon was briefed that the JHF-I comprised eight Sea Kings, four Merlins, and four Lynx.<sup>507</sup>

**961.** In Iraq, the developing threat in MND(SE) meant that ground movement had become restricted, increasing the demand for support helicopters to move personnel and supplement surveillance.

**962.** The impact on civilian personnel is addressed in Section 15.1.

**963.** On 5 July, General Sir Timothy Granville-Chapman, the Vice Chief of Defence Staff, asked General Sir Kevin O’Donoghue, the Chief of Defence Logistics, to assess the “logistics related factors” affecting flying hours and operating fleet size for support helicopters.<sup>508</sup>

**964.** On 27 July, the minutes from the Chiefs of Staff meeting stated:

“Following the recent attacks in Maysan, procedures have been modified to counter the threat ... The current cycle of attacks had ‘fixed’ CF [coalition forces] in the area and, as a result, progress on SSR had stagnated; PJHQ had therefore asked for an urgent review of UK SH [support helicopters] priorities, to see if further assets could be allocated to MND(SE). Given that SH were always in short supply, DCDS(C) [Lt Gen Fry] highlighted the need to ensure that current asset availability was maximised.”<sup>509</sup>

**965.** Air Vice-Marshal Kevin Leeson, Assistant Chief of the Defence Staff (Logistic Operations) (ACDS(Log Ops)) was asked to review the current availability of support helicopters within theatre.

**966.** On 8 September, MOD officials provided Gen O’Donoghue with an estimate of what increases in output were available from the existing support helicopter fleet.<sup>510</sup> The officials advised that, “given appropriate funding”, there was potential to increase both flying hours and the operating fleet size for all types of support helicopter, with the exception of Merlin.

**967.** The officials advised Gen O’Donoghue that several factors had to be taken into account, including that any increase in operational flying would require an increase in Deployable Spares Packs (DSPs), the lack of which had been a recognised issue recorded in the Land Equipment Capability Shortfall Register.

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<sup>506</sup> Statement, 14 June 2010, page 8.

<sup>507</sup> Paper DJC AD Pol 1 to APS/SofS [MOD], 4 May 2005, ‘Iraq – UK Roulement and Force Level Review’.

<sup>508</sup> Minute DCom JHC to CDL, 8 September 2005, ‘Improving the Availability of Support Helicopters’.

<sup>509</sup> Minutes, 27 July 2005, Chiefs of Staff meeting.

<sup>510</sup> Minute DCom JHC to CDL, 8 September 2005, ‘Improving the Availability of Support Helicopters’.

**968.** The MOD officials wrote that “for some platforms deployability and sustainment on operations would be enhanced through the provision of sufficiently ranged, scaled and supported DSPs; for those platforms currently deployed on operations, CPF [Conflict Prevention Fund] claims mechanisms and Urgent Sustainability Requirements are already in place”.

**969.** Gen O’Donoghue wrote to Gen Granville-Chapman about those findings on 14 September to say that the MOD was “currently missing a clear statement of the operational requirement for SH – both readiness and sustainment”.<sup>511</sup>

**970.** Gen O’Donoghue wrote that a paper was being produced for a meeting on 7 October. It was “an extensive piece of work” which was expected to clarify the requirements. Gen O’ Donoghue wrote that he would “therefore concentrate this minute on the art of the possible and focus on what can be ‘sweated’ from our current fleet”.

**971.** There were three groups of factors which had to be addressed to deliver improved availability:

- “depth maintenance and support”, including the need to accelerate Repair and Overhaul (R&O) output and better utilisation of the sustainment fleet;
- “forward logistic factors” such as DSPs and maintenance manpower; and
- aircrew availability and requirement, which was “an issue for the FLCs [Front Line Commands]”.

**972.** On 12 September, the Private Office of Dr John Reid, the Defence Secretary, sought confirmation from Gen Walker whether, “in the event of a slower than expected drawdown of UK forces in Iraq”, the planning assumptions for deployment to Afghanistan would be achievable.<sup>512</sup>

**973.** Gen Walker’s Office replied on 19 September.<sup>513</sup> The “short answer” was “yes” but with the warning that “such a situation would lead to some pain and grief”. In particular:

“The hoped for easement of pressure on our current ‘pinch points’, especially helicopter support ... would be delayed.”

**974.** On 19 September, two UK soldiers were involved in what became known as “the Jameat incident”; an incident where they were arrested and mistreated by Iraqi Police Service (IPS) personnel and only released after a second rescue operation was successful. That incident is covered in detail in Sections 9.4 and 12.1, along with its implications for security in Basra.

**975.** A paper considering those implications, produced jointly by the FCO, the MOD and DFID on 30 September, stated that UK police training teams would need “improved

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<sup>511</sup> Minute CDL to VCDS, 14 September 2005, ‘Improving the Availability of Support Helicopters’.

<sup>512</sup> [Minute APS/Secretary of State \[MOD\] to PSO/CDS, 12 September 2005, ‘Iraq/Afghanistan Commitments’.](#)

<sup>513</sup> [Minute PSO to APS2/SoS \[MOD\], 19 September 2005, ‘Iraq/Afghanistan Commitments’.](#)

access to helicopters in order to move beyond Basra city” and that “greater use of existing theatre helicopters, if feasible, should assist this”.<sup>514</sup>

**976.** An air bridge would be required for FCO, DFID and other government personnel to operate out of Basra from the British Embassy Office based at Basra Palace to Basra airport. The paper stated:

**“We will need to allocate more resources, which may include military resources, to security.** The next weeks, and possibly months, are likely to be rough. Attacks on us are becoming more sophisticated. We will need to protect our staff.”

**977.** On 14 October, Air Marshal Chris Nickols, Assistant Chief of the Defence Staff (Operations),<sup>515</sup> wrote to PJHQ, agreeing to provide additional Merlin helicopters.<sup>516</sup>

**978.** AM Nickols also agreed an uplift of 180 Merlin hours per month for JHF-I until mid-December. He cited JHC’s declaration that the previously agreed support surge commitment had to end by 5 December for “fleet sustainability issues”. The longer-term requirements should be identified “as early as possible” through PJHQ’s Force Level Review.

**979.** AM Nickols wrote that, in the meantime, he was tasking the Director of the Directorate of Joint Capability<sup>517</sup> to lead a wider battlefield helicopter review to provide “a clear and early understanding of our options/impact should surge requirement endure”.<sup>518</sup>

**980.** A note to Dr Reid on 17 October explained that the additional Merlin was found by reducing MOD support to capability demonstrations in the US.<sup>519</sup>

**981.** Gen Jackson visited Iraq from 10 to 13 October.<sup>520</sup> His account of the EFP threat is covered earlier in this Section. He also wrote that a number of issues had been raised by MND(SE), “all relating to our ability to sustain expeditionary operations”. He wrote:

“... our Support Helicopter Fleet is creaking badly. JHF-I [Joint Helicopter Force – Iraq] is struggling to meet its tasks even with rigorous prioritisation ... Serviceability,

<sup>514</sup> [Letter Hayes to Quarrey, 30 September 2005, ‘Iraq: Basra’ attaching Paper FCO/MOD/DFID, 30 September 2005, ‘South-East Iraq: Impact of Security Incident in Basra’.](#)

<sup>515</sup> It is unclear what date in October 2005 AM Nickols succeeded Maj Gen Houghton, the previous incumbent of this role. It seems that AM Nickols would have been in the post at this time.

<sup>516</sup> [Minute ACDS\(Ops\) to PJHQ – DCJO\(Ops\), 14 October 2005, ‘Iraq: Additional Resources to Counter Increased IED threat in MND\(SE\)’.](#)

<sup>517</sup> The MOD has confirmed that Commodore Peter Eberle was in this role until October 2005 but not the specific date. The MOD has not been able to identify the post holder between November 2005 and May 2006.

<sup>518</sup> [Minute ACDS\(Ops\) to PJHQ – DCJO\(Ops\), 14 October 2005, ‘Iraq: Additional Resources to Counter Increased IED threat in MND\(SE\)’.](#)

<sup>519</sup> [Minute DJC \[junior official\] to PS/SofS \[MOD\], 17 October 2005, ‘Iraq: Additional Resources for MND\(SE\)’.](#)

<sup>520</sup> Report CGS to CDS, 18 October 2005, ‘CGS Visit to Iraq: 10-13 Oct 05’.

flying hours and crew numbers ... are all factors, but the overall picture is one of an SH [support helicopter] force ill-matched to support current operations.”

**982.** On 24 October, Maj Gen Wall sent Major General James Dutton, GOC MND(SE), the Terms of Reference for an aviation Force Level Review that had been directed by AM Torpy because of the heightened IED threat.<sup>521</sup> Its aims were to identify aviation requirements in MND(SE) between December 2005 and April 2006 and recommend how to meet them. It would also identify “broad resource requirements” between May and November 2006.

**983.** The planning assumptions for the Review included:

- “threat levels remain broadly constant at current levels”;
- “a mandate for Coalition presence will endure into 2006”; and
- “development of ISF [Iraqi Security Forces] capability will proceed to projected timelines”.

**984.** Following the Review, on 17 November Maj Gen Wall recommended to AM Nickols that:

- Only one of the two surge Merlin deployed in October 2005 (to support Security Sector Reform (SSR) in Maysan) be returned to the UK after the December elections, leaving a total of five in theatre. That should “reduce the risk of road movement” for certain tasks.
- The surge Sea King remain in theatre as an enduring requirement but a utility Sea King be withdrawn after the elections leaving five utility variants.
- Three [Helicopter Broadsword]<sup>522</sup> would also remain in theatre.<sup>523</sup>

**985.** The seventh Merlin had already been withdrawn following the completion of the troop rotation but it was likely that another short-term surge of helicopter capacity would be required for the following troop rotation in April 2006.

**986.** Maj Gen Wall wrote that “a significant proportion of aviation” was used for “administrative movements within theatre” and for “wider ISTAR tasking”. He stated that the Review had highlighted “a range of potential procedural, technical and tactical measures” to reduce the demand for helicopters but this was “subject to further work”.

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<sup>521</sup> Minute DCJO(Ops) to GOC MND(SE), 24 October 2005, ‘Terms of Reference: Op TELIC Intermediate Force Level Review (FLR) into MND(SE) Avn Requirements’.

<sup>522</sup> A cipher has replaced the name of this helicopter for national security reasons. Broadsword was surveillance camera equipment that was fitted to various platforms in theatre and used throughout the course of Op TELIC.

<sup>523</sup> Minute DCJO(Ops) to ACDS(Ops), 17 November 2005, ‘Op TELIC – Aviation Force Level Review (AFLR)’.

**987.** The steady state requirement for helicopters was therefore:

- five Merlin;
- five Sea King
- four Lynx; and
- three [Helicopter Broadsword].

**988.** Gen Walker visited Iraq from 22 to 24 November.<sup>524</sup> His visit report recorded:

“... levels of consent from MNF presence were slowly declining throughout the AOR [Area of Operations]. When considering military activity in the AOR, broadly 60 percent of our effort was devoted to force protection and sustainment of the UK laydown, 30 percent to SSR [Security Sector Reform] and just 5 percent or so to UK COIN [counter-insurgency]. Notwithstanding the planned reduction in British infantry companies, the AOR geography and operational situation meant that there could not be a proportional reduction in enablers, particularly support helicopters and ISTAR ...”

**989.** On the JHF-I, Gen Walker wrote:

“... the weight of force protection and administrative tasking was such that the JHF-I was unable to achieve any significant stabilisation or security tasking; the position was exacerbated during the two months of the TELIC roulement when the JHF-I had no spare capacity; it was questionable whether this fixing of precious support helicopter (SH) capability made tactical, operational or logistical sense.”

**990.** In his Hauldown Report on 12 December, Maj Gen Dutton wrote to AM Torpy:

“Helicopters have always been important in this area, half the size of England and Wales, but the EFP threat has made them essential. I have been grateful for the readiness to support us with extra when required and we have reciprocated by readily agreeing to a reduction when the immediate crisis passed. However this should not disguise the national lack of helicopters to service the operations that we are now conducting. Massaging airframes and hours can only go so far: the simple fact is that we need more helicopters (and aircrew) urgently.”<sup>525</sup>

**991.** In his post-tour report on 18 January 2006, Maj Gen Dutton reiterated the point:

“The hours available to the aircraft in theatre are simply inadequate to reduce routine administrative ground movement in a period of heightened IED threat and to conduct helicopter-borne operations. The GOC has to personally authorise coach moves and the FP [force protection] measures required for even the short move between BAS [Basra Air Station] and SLB [Shaibah Logistics Base] requires several Coys [companies] to deploy to minimise the risk of a mass casualty attack ... This is exacerbated by an increasing number of aviation tasks in support

<sup>524</sup> Minute PSO/CDS to PS/SofS [MOD], 25 November 2005, ‘CDS Visit to Iraq – 22-24 Nov 05’.

<sup>525</sup> [Report Dutton to CJO, 12 December 2005, ‘June to December 2005 – Hauldown Report’.](#)

of civil organisations supporting the IZ [International Zone] election process and civil reconstruction such as the UN (who will only fly) and DFID. Having received a temporary increase in Merlin hours and an additional airframe ... this uplift was withdrawn following the aviation FLR (Force Level Review) in early Nov. To compound the problem of flying hours the Div seldom has sufficient aircraft serviceable to actually match the required tasklines due to problems with the ageing Sea King fleet.”<sup>526</sup>

## The availability of ISTAR and support helicopters from 2006 onwards

**992.** In January 2006, Cabinet approved the decision to deploy to Helmand. Dr Reid announced that the UK was “preparing for a deployment to southern Afghanistan” which included a Provincial Reconstruction Team as “part of a larger, more than 3,300-strong British force providing the security framework”.<sup>527</sup>

**993.** The impact of that decision was summarised neatly by Gen Walker as:

“Militarily, the UK force structure is already stretched and, with two concurrent medium scale operations in prospect, will soon become exceptionally so in niche areas.”<sup>528</sup>

**994.** On 31 January, Lieutenant General Robert Fulton, Deputy Chief of Defence Staff (Equipment Capability) (DCDS(EC)), wrote to Gen Walker outlining the options for getting “better operational utilisation” from support helicopters.<sup>529</sup> He stated:

- Work to increase the utilisation of existing support helicopters was already under way as part of a Chinook Operational Effectiveness Study. That represented the only short-term option to improve the availability of support helicopters within existing resources.
- “Utilisation of a simpler, cheaper aircraft”, such as the recovered Sea King Mk6, to meet non-operational tasking had some potential to alleviate pressure on the operationally-equipped fleet. Equipment Programme funding could be “made available to begin recovery of some of these old aircraft from 2009” but there would be some “significant” problems managing an expanded “two-speed” fleet and the additional running costs would be unaffordable under existing Short Term Plan (STP) plans.
- Recovered Sea King Mk6 aircraft could prove to be a worthwhile “gap-filler” until new helicopters were procured to replace the ageing Puma fleet that had an Out of Service Date (OSD) of 2010.

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<sup>526</sup> Report HQ MND(SE), 18 January 2006, ‘Progress Report – Operation TELIC’.

<sup>527</sup> House of Commons *Official Report*, 26 January 2006, columns 1529-1533.

<sup>528</sup> Letter Walker to Richards, 24 January 2006, [untitled].

<sup>529</sup> Report DCDS(EC) to PSO/CDS, 31 January 2006, ‘The Utilisation of Operationally Equipped Support Helicopters’.



**995.** Lt Gen Fulton advised Gen Walker that the view of “Customer Two”, the Front Line Commands, was that the problems in managing a larger number of recovered Sea King would “probably outweigh any advantage”. They thought the best way to “leverage better performance” was to continue seeking to “fly the existing aircraft harder by improving servicing, processes and spares delivery”.

**996.** Customer Two was keen to explore the potential merits of “running on either Puma or Sea King” to achieve the Equipment Programme “stagger required to introduce, in affordable tranches, a future new helicopter”.

**997.** In his post-operation tour report on 18 January 2006, Maj Gen Dutton wrote:

“The importance of ISTAR platforms within this theatre cannot be overstated.”<sup>530</sup>

**998.** Maj Gen Dutton referred to helicopters fitted with Broadsword capability. He stated that [Helicopter Broadsword] was good but suffered availability limitations as with all aircraft in theatre. Nimrod was also good but orientated towards [UK theatre forces]<sup>531</sup> and therefore not dedicated to MND(SE). He highlighted the need to maintain and possibly increase ISTAR coverage as the UK moved towards Operational Overwatch.<sup>532</sup>

**999.** Lieutenant General Nicholas Houghton succeeded AM Torpy as CJO in March 2006. On 3 March, he wrote to Gen Walker with the results of a Force Level Review.<sup>533</sup>

**1000.** The aviation support to MND(SE) was provided by: five Merlin, five Sea King, three [Helicopter Broadsword] and four Lynx. Lt Gen Houghton wrote that there was a requirement for Merlin and Lynx to remain throughout Operational Overwatch but changes to tasking lines and servicing routines enabled a reduction of two Sea King as an “efficiency measure”. He highlighted the possibility of further helicopter reductions following the anticipated transition to Provincial Iraqi Control in Maysan, Muthanna and Basra provinces.

**1001.** On ISTAR, Lt Gen Houghton stated that “Full Motion Video” (FMV) capability was provided by Nimrod (Iraq-wide), [Helicopter Broadsword] (MND(SE)-wide) and Phoenix (locally).

**1002.** Phoenix would again be withdrawn for the summer months and would not be replaced with any UAV as Desert Hawk had proved “unsuitable”. There remained a shortfall in persistent Intelligence, Surveillance and Reconnaissance (ISR).

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<sup>530</sup> Report HQ MND(SE), 18 January 2006, ‘Progress Report – Operation TELIC’.

<sup>531</sup> A cipher has been used here for national security reasons.

<sup>532</sup> Operational Overwatch was a phase of transition where the UK would operate from a reduced number of MNF bases to reduce profile while providing reinforcement to Iraqi forces. That is addressed in Section 9.4.

<sup>533</sup> Minute CJO to PSO/CDS, 3 March 2006, ‘Op TELIC Force Level Review – Feb 06’.

**1003.** On 8 March, the Chiefs of Staff discussed and endorsed the Force Level Review.<sup>534</sup> The minutes recorded that one of the points highlighted by Lt Gen Houghton was that, despite the withdrawal of two helicopters, helicopter flying hours would be “sustained by the more efficient use of other assets”.

**1004.** The Chiefs of Staff noted that “the withdrawal of Phoenix would leave an ISTAR deficit” and MND(SE) had “already been tasked to review its ISTAR requirements”. Possible “mitigation was by the availability of unused Nimrod MR2 hours and the possibility of negotiating US Predator tasking”. Gen Jackson would explore the possibility of using Islander aircraft from Northern Ireland to provide Manned Aerial Surveillance.

**1005.** On the same day, Dr Reid was informed that “minor adjustments” were being made to the number of support helicopters “through increased efficiency”.<sup>535</sup>

#### THE DOC’S THIRD REPORT, 4 APRIL 2006

**1006.** On 4 April, the DOC published its third report of Op TELIC lessons to cover the period from 1 December 2004 to 28 February 2006.<sup>536</sup>

**1007.** The report contained a section on “National Issues” described as “issues that warrant MOD’s attention due to the impact on operational capability”. Such issues affected “not only Iraq but may have a wider significance for other operations, including Afghanistan”. Those issues included: counter IED capability (as addressed earlier in this Section with regard to protected mobility), ISTAR, helicopters, air transport and force protection engineering.

**1008.** On ISTAR, the DOC stated that within Iraq there remained “a serious gap in current ISTAR capability – particularly in urban areas”. That was “a regular DOC observation that has been highlighted on all recent operations”.

**1009.** The report cited “a specific problem with surveillance generally and with UAVs specifically”, referring to the “identified gap” between the Phoenix OSD and Watchkeeper ISD of two years. That situation “had changed again” and the Watchkeeper ISD had slipped to “Not to Extend (NTE) beyond January 2011”.

**1010.** The MOD Investment Approvals Board (IAB) had directed that the gap should be viewed in two parts: theatre-specific in Afghanistan from 2006 to 2008, and the generic contingent war-fighting tactical UAV capability from 2007 to 2010. There was the additional, shorter-term problem that Phoenix could only operate in winter, and Desert Hawk was incompatible with electronic countermeasures. The Combined Joint Predator UAV Task Force (CJPTF) provided “limited coverage of MND(SE)”.

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<sup>534</sup> Minutes, 8 March 2006, Chiefs of Staff meeting.

<sup>535</sup> Minute DJC [junior official] to PS/SofS [MOD], 8 March 2006, ‘Iraq: Force Level Review (FLR) for May 2006 Roulement’.

<sup>536</sup> Report DOC, 4 April 2006, ‘Operation TELIC Lessons Study Volume 3’.

**1011.** The DOC recommended:

“... we should reconsider addressing the ISTAR capability requirements, particularly in addressing surveillance generally and UAVs specifically.”

**1012.** On battlefield helicopters, the report stated that their capacity to support operations had “become parlous at times during 2005”.

**1013.** The DOC added:

“The requirement for an air bridge between Baghdad International Airport and the International Zone because of the increases – and sustained – threat on Route Irish, and the requirement to provide enhanced IED ‘top-cover’ have together compounded the situation. The matter is compounded further by shortcomings in the contracted servicing of mission critical equipment ... JHF(I) has struggled to meet its tasks even with rigorous prioritisation. There are several factors that exacerbate the problem but it is apparent that the UK’s BH [battlefield helicopter] force is stretched to meet the requirement of the current operation.”

**1014.** The DOC quoted Maj Gen Dutton’s assertion from his Hauldown Report that more helicopters were urgently needed in theatre and added that, with the “significant deployment to Afghanistan”, that situation was “predicted to worsen throughout 2006”. That highlighted “the serious overall shortcomings in the UK’s battlefield helicopter capacity”.

**1015.** The DOC report stated: “There is an urgent requirement to assess and improve our BH capacity as an operational priority in the short and medium term.”

### Force Protection Engineering (FPE)

The Directorate of Operational Capability (DOC) report on 4 April 2006 stated that FPE should be viewed in relation to investment in protected mobility and counter IED. It highlighted data from PJHQ that indicated that 24 percent of all attacks had been against camps and other static locations, resulting in 44 percent of all wounded in action.

The DOC explained that, to that date, FPE expertise had resided largely in Northern Ireland. Technical designs and construction standards had then been provided to other theatres (including Iraq) for implementation. Additional FPE Research and Development (R&D) was funded by the Equipment Capability Customer but the two strands were “not co-ordinated”.

There was “an enduring need to provide security forces (and other government departments when required) with secure and protected operating bases from which they can effectively control the ground and interface with the indigenous population”. The need for an “appropriately resourced FPE capability (for the Land environment)” had been endorsed by the Executive Committee of the Army Board.

The DOC recommended: “Short term action is required to fill the funding gap for FPE development and in the longer term, policy must be developed to ensure that FPE is brought into core business post Northern Ireland ‘Normalisation.’”

**1016.** The Chiefs of Staff discussed the DOC Report on 4 April 2006.<sup>537</sup> The lessons about counter IED, ISTAR and air transport capability were repeated in the minutes.

**1017.** The Chiefs discussed ISTAR further, the minutes recording that if the report's identification of a serious ISTAR capability gap was "true", it would need "to be addressed, possibly through the UOR process, but perhaps more realistically by reviewing and adjusting as necessary the overall surveillance plan".

**1018.** The minutes stated that not only was ISTAR critical for operations in Afghanistan, but "a lack of surveillance capability had constrained operations in MND(SE) and would be critical for maintaining situational awareness in MND(SE) during strategic overwatch". In the meantime, the US was "being pressed to provide the UK with a proportional share of their Predator surveillance output, given that the UK contributed a significant amount" of the operating costs.

**1019.** In discussion the Chiefs of Staff agreed that:

"... appropriate priority and resources were being given to the development of national Counter Improvised Explosive Device capability ... including the possible use of the UOR process, the criticality of gaps in the UK's surveillance plan for both Iraq and Afghanistan ... required further analysis, and CDS [Gen Walker] asked VCDS [Gen Granville-Chapman] to scope the issue."

**1020.** As "a first step", Gen Granville-Chapman wrote to Lt Gen Houghton and Lt Gen Fulton on 7 April.<sup>538</sup> He requested Lt Gen Houghton's ISTAR assessment for Iraq and Afghanistan, including:

- "What is the requirement now, what are the shortfalls, how *critical* are they, and what is being done to ameliorate them?"
- Given the shift to Operational Overwatch in Iraq and the UK's enduring commitment in Afghanistan, what was the "projected requirement likely to be" and might it even increase when there were fewer boots on the ground? What plans were in place to address these?
- "How coalition/alliance assets may realistically be able to assist."

**1021.** Looking at how gaps could be filled, Gen Granville-Chapman suggested Lt Gen Houghton should consider "the full range of potential solutions", including Merlin Mk1F and attack helicopters.

**1022.** Gen Granville-Chapman wrote that ISTAR had also been raised during a meeting about Afghanistan on 4 April and Gen Walker had "accepted that any new substantial request for UOR funding in relation to Predator B should not be pursued for the moment".

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<sup>537</sup> Minutes, 4 April 2006, Chief of Staff meeting.

<sup>538</sup> [Minute VCDS to CJO, 7 April 2006, 'Quantifying ISTAR Shortfalls on Current Operations'](#).

**1023.** Given that discussion, Gen Granville-Chapman asked Lt Gen Fulton to consider what could realistically be delivered “to address known and projected shortfalls in the timescales we are talking about”.

**1024.** Gen Granville-Chapman sent a copy of the DOC report to Mr Ingram on 21 April, noting that the Chiefs of Staff’s discussion of the report was based “almost exclusively around the issue of re-addressing our operational ISTAR capabilities”.<sup>539</sup>

**1025.** Gen Granville-Chapman wrote that it would have implications in both Afghanistan and Iraq and that “resolution of this issue always came back to operational priorities within a limited Departmental budget”. Despite that, ISTAR remained an “*enduring*” lesson that had been raised in all three DOC reports.

**1026.** On 10 May, Air Commodore Nick Gordon, Director Directorate of Equipment Capability (ISTAR), advised Gen Granville-Chapman on the possibility of using Predator B to address shortfalls in UK ISTAR capability.<sup>540</sup>

**1027.** Air Cdre Gordon stated that from “a standing start” it would take 24 months before a Predator B could be fielded in theatre. In 2005, the DEC ISTAR team had investigated procuring a demonstrator for trial in Afghanistan but, at a cost of around £60m, it was deemed unaffordable within the available equipment funding. He also advised that “alternative approaches” to procurement and platform operation could reduce cost and time boundaries.

**1028.** Lt Gen Houghton produced his assessment of ISTAR shortfalls on operations on 18 May.<sup>541</sup> He explained that FMV was “probably the most widely sought” ISR capability in Iraq and Afghanistan.

**1029.** For both theatres, Lt Gen Houghton explained that the UK operated within a coalition management process that afforded the UK “relatively low priority” for the allocation of ISTAR assets. The agreement to provide MND(SE) with “12 hours of daily Predator Feed” had been a “recurrent topic of bilateral discussion over the past few months” but it was unlikely that there would be any significant change to the UK’s apportionment. Any allocation of US Predator should be regarded as “a bonus” and, if the UK concluded it was needed, it should aspire to acquire its own.

**1030.** Lt Gen Houghton stated that MND(SE) had sought to offset the lack of US Predator support by generating other FMV feeds. The FMV requirements were satisfied in part with theatre-level manned platforms but MND(SE) could not fully exploit that capability due to a lack of ground terminals to download the data.

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<sup>539</sup> Note VCDS to MA/Min(AF), 21 April 2006, ‘DOC Operational Lessons Report – Operation TELIC Volume 3’.

<sup>540</sup> Minute DEC ISTAR to MA/VCDS, 10 May 2006, ‘Predator B’.

<sup>541</sup> Minute CJO to VCDS, 18 May 2006, ‘Quantifying ISTAR Shortfalls on Current Operations’.

**1031.** FMV coverage therefore remained “the most significant ISR gap in MND(SE)”. In “general terms”, the UK was “50 percent” short of the requirement across both theatres.

**1032.** Addressing Gen Granville-Chapman’s specific questions on attack helicopters and Merlin Mk1, Lt Gen Houghton stated that attack helicopters would have “some utility as an ISTAR platform” but could not distribute imagery to other users. The Merlin Mk1 would be a capable platform, with some modifications, but “these debates” needed closure in the context of “a comprehensive analysis of our aviation capability gaps”.

**1033.** In the short term, Lt Gen Houghton would pursue an extension of Nimrod MR2 support for Afghanistan and support the procurement or loan of terminals from the US to receive FMV feeds in theatre. His staff would continue to “press for greater access to Predator coverage” and he believed “we should look again at bridging the gap between Phoenix OSD and Watchkeeper ISD, potentially with an extension of the former”.

**1034.** Lt Gen Houghton stated that the identification of ISTAR requirements and critical shortfalls for the medium term had proved “more problematic”. It was clear that the UK was “only beginning to develop a full understanding of the national ISTAR requirements for transition in both theatres” and the ways in which they could be met. Lt Gen Houghton wrote:

“I am led to the judgement that the complexity of a Coalition and national ISTAR architecture requires a dedicated MOD led ISTAR review to fully examine emerging requirements ... Such a review should draw together a pan-agency solution to address our current shortfalls and define our long term goal for the provision of a coherent Defence-wide ISTAR capability.”

### **The Lynx helicopter crash, 6 May 2006**

On 6 May, a Lynx helicopter crashed in Basra, killing all five personnel<sup>542</sup> on board.<sup>543</sup>

At the Chiefs of Staff meeting on 10 May, it was noted that “the FCO had suspended flights by its personnel whilst the cause of the helicopter crash was investigated but military flights continued subject to the revision of tactics, techniques and procedures”.<sup>544</sup>

The Board of Inquiry into the crash concluded that the helicopter had been shot down by a surface-to-air missile (using a Man Portable Air Defence System – MANPAD), fired from the ground.<sup>545</sup>

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<sup>542</sup> Wing Commander John Coxen, Lieutenant Commander Darren Chapman, Captain David Dobson, Flight Lieutenant Sarah-Jayne Mulvihill and Marine Paul Collins.

<sup>543</sup> GOV.UK, 6 May 2006, *Five personnel in Basra helicopter crash named*.

<sup>544</sup> Minutes, 10 May 2006, Chiefs of Staff meeting.

<sup>545</sup> House of Commons, *Official Report*, 27 April 2007, column 29WS.

Brigadier James Everard, Commander 20 Armoured Brigade, explained the effect this had:

“The successful attack on the Lynx ... resulted in the cessation of all daytime ... movement over Basra City. Critically, the Brigade was therefore unable to conduct enduring surveillance ops during daylight hours without Nimrod MR2 – an asset shared with both [UK theatre forces] and Op HERRICK.”<sup>546</sup>

**1035.** Lt Gen Houghton visited Iraq from 13 to 15 June. He reported:

“... I do have some concerns as I look ahead over the balance of the year ... If we are to match the wider campaign desire for a decisive six months we need to balance ourselves accordingly.”<sup>547</sup>

**1036.** The elements of that balancing included protected mobility and ISTAR. He wrote:

“Resolve the issue of ISTAR. A plan that depends upon intelligence-led precision detention operations is neutered if we do not have the dedicated ISTAR (Full Motion Video) for pattern of life studies, target development and operational queuing.”

## RE-ALIGNING ASSETS AND UNDERSTANDING THE SHORTFALLS

**1037.** On 17 May, the JHC provided Lord Drayson with advice on the numbers of helicopters deployed on operations.<sup>548</sup> The advice listed the helicopter numbers available to Op TELIC as:

- four Lynx AH7 from a JHC total fleet of 95;
- eight Sea King Mk 4 from a JHC total fleet of 37; and
- seven Merlin Mk3 from a JHC total fleet of 22.

**1038.** The House of Commons Defence Committee visited Iraq from 4 to 8 June.<sup>549</sup> The MOD’s record of the visit stated:

“The Committee was interested to know whether the UK had sufficient air capability, and in particular whether it was felt that MOD had prioritised funding and capabilities appropriately, for example was there sufficient helicopter numbers to meet the requirement in Iraq and Afghanistan ...”

<sup>546</sup> Report Everard to PJHQ – J3, 15 December 2006, ‘HQ 20 Armd Bde Op TELIC 8 Post Operational Tour Report’.

<sup>547</sup> Minute Houghton to PSO/CDS, 16 June 2006, ‘Visit to Iraq 13 – 15 Jun 06’.

<sup>548</sup> Minute JHC [junior officer] to APS/Min(DP), 17 May 2006, ‘Current Rotorcraft Fleet and Deployment – Joint Helicopter Command (JHC)’.

<sup>549</sup> Minute DJC-Sec1 to HCDC Liaison Officer, 15 June 2006, ‘Visit Report: House of Commons Defence Committee (HCDC) Visit to Iraq 4-8 June 2006’.

**1039.** On 12 June, Lt Gen Houghton wrote to Gen Granville-Chapman summarising the operational requirement for battlefield helicopters in Iraq and Afghanistan.<sup>550</sup> While there was an endorsed requirement for an uplift in support to Afghanistan, on Iraq he wrote:

“At present there is no endorsed requirement for an increase in BH [battlefield helicopters] support to Op TELIC, but operations have been constrained at times by a lack of available BH support. This is partly related to the limited performance and reliability of the Sea King Mk4 when compared with larger and more modern BH. Any potential benefits from transition in Op TELIC may be fully absorbed by emerging requirements to support Operational Overwatch and OGDs [Other Government Departments].”

**1040.** Lt Gen Houghton added that the withdrawal of Italian forces in Iraq “could present an additional requirement for battlefield helicopter lift and ISTAR in Dhi Qar Province”. Further work was being done to define that.

**1041.** Lt Gen Houghton concluded:

“With no reductions on the horizon in Op TELIC and escalating requirements in Op HERRICK, our national aviation requirements now need departmental scrutiny to determine the concurrent requirement to resource both theatres and define how our national aviation resources should be realigned.”

**1042.** Air Chief Marshal Sir Joseph Stirrup became CDS in April 2006. A record of ACM Stirrup’s “O Group” meeting on 16 June stated in relation to Iraq:

“The UK required its own persistent surveillance capability if it was to deliver mission success. CDS’ clear preference was for an ‘off the shelf’ solution which could be delivered quickly. VCDS [Gen Granville-Chapman] had work in hand addressing this shortfall which was due to report in mid Jul.”<sup>551</sup>

**1043.** On 21 June, Gen Jackson wrote to General Sir Richard Dannatt, Commander in Chief Land Command, stating:

“It is probably worth re-emphasising the lack of ‘flying hours’ for our operational helicopter fleets is an issue that is gaining momentum up here in the Main Building. In my view the current problems are merely symptomatic of the broader lack of investment in our ‘lift’ capability. However – and this is my concern – people up here seem fixed solely on providing a palliative for the current symptoms, rather than really tackling the Defence-wide balance of investment decisions that need to be taken if we are to have forces appropriately structured for what they are *actually*

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<sup>550</sup> Minute Houghton to MA/VCDS, 12 June 2006, ‘Quantifying Battlefield Helicopter (BH) Requirements on Operations’.

<sup>551</sup> Note SECCOS to VCDS, 19 June 2006, Record of Actions & Decisions from CDS O Group – 16 June 2006’.



being asked to do (expeditionary Land based operations) rather than what they *might* have to do (force on force operations across all three environments).<sup>552</sup>

**1044.** On 29 June, Air Commodore Brian Bates, Director Directorate of Joint Capability, produced two papers for Gen Granville-Chapman; one on rotary wing operational shortfalls and one on ISTAR operational shortfalls.

**1045.** The paper on rotary wing shortfalls stated:

“The Department’s BH [battlefield helicopter] capability is a finite resource that is required to support a number of concurrent Military Tasks overseas and a variety of Standing Home commitments. Currently the BH force is heavily committed on operations and is recognised as a Defence pinch point ...”

“A range of factors have contributed to the current pressures on the BH force; not least, a legacy of underinvestment in BH sustainability and the fact that a significant proportion of BH fleets are operating in excess of DPAs [Defence Planning Assumptions]. The enduring nature of today’s operations, allied to a presumed need for BH during any drawdown or overwatch period, suggests that this situation is unlikely to change in the medium term. Other complicating factors include: ... the increased IED threat that had led to a tendency to revert to the use of helicopters as the default option for protection where other means, such as properly protected road moves, may be possible; and, a paucity of ISTAR assets, leading to an increased demand on BH platforms.”<sup>553</sup>

**1046.** The paper went on to summarise the operational requirements in each theatre. For Operation TELIC it stated:

“Five Merlin ..., three Sea King .., four Lynx ..., and 3 [Helicopter] (Broadsword [ISTAR]) are currently deployed on Op TELIC. The CABHWG [Capability Area Battlefield Helicopter Working Group], drawing on PJHQ-led AFLRs [Aviation Force Level Reviews], has established that current support is sufficient for the task. This was subsequently confirmed by CJO, although circumstances that could necessitate an increase in BH have been identified. The early stages of transition to Operational Overwatch (OOW) may free up some lift but this is likely to be absorbed by emerging tasks in support of OOW forces, OGDs and the need to maintain situational awareness ...”

**1047.** The ISTAR paper stated that the key shortfall in FMV was “likely to increase rather than diminish” with the move to Operational Overwatch and the evolving concept of operations in Afghanistan.<sup>554</sup> Without additional resources, the opportunities to make substantial improvements to the delivery of ISTAR on operations were limited to “process enhancements” or securing greater access to coalition assets.

<sup>552</sup> Letter Jackson to Dannatt, 21 June 2006, [untitled].

<sup>553</sup> Minute DJtCap to MA/VCDS, 29 June 2006, ‘Rotary Wing Operational Shortfalls’.

<sup>554</sup> Minute DJtCap to MA/VCDS, 29 June 2006, ‘ISTAR Operational Shortfalls’.

**1048.** The paper continued:

“ISTAR issues are often inextricably linked to a multitude of other lines of development or capabilities, which may, in turn, also be pinchpoints and subject to considerable pressure; helicopters are a prime example. Equally, the solution may not be equipment based. Rather it might be process or enabler specific. For example, access to existing information, bandwidth or capability through exploitation of frequency, downlink or a particular National/Coalition product or database.”

**1049.** The options for mitigating short-term shortfalls were broken down into five areas, recognising that getting ISTAR right required more than a suite of dedicated ISTAR assets, but that it relied upon “all aspects of the network-enabled capability”:

- Improving processes for collecting, storing and processing intelligence.
- Improving access to coalition capability such as the CJPTF. Lt Gen Houghton had been tasked separately with improving apportionment, co-ordination and liaison with US and other MNF forces.
- Re-apportionment of national assets including: the deployment of Northern Ireland based Islanders to Iraq or Afghanistan; increasing the number of Defender aircraft; increasing the number of Nimrod MR2, although those were unlikely to become available before November 2006; UOR action to bring Merlin Mk1 up to “theatre-entry standard”; and redeploying Phoenix to Iraq after the summer – an option that would have “painful implications” for a UAV regiment in Afghanistan.
- Extant and emerging UORs: a USUR had been submitted and endorsed by PJHQ for the provision of a “long range, long loiter, real time FMV surveillance system” in May. That was similar to the USUR produced in April 2003 that led to the CJPTF. Further action was awaiting the outcome of Lt Gen Houghton’s work on getting greater access to coalition capability. Other UORs were in train to address the lack of ground terminals able to downlink ISTAR data.
- New capabilities: options included fitting additional Defender aircraft with the necessary sensors and downlink capability; further increasing the number of ground ISTAR terminals; using commercially owned UAV systems such as the US had done with Scan Eagle which could deliver capability quickly (“within about nine months”) but did raise liability issues; advancing commercial off-the-shelf UAVs such as Predator B under the DABINETT programme or leasing Hermes 450/Hermes 180 air vehicles. There was no potential to bring forward elements of the Watchkeeper programme.

**1050.** Future equipment programmes would deliver improved ISTAR effect within the next few years, but none before November 2006.

**1051.** The MOD told the Inquiry that Phoenix was withdrawn from theatre in June 2006 and, although it had been suggested that it might be redeployed that September, it did not re-enter service.<sup>555</sup>

**1052.** In July, Gen Dannatt wrote to Gen Jackson about “four major concerns” he had as “the Force provider”.<sup>556</sup> His “first and overriding concern” was protected mobility which is addressed earlier in this Section. Two of those other concerns related to ISTAR and battlefield helicopters.

**1053.** Gen Dannatt wrote that he shared Gen Granville-Chapman’s concern about ISTAR support for land operations in Iraq and Afghanistan. He stated that there was “an urgent need for a full estimate process to ascertain the requirement” and judged that “such an estimate would identify the need for an easily deployable UAV capable of operating beyond the line of sight, under the control of the tactical ground commander, and responsive to his information requirements”.

**1054.** Gen Dannatt saw this “as complementary to the more immediate re-allocation of current resources and longer-term Equipment Programme solutions. Such a capability was always within the original vision for the Watchkeeper programme; the need is now acute.”

**1055.** Gen Dannatt acknowledged that the paper on battlefield helicopters would be considered by the Chiefs of Staff that week but wrote that he “would be remiss if I failed to stress the importance of resolving this issue as a matter of urgency”. He stated:

“Operational experience continues to drive home the inextricable linkages between ISTAR, protected mobility and BH. When the two former capabilities are under stress ... we invariably place a higher call on the latter, a call that we find increasingly difficult to meet, given the limited resources at our disposal. The issue is one of flying hours as well as the provision of sufficient numbers of aircraft and their spares. The key and developing role of AH [attack helicopters] on operations in Afghanistan, coupled with significant shortfalls in support funding, brings this into even sharper focus.”

**1056.** Gen Dannatt wrote that action was urgently needed to continue operations and “minimise casualties to our soldiers”. He stated: “Process must not be allowed to stand in the way.”

**1057.** On 4 July, the Chiefs of Staff discussed the papers on rotary wing and ISTAR operational shortfalls.<sup>557</sup> AM Nickols emphasised that both were “immature and had been produced to a tight timescale to allow COS to take a view on what action was required now”.

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<sup>555</sup> Letter Duke-Evans to Hammond, 4 February 2016, [untitled].

<sup>556</sup> [Letter Dannatt to Jackson, July 2006, ‘The Level of Operational Risk on Current Operations’](#).

<sup>557</sup> Minutes, 4 July 2006, Chiefs of Staff meeting.

**1058.** The minutes of the meeting recorded:

“In the short term, pressure on Rotary Wing (RW) assets in Afghanistan and Iraq could only be alleviated by releasing assets from other tasks, or by extracting more from the assets in theatre. The situation was complicated by differences between helicopters in lift and Defensive Aids Suites (DAS) ... In addition the paper recognised that any increase in helicopter flying hours would be limited by the availability of spares, crew hours and harmony guidelines ...”

**1059.** In discussion, ACM Stirrup stressed that the Chiefs of Staff “needed to focus on the problem they faced between now and the end of the year. The UK was fighting a war in two theatres which demanded urgent innovative work to deliver capability quickly, rather than waiting for a 100 percent (or even 80 percent) solution over a longer timeframe.”

**1060.** Amongst the measures agreed by the Chiefs of Staff were taking greater risk on other operations to release assets for use in Iraq and Afghanistan and taking “further action with our Allies” to ensure that their helicopter assets remained in theatre, specifically the US and Italians.

**1061.** The Chiefs of Staff also agreed that additional resources were to be identified in the next planning round to deliver an improved rotary wing capability. That would include:

- the “fix to field” requirement for the eight Chinook Mk3s (see Box, ‘The eight modified Chinooks’);
- the provision of Defensive Aids Suites across the deployable helicopter fleet so that it was “adaptable to the changing threat”;
- support helicopter lift over the next five years; and
- support helicopter and attack helicopter sustainability over the next five years.

**1062.** On ISTAR the Chiefs agreed:

- Merlin Mk1 should replace Nimrod in Oman, freeing Nimrod to “ameliorate ISTAR shortfalls elsewhere”;
- Predator B “represented the most coherent ISTAR capability for the UK’s needs” and should be procured “as soon as possible” for use in Afghanistan, but without prejudice to the Watchkeeper programme; and
- a PJHQ-led ISTAR Task Team should identify theatre-specific ISTAR requirements and how the UK might better utilise the entire coalition theatre ISTAR process. Air Marshal Stuart Peach, Chief of Defence Intelligence, would lead that work with a view to informing the EP/STP07 by 1 October 2006.

**1063.** ACM Stirrup asked Gen Granville-Chapman to produce an action plan to deliver the measures agreed on rotary wing and ISTAR “as a matter of urgency” by 7 July.

**1064.** Gen Granville-Chapman produced those plans on 7 July.<sup>558</sup> His covering minute stated:

- a. Nothing is to get in the way of achieving the timetables shown, whatever the hours – we are at war in two theatres and lives depend on the capabilities being delivered on time. If seemingly insuperable issues arise I am to be informed immediately.
- b. Planning *aficionados* will spot that we are departing from the programme in some areas – intentionally. Less than perfect solutions are sometimes required to attend to immediate needs, albeit at the expense of other projects.
- c. In the slightly longer term context of EP07 we shall need to make adjustments to reflect the current scene, notably in the RW (DAS for far more of the fleet) and ISTAR realms – DCDS(EC) [Lt Gen Fulton] will handle this and will issue guidance by the end of this month.”

**1065.** The plan to address helicopter shortfalls included releasing assets by “rationalising aviation support” to counter-terrorism operations in the UK and releasing helicopters from other theatres, both of which were planned to be complete by the end of July 2006. Equipping all battlefield helicopters to “theatre-entry standard” was listed as a 2007 Equipment Programme measure.

**1066.** The plan to address ISTAR shortfalls included:

- fully replacing Nimrod MR2 with Merlin Mk1 in Oman by the end of September;
- delivering Predator B to Afghanistan by 1 May 2007 (noting the potential loss of other projects within the Equipment Programme);
- assessing the requirement for a short-range tactical UAV by the end of July and exploring options to meet any confirmed requirement by 15 September 2006;
- reviewing the output of CJPTF by 31 July;
- deploying Oakbank<sup>559</sup> to Iraq by 15 August;
- expediting delivery of 26 ground terminals to receive coalition FMV feed, 18 of which were to go to Iraq, between July 2006 and March 2007 depending on the time needed to obtain an export licence; and
- capturing the national requirements via an ISTAR Task Team by 31 August. It would cover Iraq and Afghanistan but also take account of other commitments – an 80 percent solution would suffice.

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<sup>558</sup> Minute Granville-Chapman to CDL, 7 July 2006, ‘Rotary wing and ISTAR Shortfalls’ attaching Paper VCDS, 7 July 2006, ‘Action Plan to Address Rotary Wing Operational Shortfalls’ and Paper VCDS, 7 July 2006, ‘Action Plan to Address ISTAR Operational Shortfalls’.

<sup>559</sup> Oakbank is a CCTV camera system for static locations.

**1067.** Gen Granville-Chapman visited Iraq and Afghanistan between 9 and 13 July.<sup>560</sup> In Iraq, he reported that ISTAR and helicopters remained “the key focus” for equipment.

**1068.** In July 2006, in his post-operation tour report, Maj Gen Cooper wrote that, in relation to the UK’s understanding of militia groupings:

“The paucity of specialist ISTAR capability is also a concern. In order to prosecute routine operations more effectively and specific strike operations accurately we need better or additional UAV capability, full-motion video [and] geo-location equipment ... capabilities are available on the market and would be real value for money.”<sup>561</sup>

**1069.** Major General Richard Shirreff, the new GOC MND(SE), wrote in his first report on 21 July about two recent “significant operational successes”.<sup>562</sup> He stated:

“... we have been lucky not to take more casualties ... The message is that we cannot rely on luck and that the critical shortage of key enablers exposes our soldiers to significant risk. Despite the good work done by the Nimrod MR2 and the two [Helicopter] Broadsword, we are woefully short of airborne surveillance capability. We are unable to strike with precision from the air, which we emphatically need to do, without attack helicopters or a similar capability.”

**1070.** Forwarding the report to No. 10, Mr Browne’s Private Office wrote that it raised:

“... a number of issues that have subsequently been discussed in the Defence Secretary’s weekly Ministerial. Work is in progress to consider these issues and further advice will be provided should any significant changes in approach be required.”<sup>563</sup>

**1071.** On 26 July, the Chiefs of Staff “noted the immediate requirement for national ISTAR assets that would enable the successful prosecution of detention operations within MND(SE)”.<sup>564</sup>

## MR BROWNE’S CONCERN

**1072.** In August, Gen Granville-Chapman and Maj Gen Rollo briefed Mr Browne on the UK’s helicopter force.<sup>565</sup>

**1073.** On 11 August, Mr Browne’s Private Office wrote that he remained concerned that the UK had “a shortfall that needs to be addressed” and requested a “formal assessment” of how some of the options discussed at the meeting could increase capability over the next 12 months.<sup>566</sup>

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<sup>560</sup> Minute Granville-Chapman to Stirrup, 14 July 2006, ‘VCDS Visit to Iraq and Afghanistan 9-13 Jul 06’.

<sup>561</sup> Report HQ MND(SE), 21 July 2006, ‘Progress Report – Operation TELIC’.

<sup>562</sup> Report Shirreff, 21 July 2006, ‘GOC MND(SE) – Southern Iraq – 21 July 2006’.

<sup>563</sup> Note PS/SofS [MOD] to Phillipson, 26 July 2006, ‘Iraq: Update’.

<sup>564</sup> Minutes, 26 July 2006, Chiefs of Staff meeting.

<sup>565</sup> [Minute McNeil to MA/VCDS, 11 August 2006, ‘Shortfall in Helicopters Capability’.](#)

<sup>566</sup> [Minute McNeil to MA/VCDS, 11 August 2006, ‘Shortfall in Helicopters Capability’.](#)

**1074.** Gen Granville-Chapman responded on 7 September.<sup>567</sup> He wrote that it was worth recognising that the UK was operating above concurrency levels “(which did not envisage two medium scale enduring operations over extended LOCs [Lines of Communication] and did not plan for a helicopter fleet to match)”. He also stated that the MOD had “postponed rectifying the acknowledged 15-20 percent helicopter shortfall until at least 2010” when it had taken £1.5bn of savings against the Future Rotorcraft Capability (FRC) programme in 2004.

**1075.** Gen Granville-Chapman wrote that Lt Gen Houghton’s “current battlefield helicopter requirements in Iraq and Afghanistan” were being met by the deployment of additional aircraft and the resourcing of additional flying hours in both theatres. That increased level of activity was, “on the face of it, sustainable” and the requirement had been confirmed by the recent Force Level Review.

**1076.** In Iraq, there was little potential for reducing the “aviation bill” in the short term.

**1077.** The nature of both campaigns required a “critical theatre entry standard” to be imposed, principally the fitting of DAS and long-range secure communications. That meant, even with UORs to date, 65 percent of the battlefield helicopter fleet was “not deployable”. Planned UORs would reduce that figure to 40 percent.

**1078.** Gen Granville-Chapman stated that flying hours were limited by the availability of trained crews as much as airframes. The demand was being met by “redistributing airframes and sweating the assets to the maximum degree” but, he warned:

“There is not likely to be any let-up in BH tempo for at least the next five years which leaves us with virtually no capacity to meet increased or new demands and a real ‘harmony’ problem for our BH people.”

**1079.** Four options to add capability were considered:

- Leasing – an option with “limited mileage” because the resolution of indemnity and financing issues, coupled with delivery timescales meant that significant new deployable capability would take at least a year but more likely three. Leased civilian helicopters in the UK could be used for training but would not generate competent crews for operations.
- Contracting – using contractor aircraft flown by civilians was an option but the aircraft were not “DAS’d to our standards”.
- Further developments to the existing fleet – Puma was scheduled to go out of service in 2010 and Sea King Mk4 in 2012. To keep both models going beyond those dates would cost £155m. Options were being considered to make some Merlin Mk1s “dual capable as BH” and to make other aircraft into “a basic SH”.

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<sup>567</sup> [Minute VCDS to SofS, 7 September 2006, ‘Helicopter Capability’.](#)

- Advancing the FRC programme – an additional £225m “in the early FRC years” would enable the earlier procurement of Chinook helicopters to meet the heavy lift requirement. An extra £650m across the Equipment Programme period would allow the medium support helicopter purchase “(type not yet known)” to be brought forward by five years to 2012 and “obviating the need to extend the ageing Puma and Sea King fleets”.

**1080.** Gen Granville-Chapman wrote:

“All of these options are being tested now ... In October DCDS(EC) [Lt Gen Fulton] will chair a series of Joint Capabilities Boards to decide which of the options I have described should be pursued and when. But there are real affordability problems in the early EP [Equipment Plan] years and the levels of contractual commitment means that it will not be easy to shift significant investment away from other capabilities and into helicopters in this round. I suggest we return to this issue in late October when we shall know better the worth of options.”

**1081.** Mr Browne circled both references to October in Gen Granville-Chapman’s note and wrote: “No: it should happen tomorrow!”<sup>568</sup>

**1082.** On 11 September, Mr Browne’s Private Secretary wrote to Gen Granville-Chapman requesting an “urgent” meeting to discuss his advice.<sup>569</sup> Mr Browne was:

“... concerned to ensure that officials are giving appropriate priority to measures to improve helicopter availability and have considered, and exhausted, every possibility, including those which they believe Ministers would find unpalatable.”

**1083.** The areas Mr Browne particularly wanted to explore included:

- the proposal to convert maritime Merlin helicopters to a battlefield support role;
- “a radical rethink” on the eight grounded Chinook Mk3 aircraft that were not considered airworthy (see Box below, ‘The eight modified Chinooks’); and
- leasing and contracting further aircraft.

**1084.** Mr Browne and Lord Drayson met Gen Granville-Chapman on 14 September.<sup>570</sup>

**1085.** On 15 September, Gen Granville-Chapman wrote that Mr Browne was “keen to explore a number of options for short term relief” for crews in theatre. Those included “what sum of money” would yield “*significant* improvement in aircraft availability in the next six months” in relation to Chinook, whether additional Merlin Mk3 could

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<sup>568</sup> [Manuscript comment Browne on Minute VCDS to SofS, 7 September 2006, ‘Helicopter Capability’.](#)

<sup>569</sup> [Minute Forber to MA/VCDS, 11 September 2006, ‘Helicopter Capability’.](#)

<sup>570</sup> Minute Granville-Chapman to ACDS(Ops) and ACDS(Log Ops), 15 September 2006, ‘Helicopter Capability’.



be bought from other countries, and the programme intended to make the eight Chinook Mk3 airworthy.

### The eight modified Chinooks

In 1995, the MOD ordered 14 Chinook Mk2a helicopters from Boeing: six were retained as Mk2 but eight were modified as Mk3 to meet a longstanding requirement for special operations.<sup>571</sup> Those eight helicopters cost £259m and were delivered to the MOD in December 2001.

Although Boeing had met its contractual obligations, the avionics software fell short of UK military airworthiness standards and the helicopters were left in storage while solutions were considered.

In 2004, the Public Accounts Committee described it as “one of the worst examples of equipment procurement” that it had seen.

Following increases in troop numbers to Afghanistan, the MOD started looking for ways to increase its helicopter capacity. As a result, in March 2007, Mr Browne took the decision to “revert” the Chinooks back to the Mk2 standard to make them available for use in operations as quickly as possible.

In March 2009, the Public Accounts Committee described that decision as having been made in haste in “a matter of days”.<sup>572</sup> The MOD did not consult Boeing about the risks, costs and timescales which ultimately led to a 70 percent increase in the cost of the project. The final cost for the helicopters on entering service would be £422m, or £52.5m each.

The first successful test flight of one of the modified Chinooks was completed in July 2009.<sup>573</sup>

**1086.** On 10 October, Gen Granville-Chapman wrote to AM Nickols with actions from a meeting with Mr Browne and Lord Drayson the previous day.<sup>574</sup> The focus of the meeting was helicopter availability in Afghanistan, following a recent visit from Lord Drayson. Iraq was not mentioned in the minute but Gen Granville-Chapman concluded:

“There is a wider capability point emerging about the extent to which capability requirements are being anticipated in theatre and the right levers are being pulled. I shall be tasking CJO separately.”

**1087.** That point is addressed in a note from Lt Gen Houghton on 27 October and is also addressed earlier in this Section with the consideration of how capability gaps were articulated.

<sup>571</sup> National Audit Office, *Chinook Helicopters*, 4 June 2008, HC 512.

<sup>572</sup> Eighth Report from the Public Accounts Committee, Session 2008-09, *Ministry of Defence: Chinook Mk 3*, HC 247, recommendation 2 and paras 7 and 9.

<sup>573</sup> *Boeing*, 7 July 2009, *Modified Boeing Chinook Mk3 Successfully Completes 1st Test Flight*.

<sup>574</sup> Minute Granville-Chapman to ACDS(Ops), 10 October 2006, ‘Helicopter Availability’.

**1088.** On 11 October, Gen Granville-Chapman produced an update on helicopter and ISTAR shortfalls.<sup>575</sup> The updates that involved Iraq were:

- Four additional Nimrod MR2 would be deployed in “Iraq/Afghanistan” from 1 November 2006 to 30 April 2007.
- A business case for a mini-UAV was being developed to provide surveillance capability at “company/battlegroup level” by June 2007. In parallel, MND(SE) was running trials on Raven, a US system, to inform the choice.
- MND(SE) had produced a USUR for a tactical UAV. DEC ISTAR had already received proposals from engagement with industry and was in the process of selecting the most appropriate option. The initial operating capability depended on the system selected but was “likely to be around by June 2007”.
- The installation of a “layered and networked surveillance” capability at fixed sites was moving forward.

**1089.** Further meetings and discussions took place in October with a clear focus on increasing helicopter availability, primarily in Afghanistan.<sup>576</sup> The only action discussed in relation to Iraq was the possibility of using two of the six Danish Merlin that the UK was intending to purchase to replace Sea King, with a view to modifying and redeploying those Sea Kings to Afghanistan.<sup>577</sup>

**1090.** On 24 October, Mr Jonathan Lyle, Director Air and Weapons Systems, wrote to Lord Drayson advising that acquiring six Danish Merlin aircraft would increase the fleet of Merlin support helicopters to a total of 28 aircraft, “enabling an enduring deployment of 7 Merlin and an uplift of 40 percent on those currently deployed to Op TELIC”.<sup>578</sup> That would provide a “more robust and enduring capability than, for example, modifying Merlin Mk1 aircraft”.

**1091.** Mr Lyle wrote:

“Merlin is a success on Op TELIC and is the aircraft of choice for Iraq. To minimise the logistic footprint within JHF(I), the JHC favour an all Merlin force in Op TELIC. Subject to addressing the ISTAR requirement, such a deployment would release Sea King to ... Afghanistan ...”

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<sup>575</sup> Minute Granville-Chapman to CDL, 11 October 2006, ‘Progress on Rotary Wing (RW) and ISTAR Shortfalls’ attaching Paper VCDS, 11 October 2006, ‘Action Plan to Address RW Operational Shortfalls – Progress as at 5 Oct 06’; Paper VCDS, 11 October 2006, ‘Action Plan to Address ISTAR Operational Shortfalls – Progress as at 5 Oct 06’; and Paper VCDS, 11 October 2006, ‘Current Status of ISTAR Capability and Progress Post Action Plan’.

<sup>576</sup> Minute VCDS to CDL, 11 October 2006, ‘Progress on Rotary Wing (RW) and ISTAR Shortfalls’; Minute English to PS/Min(AF), 19 October 2006, ‘Helicopter’; Minute ACDS(Ops) to MA/VCDS, 23 October 2006, ‘Helicopter Capability’.

<sup>577</sup> Minute ACDS(Ops) to MA/VCDS, 23 October 2006, ‘Helicopter Capability’.

<sup>578</sup> Minute Lyle to APS/Min(DP), 24 October 2006, ‘Helicopter Acquisition’.

**1092.** Mr Lyle mentioned that options for replacing the Sea King being used for Manned Airborne Surveillance in Iraq were also being considered.

**1093.** On 26 October, Lord Drayson and Mr Ingram wrote to Mr Browne with a joint proposal on how to increase helicopter availability.<sup>579</sup> Their minute highlighted that the issue had arisen on “the assumption that there was a shortfall of lift capability in Afghanistan” but there had been “very few occasions when tasks could not be supported”, and theatre had not requested additional assets.

**1094.** Despite that, the Ministers said that the UK was “currently breaking crew harmony guidelines”, and the current level of operations was unlikely to be sustainable in the medium term so even if forces were not increased in Afghanistan, “action taken now will improve the current situation”.

**1095.** The measures proposed by the Ministers included:

- increasing Chinook flying hours in Afghanistan;
- procuring new blades for Sea King Mk4s to enable them to fly in Afghanistan conditions;
- procuring six Danish Merlin to backfill the Sea Kings deployed in Iraq and Afghanistan; and
- “leasing/buying” eight US Chinooks for Afghanistan.

**1096.** Mr Browne approved the increase in Chinook flying hours on 10 November, agreeing that the most likely requirement was for Afghanistan and for heavy lift in particular.<sup>580</sup>

**1097.** Mr Browne wrote that more information was needed on the other proposals to clarify how they would meet the capability gap in the short and medium term. Discussions on the Danish Merlins should “slow down” until it was clear what the requirement was and how it would be funded.

**1098.** On 15 December, Brigadier James Everard, Commander 20 Armoured Brigade, wrote in his post-operation tour report:

“With the exception of Merlin conducting IRT [Incident Response Team] operations, aviation was not available between 1200-1800 hours during this period. The availability of the avn [aviation] fleet especially SK [Sea King] was poor, largely due to age, and often affected operations meaning that the no-fly contingency plan had frequently to be activated.”<sup>581</sup>

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<sup>579</sup> Minute APS/Min(AF) and APS1/Min(DP) to APS1/SofS [MOD], 26 October 2006, ‘Helicopters’.

<sup>580</sup> Minute APS/SofS [MOD] to APS/Min(AF) and APS1/Min(DP), 10 November 2006, ‘Helicopters’.

<sup>581</sup> Report Everard to PJHQ – J3, 15 December 2006, ‘HQ 20 Armd Bde Op TELIC 8 Post Operational Tour Report’.

**1099.** Lord Drayson told the Inquiry that he had asked Mr Browne to authorise him “to explore whether helicopters could be found quickly and to worry about how they would be funded after we had identified a possible solution”.<sup>582</sup>

**1100.** Lord Drayson wrote:

“I held a series of meetings with the military to try to reach agreement on the requirement and then I pursued a number of paths to try and obtain additional helicopters as quickly as possible. This included the decision to revert the Chinook Mk3s to Mk2s following my review of the project, asking the Pentagon and other allies if they had spare Chinooks we could lease or purchase and negotiating to take over the contract for new Merlins built for Denmark ...”

**1101.** Addressing the effectiveness of the MOD’s response, Lord Drayson added:

“The Department’s response was mixed. Great efforts were made to provide enhanced flying hours through the provision of trained crews, rotor-blade improvements, improved defensive aid suites etc but it was difficult to get the Department to agree on which type of helicopters were needed. The Joint Helicopter Command suffered from not being ‘owned’ and therefore championed by any particular service.”

**1102.** Officials in the Private Offices of Mr Ingram and Lord Drayson wrote to Lieutenant General Andrew Figgures, DCDS(EC), on 19 December 2006 to thank him for his work investigating the helicopter requirement.<sup>583</sup> The minute concluded:

“Separately, the Ministers remain concerned regarding the lack of robustness of the Support Helicopter fleet given the UK’s current operational commitments. They would be grateful if you could ensure that options to make the fleet more robust, such as the acquisition of the Danish Merlins, are considered in the EP/STP 07 discussions.”

**1103.** On 31 January 2007, Mr Blair met Air Chief Marshal Glenn Torpy, Chief of the Air Staff.<sup>584</sup> A record of the meeting from No.10 to Mr Browne’s Private Secretary stated that ACM Torpy had said:

“The air transport force was ... under real pressure, with an aging airfleet, and new A400 that would only come on stream in 2010/11. There was also a shortage of helicopters. Sir Glenn noted the poor procurement processes and software problems for the Chinook Mark 3. More was needed on intelligence and surveillance. The Predator UAVs would be a major innovation.”

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<sup>582</sup> Statement, 15 December 2010, page 8.

<sup>583</sup> Minute APS/Min(DP) and APS/Min(AF) to MA/DCDS(EC), 19 December 2006, ‘Helicopters’.

<sup>584</sup> Letter from No.10 to MOD, 31 January 2007, ‘Prime Minister’s Meeting with the Chief of the Air Staff 31 January’.

## THE INCREASING THREAT OF INDIRECT FIRE ATTACKS

**1104.** The deterioration of security in Iraq from August 2003 is referred to earlier in this Section and in Section 9.2. In addition to the introduction of IEDs, there were also indirect fire (IDF) attacks on Coalition Forces, using mortars, man-portable surface-to-air missiles and small arms fire.

**1105.** The solution was considered to be a combination of hardening structures and improving surveillance.

**1106.** Concerns about the safety of civilian personnel as the IDF risk increased are detailed in Section 15.1.

**1107.** In his post-tour report, Major General Andrew Stewart, GOC MND(SE) from December 2003 to July 2004, stated:

“We have been extremely fortunate that we have not suffered casualties in bases from indirect fire. Attacks against them are sure to increase. Hardening, in some form or other, has to take place.”<sup>585</sup>

**1108.** The MOD provided accommodation to personnel in theatre according to one of three types, depending on the capability required:

- Tier 1 tented structures;
- Tier 2 cabin structures; and
- Tier 3 hard structures made from concrete, steel and masonry.<sup>586</sup>

**1109.** On 14 March 2005, Air Marshal Glenn Torpy, CJO, advised General Sir Michael Walker, CDS, that CITADEL, a hardened form of accommodation, should not be introduced to Iraq and that the risk of IDF should be managed through a combination of continued enhancement of accommodation compartmentalisation and force protection Tactics, Techniques and Procedures (TTPs).<sup>587</sup>

**1110.** AM Torpy explained that, since June 2003, UK camps in Iraq had suffered attacks from mortars and rocket IDF. The attacks tended to occur without warning and between “1200 and 0300 hrs local”. They had led to 43 UK casualties but no fatalities.

**1111.** AM Torpy continued that, following an increase in threat to UK camps, force protection trials had been initiated to analyse the effectiveness of compartmentalisation and to test the design for CITADEL.

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<sup>585</sup> Report Stewart, 13 July 2004, ‘Post Operation Report Operation TELIC 3/4 – 28 December 2003 – 13 July 2004’.

<sup>586</sup> National Audit Office, *Support to High Intensity Operations*, 14 May 2009, HC 508.

<sup>587</sup> [Minute CJO to PSO/CDS, 14 March 2005, ‘Force Protection of UK Camps in Iraq’.](#)

**1112.** There were four “bands” of physical protection that could be added incrementally to camps to counter the IDF threat:

- Compartmentalisation – found in “most camps” in Iraq and undergoing “enhancement work”. Its effectiveness was partially restricted by the layout of camps but overall offered 10 to 80 percent lower casualty rates.
- Ballistic refuge shelter – for personnel to occupy when a warning of attack was given and used as accommodation during the height of the August 2004 attacks. It was assessed that the shelters were “of little value” in the current improved security situation.
- Hardened temporary accommodation – provided permanently occupied, purpose-built but improvised sleeping accommodation with air conditioning and lighting. CITADEL was an example. Providing CITADEL for all UK troops in Iraq would cost £35m, would take “in excess of 12 months” to complete and would require significant amounts of logistical and construction assets. The quality and comfort of CITADEL would be “significantly lower than that currently occupied” and the investment in the first two bands of accommodation would be wasted.
- Purpose-built protected building – not considered appropriate for use in Iraq because of “cost, time to build and permanence”.

**1113.** AM Torpy wrote that it was “possible to mitigate against the likelihood and significance” of IDF attacks “through a package of mutually supporting TTPs and engineering force protection measures”. He stated that events had shown that the level of attacks would “oscillate”. Compartmentalisation was “suitable” protection “in light of the risk across Iraq” but those measures should be “constantly reviewed” in relation to changes in or development of the threat.

**1114.** Gen Walker introduced AM Torpy’s paper at the Chiefs of Staff meeting on 23 March.<sup>588</sup> The Chiefs were invited to consider the recommendation not to introduce CITADEL “in view of the risk to our forces and the degree of additional protection that might be afforded by CITADELS; the length of time that UK forces will remain in Iraq; the cost of procuring and setting up CITADELS; the message that might be sent by building CITADELS this far into the campaign; and the consequences of an AIF [anti-Iraqi forces] attack similar to that which the US have experienced”.

**1115.** The Chiefs of Staff noted that:

“... in view of the potential to draw down to SS [“steady state”] by mid-05, providing CITADELS would mean fortifying our camps just as troops were ready to leave Iraq; only if the campaign were to be drawn out would this investment be worthwhile. It was also considered that fortifying camps at this stage would send the wrong message to all parties and run counter to any announcements on drawdown. The unanimous view was that compartmentalisation and active force protection

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<sup>588</sup> [Minutes, 23 March 2005, Chiefs of Staff meeting.](#)

measures would provide a significant reduction in the risk to UK forces but that the provision of CITADELs would not be of great benefit at this stage of the campaign.”

**1116.** Gen Walker directed AM Torpy to prepare a Ministerial note on the force protection of UK camps with “a clear explanation of both compartmentalisation and the CITADEL concept” and with the statistical analysis from the trials.

**1117.** On 30 March, a PJHQ official sent a slightly revised copy of AM Torpy’s paper to Mr Hoon, asking him to note the Chiefs of Staff’s decision.<sup>589</sup>

**1118.** The official advised Mr Hoon that the improved level of protection afforded by CITADEL had been weighed against:

- “the relatively low frequency of and threat from indirect fire attacks”;
- the hazards inherent in implementing CITADEL, such as the large number of predictable road movements to transport materials to each UK camp;
- the “perceived diminution in the quality of life that would result from insisting that our troops adopt a CITADEL solution”;
- the investment in existing accommodation; and
- the “fact that protection is only provided [...] one third of the day”.

**1119.** On presentation, the official advised Mr Hoon that there was “a risk that, in the event of a sudden and unexpected upturn in violence”, the MOD “could be accused of not having done ‘everything possible’ to ensure the safety of our personnel”. The official wrote that “no measures” could offer “an absolute guarantee of safety” and that force protection consisted of TTPs as well as physical measures:

“In this case, as with most aspects of operations, we have to make a judgement on what is sensible and practicable.”

**1120.** Mr Hoon endorsed the minute the following day.<sup>590</sup> He asked for press lines to be prepared to defend the MOD’s position “against the accusation that this decision was taken on cost grounds rather than balanced and pragmatic advice”.

**1121.** The issue of hardening accommodation arose again in September 2006 after a gradual increase in the number of IDF attacks.

**1122.** General Sir Richard Dannatt, CGS, visited Iraq from 26 to 28 September 2006.<sup>591</sup> In his visit report to Air Chief Marshal Sir Jock Stirrup, CDS, he wrote that difficulties

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<sup>589</sup> [Minute PJHQ \[junior official\] to PS/SofS \[MOD\], 30 March 2005, ‘Iraq: Force Protection at UK Camps’.](#)

<sup>590</sup> [Minute APS/SofS \[MOD\] to PJHQ \[junior official\], 31 March 2005, ‘Iraq: Force protection at UK Camps’.](#)

<sup>591</sup> Minute Dannatt to Stirrup, 2 October 2006, ‘CGS’ Visit to Iraq: 26-28 Sep 06’.

with the Iraq Ministry of Interior would benefit from greater UK assistance but that was determined by the physical security risk to civilian staff. He wrote:

“Given that the indirect fire threat seems to pose the greatest risk ... our Counter Indirect Fire (C-IDF) measures assume even greater importance. Hardening accommodation is ... one important aspect ... but by no means a panacea. What is more important is to deter or defeat those who would prosecute these attacks rather than rely on mitigating the consequences. And to do this we need greatly improved ISTAR.

“This is hardly new. We have known about the paucity of UK ISTAR in both operational theatres for some time now and I welcome the steps we have made with Predator. But this is far from being the complete answer. We need an integrated and layered approach, which provides dedicated manned and unmanned surveillance capability at battlegroup, brigade and divisional level. It is imperative, therefore, that we do not let the Project Watchkeeper ISD slip further to the right and we should investigate the possibility of an interim contracted solution to cover the next four years. Rotary wing MAS [Manned Airborne Surveillance] is equally important and we should ensure Project Stockwell<sup>592</sup> remains adequately funded. I urge early decision and action in this area.”

**1123.** The record of actions from ACM Stirrup’s “O” Group meeting on 3 October stated:

“While ‘Tier 1 Enhanced’ was an acceptable level of immediate Force Protection, every effort needed to be made to establish hardened bases in those areas of Basra where our presence was likely for the medium term, and to minimise manning commensurate with the tasks in hand.”<sup>593</sup>

**1124.** On 10 October, a PJHQ official advised Mr Browne, at his request, on the implications for force protection if troops were moved to Basra Air Station (BAS).<sup>594</sup>

**1125.** Operational analysis had indicated that there was a “negligible difference in the threat posed to a larger base”. A single base would allow a concentration of anti-IDF resources and reduce the need for vulnerable road moves that currently placed a drain on other valuable assets, “particularly aviation”.

**1126.** The official explained that there was a combination of Tier 1, Tier 2 and Tier 3 at BAS, all of which were vulnerable to overhead attack. Trials of an overhead system that “may partially mitigate against shrapnel” from an overhead blast continued but in the “immediate term” it was “most important to contain the lateral threat from IDF”.

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<sup>592</sup> Project Stockwell aimed to deliver a deployable, robust and versatile rotary wing Manned Airborne Surveillance. It later became the Rotary Wing MAS Project.

<sup>593</sup> Note SECCOS, 5 October 2006, ‘Record of Actions and Decisions from CDS O Group – 3 Oct 06’.

<sup>594</sup> [Minute PJHQ \[junior official\] to APS/SofS \[MOD\], 10 October 2006, ‘Iraq: Force Protection’.](#)



**1127.** According to the official, this was achieved through a programme of “compartmentalisation” which was under way and should be in place within seven weeks for all personnel at BAS or Shaibah Logistics Base (SLB). It was estimated that that would reduce the overall threat by 60 percent.

**1128.** It would cost “approximately \$130m” to replace all tented accommodation with containerised accommodation throughout MND(SE) and it would take “about 12 months” to complete. That would also have implications for the timeframe within which the UK could withdraw from SLB. The official advised that it was “arguable whether it would result in net reduction in risk to our people (though it might overcome some presentational issues)”.

**1129.** The official stated:

“In the longer term, anticipating an increasingly serious IDF threat and recognising quality of life, we are also examining the options for providing Tier 2 or Tier 3 accommodation for the enduring proportion of the force (beyond 2008). Initial work indicates that hardened accommodation for a reduced force would cost some \$60m to implement.”

**1130.** The official wrote that there was a need “to keep the threat posed to date by IDF attacks in perspective to the wider challenges faced by MND(SE)”. There had been two UK personnel<sup>595</sup> and one US State Department employee killed by IDF, all since 1 August 2006, compared with 25 fatalities by direct fire and 27 by IEDs. IEDs were still considered “to be the greatest challenge”. The official advised that, despite that, “recent experience” had suggested IDF attacks were “becoming more accurate”.

**1131.** The official concluded that the incremental force protection plan in hand would:

“... ameliorate but not eliminate the risk. More could be done, but would mean delay and significant additional cost. There is a case to be made for hardened accommodation for our longer term residual presence, and work is in hand to define this.”

**1132.** A manuscript comment on the paper indicated that Mr Browne noted the advice provided by PJHQ.<sup>596</sup>

**1133.** The MOD told the Inquiry that in October 2006 US National Guard attack helicopters were deployed to Basra for an extended period to provide a deterrent to the increasing levels of IDF being experienced.<sup>597</sup>

**1134.** On 29 November, Lieutenant General Nicholas Houghton, CJO, briefed the Chiefs of Staff on “continued efforts” to counter the IDF threat in Basra.<sup>598</sup> The level of

<sup>595</sup> Corporal Matthew Cornish and Lance Corporal Dennis Brady.

<sup>596</sup> [Manuscript comment Browne on Minute PJHQ \[junior official\] to APS/SofS \[MOD\], 10 October 2006, 'Iraq: Force Protection'.](#)

<sup>597</sup> Paper [MOD], 20 January 2011, 'Iraq Inquiry: Request for Evidence'.

<sup>598</sup> Minutes, 29 November 2006, Chiefs of Staff meeting.

IDF in Basra amounted to “harassing fire” by theatre standards but it had “assumed strategic significance following the events at Abu Naji<sup>599</sup> and the civilian drawdown from Basra Palace”.

**1135.** Lt Gen Houghton reported that accommodation now had “lateral” protection in place but that overhead ballistic protection would not be complete until the end of June 2007 because of “a capacity issue”.

**1136.** The ongoing efforts to counter IDF included:

- increased patrolling;
- ISTAR and the use of attack helicopters;
- the surging of [UK theatre forces]; and
- the potential use of a US “Sense and Warn” system.

**1137.** In discussion the Chiefs of Staff noted:

“The long term corrosive effect of IDF on coalition operations in Basra, and the difficulty in quantifying the potential impact of counter IDF measures in the near to medium term; the critical impact of the threat on the future civilian force posture in the city; and the potential opportunity afforded by planned force withdrawals from Basra ... to leverage local deals to reduce the IDF threat.”

**1138.** Lt Gen Houghton was tasked with investigating options to improve the procurement timelines for fixed force protection in theatre.

**1139.** Gen Granville-Chapman visited Iraq and Afghanistan from 27 November to 2 December 2006.<sup>600</sup> One of the points about Iraq highlighted in his visit report was:

“The indirect fire threat needs urgent attention, not only to save life, but also because it is probably a pre-condition for PIC [Provincial Iraqi Control] and an essential information operations issue if the opposition is not to claim it has bombed us out of Basra ... Action is in hand.”

**1140.** Separately, General Sir Redmond Watt, Commander in Chief Land, visited Iraq and the Al Udeid air base in Qatar from 27 to 28 November.<sup>601</sup>

**1141.** In Qatar, Air Commodore Clive Bairsto, Air Officer Commanding 83 Expeditionary Air Group, told Gen Watt that he had “made the case” for more manned airborne surveillance, particularly in Iraq where current and planned UAV deployments were “more limited than Afghanistan”.

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<sup>599</sup> UK forces handed over Camp Abu Naji in Maysan province to the Iraqi Security Forces in August 2006 (see Section 12.1). Before August, the camp had come under regular rocket attacks from insurgents.

<sup>600</sup> Minute VCDS to CDS, 4 December 2006, ‘VCDS’s Visit to Afghanistan and Iraq 27 Nov – 2 Dec 06’.

<sup>601</sup> Letter CINC LAND to CGS, 6 December 2006, ‘Visit to Al Udeid and Basrah – 27-28 November 2006’.

**1142.** In Iraq, Gen Watt met Maj Gen Shirreff and reported:

“Richard also commented that some are making too much of the indirect fire attacks in Basra, which skews perceptions in Whitehall. We should encourage other government departments to see these attacks for what they are – harassing fire – and get on with redevelopment ...”

**1143.** Gen Watt also remained “concerned about the paucity of ISTAR assets”:

“Everywhere I went I was briefed that a lack of ISTAR asset availability was constraining operations. As we move towards PIC and over-watch the problem will become more acute.”

**1144.** On 14 December, a PJHQ official advised Mr Browne that three 105mm Light Guns<sup>602</sup> would be deployed to Basra from early January 2007 at Maj Gen Shirreff’s request.<sup>603</sup> That was in response to “a heightened and sustained IDF threat against Multi-National Force bases in Basra City” which had resulted in the temporary withdrawal of FCO and DFID personnel from Basra Palace.

**1145.** The Light Guns would significantly enhance Maj Gen Shirreff’s options in “the ongoing counter-IDF operation, augmenting the support already available such as helicopter and fast air capabilities”.

**1146.** The movements associated with the move to BAS would “temporarily increase MND(SE)’s vulnerability to insurgent attack”. The official wrote: “Of critical concern are the IDF threat, and the perceptions thereof of both the Iraqi people, and the MNF chain of command.”

**1147.** The official wrote that although the deployment of the guns was an enduring requirement, there were no immediate resource implications.

**1148.** Further advice from PJHQ on 20 December stated that Counter Rocket Artillery and Mortar (C-RAM) “Sense and Warn” systems loaned from the US would deploy to the BAS Contingency Operating Base (COB) in “late January/early February”.<sup>604</sup> Again, that was following a request made by Maj Gen Shirreff.

**1149.** The system “comprises a network of radars working together to provide early warning of IDF”. The DEC was investigating options to provide a UK C-RAM system that could combine UK assets and UORs.

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<sup>602</sup> The 105mm Light Gun is a tactically portable, highly versatile, accurate gun that fires explosives, illumination and smoke rounds. It can be moved by road or air.

<sup>603</sup> Minute DJC [junior official] to PS/SofS [MOD], 14 December 2006, ‘Iraq: Deployment of 105mm Light Guns’.

<sup>604</sup> Minute PJHQ J9 Pol/Ops 5, 20 December 2006, ‘Op TELIC: Deployment of the US Counter Rocket Artillery and Mortar (C-RAM) Sense and Warn System to MND(SE)’.

**1150.** On the same day, a USUR for an “active interdict capability” was generated from theatre, which was endorsed by PJHQ on 29 December.<sup>605</sup>

**1151.** On 15 December, Brig Everard wrote in his post-operation tour report that “the IDF threat to base locations remained substantial throughout the tour”.<sup>606</sup>

**1152.** Brig Everard also wrote:

“Despite considerable effort we failed to win the Counter-Indirect Fire (C-IDF) battle, with strategic implications as OGD [other government departments] reduced their footprint.”

**1153.** On 19 January 2007, Maj Gen Shirreff wrote in his post-operation tour report:

“... we have missed the boat on the ISTAR front. I commented in my first weekly letter six months ago: ‘it beggars belief, that after 3 years here, the British Army possesses no tactical UAV capable of flying in the heat of the summer.’ I was told no more staff effort could be put into resolving the problem, but despite this it will be sometime before anything is in service in theatre. Contrast this grindingly slow and ponderous response to the Americans’ generous support with Raven or the Australians who have shown the agility and forethought to lease 6 Scan Eagles from Boeing, together with 3 ground stations ... It took a couple of weeks to clear the decision, two weeks to train the soldiers and Boeing technicians have deployed to maintain the systems. As a result, contrast what we know about events in As Samawah with what we do not know about al-Amarah. As for strike operations, more than anything else, this battle is about day and night long loiter capability ... tracking the target – for days if necessary ... then striking to detain him. This has been a critical factor in the successful battle against AQI [Al Qaida in Iraq] and until we have the same capability we will continue to strike relatively blind against militant JAM.

“If our procurement system were capable of similar agility we would have UAVs on station tracking targets now.”<sup>607</sup>

**1154.** On IDF, Maj Gen Shirreff wrote that attacks in Basra had “increased throughout the year, approximately doubling every 2 to 3 months”. He added later in the report that protection against IDF had “become a primary concern”.

**1155.** Lt Gen Richard Shirreff told the Inquiry that he thought the ability to see and identify indirect fire threats and strike them quickly was “the critical problem” that UK forces faced in Iraq.<sup>608</sup> He said that that required “a series of capabilities which we simply didn’t have”.

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<sup>605</sup> Minute Smith to PS/Min(AF), 16 February 2007, ‘Iraq: Countering Indirect Fire Attacks’.

<sup>606</sup> Report Everard to PJHQ – J3, 15 December 2006, ‘HQ 20 Armd Bde Op TELIC 8 Post Operational Tour Report’.

<sup>607</sup> Report Shirreff to PSO/CDS, 19 January 2007, ‘Post Operational Report – Operation TELIC’.

<sup>608</sup> Public hearing, 11 January 2010, pages 35-36.

**1156.** Lt Gen Shirreff said that the Americans had those capabilities, as did the UK, but the UK did not have them in MND(SE).

**1157.** On 8 February, Lt Gen Houghton provided ACM Stirrup with an Op TELIC force protection assessment.<sup>609</sup>

**1158.** Lt Gen Houghton asked ACM Stirrup to note that there was a “presentational difficulty” around the move to the COB because it only provided Tiers 1 and 2 level protection, but that the risk should be viewed “in the context of the aggregate threat”. That threat included IDF, surface-to-air missiles, IEDs, direct fire and the ability of the enemy to gain information about UK vulnerabilities. The move to BAS would lead to a “safer overall force posture” because UK forces would “become less exposed to the most effective means of attack”, IEDs, and would allow a concentration of resources to ameliorate risk.

**1159.** Lt Gen Houghton wrote that the “most likely” way insurgents would disrupt operations from the COB was through IDF. The frequency of attacks was increasing and the likelihood of a successful attack had “increased to an estimated 95 percent probability within the next three months”.

**1160.** Lt Gen Houghton suggested that the most effective ways of reducing the potential scale of a successful IDF attack was through physical compartmentalisation of communal areas, and procedures to limit the number of people in “any given area”. Existing construction work would conclude in June, but “only a move to suitable protected structures” would offer “a notably higher level of protection”.

**1161.** The priority was for Tier 3 infrastructure in communal areas:

“... we have decided in principle to provide hardened dining facilities (estimated at \$14m and 20 months to complete) and to begin expansion of our Tier 3 footprint (current estimate additional \$60-70m and an additional 10 months) ... We should now form a judgement on the cost/benefit of proceeding with a more extensive Tier 3 build in the context of our enduring Overwatch posture.”

**1162.** The use of C-RAM promised (subject to proof of capability trials) to provide “a significant enhancement” to force protection, although there would be some integration issues to overcome.

**1163.** Lt Gen Houghton continued:

“We are not fully confident the requirement for increased persistency of ISTAR coverage around the COB and over Basra City can be achieved. The UOR programme to deliver TUAV [Tactical UAV] is on track to deliver an ISD of July 2007, although the funded provision may not fully meet our original statement of requirement ...”

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<sup>609</sup> [Minute CJO to PSO/CDS, 8 February 2007, ‘OP TELIC – Force Protection \(FP\) Assessment’.](#)

**1164.** The programme to deliver the Scan Eagle UAV (see Box, ‘An interim solution – Scan Eagle’) by April was “progressing well” and it was intended to expand ISTAR capability “through further TUAV or Scan Eagle support which may involve UOR action”. Lt Gen Houghton wrote that it made “no operational sense to be parsimonious in the provision of ISTAR” when it was such an important element of force protection.

**1165.** Lt Gen Houghton concluded:

“We cannot guarantee absolute FP [force protection] integrity or the complete mitigation of the array of dynamic threats that face us. The enemy only requires one lucky day. It is our judgement however that *reposturing* at the COB will allow us to further exploit the technical advantages of improvements to ISTAR and infrastructure as well as the opportunities of centralised location and the layered FP that the Op ZENITH<sup>610</sup> force posture allows us ... “

### **An interim UAV solution – Scan Eagle**

On 17 January 2007, Vice Admiral Charles Style, DCDS(C), briefed the Chiefs of Staff on his impressions from a recent visit to Iraq, including that the “critical lack” of tactical UAVs in MND(SE) “could have a significant effect over the forthcoming period”.<sup>611</sup>

On 12 March, VAdm Style gave Lord Drayson an update on attempts to address the tactical UAV capability gap as part of advice to the Minister ahead of his visit to Iraq.<sup>612</sup>

Following discussions with the Australian Department of Defence, a solution had been agreed whereby the UK would lease Scan Eagle from the Australian Defence Force. It would be available from April 2007 to 30 June 2007 at a cost of £4.12m and the option to extend the contract beyond June remained open.

Leasing additional UAV capability through Scan Eagle had been identified as “the only option” that would deliver ahead of the initial operating capability of Hermes 450 and avoid the delays associated with other options.

A minute to Lord Drayson on 19 April confirmed that the Scan Eagle initial operating capability was achieved on 15 April 2007 and PJHQ had endorsed the requirement to extend the contract until November 2007.<sup>613</sup> Lord Drayson was advised:

“The original requirement ... to provide Operational and Formation level airborne ISTAR capability for MND(SE) remains extant and is not met or replaced by this proposal. In order to meet pressing requirements and cover operations during the intervening period, PJHQ have endorsed an MND(SE) addendum to the original USUR [Urgent Statement of User Requirement] which seeks to fill the capability gap between now and Jun 07 with sub-optimal but available capability.”

<sup>610</sup> The operation to reduce UK forces on the ground in a combat role and return them to bases, the number of which would progressively reduce.

<sup>611</sup> Minutes, 17 January 2007, Chiefs of Staff meeting.

<sup>612</sup> Minute MA/DCDS(EC) to APS1/Min(DES), 12 March 2007, ‘Update on Issues Following Minister’s Visit to Iraq’.

<sup>613</sup> Minute EC ISTAR to PS/Minister(DES), 19 April 2007, ‘Provision of an Operational and Formation Level Airborne ISTAR Capability to Op TELIC’.

**1166.** On 16 February, Mr Stephen Smith, Deputy Command Secretary at PJHQ, sought Mr Ingram’s approval to deploy additional weapons on counter-IDF operations, in addition to the Light Guns and C-RAM systems.<sup>614</sup> He wrote that IDF was responsible for “inflicting the second highest number of casualties against the UK after IEDs” and the threat was likely to increase when UK forces re-postured to the COB.

**1167.** Physical protection measures were “approaching their practical limit” until a Tier 3 solution was delivered and Maj Gen Shirreff had reported that IDF was “having a detrimental psychological effect on our troops”.

**1168.** Mr Ingram replied on 19 February, agreeing that the extra weapons could be deployed.<sup>615</sup>

**1169.** In a Force Level Review on 26 February, Lt Gen Houghton advised that there was “scope to re-task” up to two Sea King helicopters to other operations by mid-June because of “MND(SE) force dispositions and Merlin SH capacity”.<sup>616</sup>

**1170.** Lt Gen Houghton suggested that the four remaining Sea King helicopters would be dedicated to ISTAR, but it might be possible to withdraw some of them with the arrival of other UAVs anticipated later in the year, including Hermes 450 in mid-June.

**1171.** Lt Gen Houghton wrote that “the very best case ISD” for the UK C-RAM capability to protect the COB was 31 May and it seemed “highly likely” to slip. He added: “The battle procedure to deliver this is ongoing and the system will require up to 100 personnel to support it.”

**1172.** On 7 March, Mr Browne sent “a personal memo” to Mr Ingram and Lord Drayson about IDF.<sup>617</sup> He wrote:

“IDF is an issue we have all been aware of, and striving to address, for some months now.”

**1173.** Mr Browne noted that “significant improvements” had been made but “also, with real concern, the new estimate of the likelihood of a successful indirect fire attack” and its consequences:

“IDF must be one of our very highest priorities. I am not convinced that our current plans are ambitious or decisive enough.”

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<sup>614</sup> Minute Smith to PS/Min(AF), 16 February 2007, ‘Iraq: Countering Indirect Fire Attacks’.

<sup>615</sup> Minute Johnson to PS/Minister(AF), 19 February 2007, ‘Iraq: Countering Indirect Fire Attacks’.

<sup>616</sup> Minute Houghton to Chiefs of Staff, 26 February 2007, ‘Op TELIC 10/11 Force Level Review – Feb 07’.

<sup>617</sup> [Minute SofS \[MOD\] to Min\(AF\), 7 March 2007, ‘Iraq – Force Protection Risks – Indirect Fire, Personal Memo from SofS’.](#)

**1174.** Mr Browne acknowledged that, for more to be done, “people need some guidance within which to work, particularly in relation to timescales and force levels”. He suggested agreement on the following assumptions:

- current plans for force levels and posture will hold for the next six months;
- for the period 6-12 months from now we will be at 4,500 in COB only;
- for the period 12-24 months from now we will be at 3,000 in COB only.”

**1175.** Mr Browne wrote:

“I would welcome rapid agreement from all parties on this. Once agreed I am content we programme on this basis, including finance, accepting that it is a planning assumption for the purposes of this exercise alone.”

**1176.** Mr Browne questioned whether hardened accommodation for communal areas could be delivered earlier than the estimated timescale of 16-20 months and whether shorter-term improvements could be made in the interim: “3-6 months, preferably sooner”. Options for different timings and costs should be provided quickly, “disregarding bureaucracy and standard assumptions about financial constraints”.

**1177.** Mr Browne wrote that the Phalanx capability<sup>618</sup> was “a major step in the right direction” and that they should do “everything in our power, including Ministerial intervention with the US” to meet the May timescale. He asked whether that should be pursued for Basra Palace as well as the COB.

**1178.** Lord Drayson visited Iraq on 8 March and discussed various equipment issues in theatre, including force protection.<sup>619</sup> His report is detailed earlier in this Section with regard to how the UOR process worked in Iraq and protected mobility.

**1179.** Lord Drayson was informed by 19 Light Brigade that Merlin was performing well, “although it was not yet hot”. The Lynx helicopters were unable to fly in the summer heat in Iraq and the top cover role they provided for convoys could be filled with a UAV.

**1180.** The visit report stated that, after visiting Basra Rural South Brigade:

“It was made very clear that the IDF was having a significant impact on the morale of forces based at the COB ... The element of chance in where IDF landed significantly increased stress level, and two people had already been sent home as a result.”

**1181.** Lord Drayson had been told that there was no off-the-shelf design for hardened accommodation that could be applied and that there were challenges to building in Iraq. If “process impediments” were removed, then the first hardened buildings could “probably be in place in around 10 months”. The US presently took 7-8 months to build hardened accommodation.

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<sup>618</sup> A type of C-RAM system.

<sup>619</sup> Minute APS/MIN(DES) to PSSC/SofS [MOD], 26 March 2007, ‘Minister(DES) Visit to Iraq’.



**1182.** In the meantime, theatre was about to subdivide dining areas, which would reduce the threat of a mass casualty event, and the US Sense and Warn system was “seen as a real positive” for the warning time it provided.

**1183.** Lord Drayson had been told how FMV surveillance was “crucial to situational awareness and counter IDF operations” but the UK was reliant on US assets. The US had recently withdrawn Apache helicopters from Basra as they had not “been used kinetically”.

**1184.** Lord Drayson’s report stated:

“Overall there was a clear perception in theatre that UK MOD was not taking account of the rate of change. UORs too often sought to deliver a perfect capability, but in doing so delivered so late the requirement had changed or theatre were without any capability for too long. It was suggested that if there were greater dialogue between theatre and the ECC/ABW [Equipment Capability Customer/Abbey Wood<sup>620</sup>] on individual UORs then trades ... could be made. The example quoted was of UAVs. Hermes was seen as a Rolls Royce solution to a requirement that would now be met (in a bridging capacity) by Scan Eagle, and might better have been met sooner in that way. Equally deployment of the Desert Hawk UAV was being delayed by the UK approach to airworthiness,<sup>621</sup> and the Raven system might have been bought more quickly. It was felt that more visits from DECAs and IPTs would help ...”

**1185.** Lord Drayson met the Commander of JHF-I and the aircrew:

“This was a sobering meeting with the aircrew clearly very busy ... and with a number of concerns about their equipment and the levels of support.”

**1186.** Some of the concerns raised were:

- Sea King was fundamentally an old aircraft and the lift capability it provided declined in the summer.
- With Lynx and Merlin, there was a problem of spares supply and the DSPs for Merlin were still unfunded.

**1187.** The report ended:

“Lord Drayson would be grateful for advice from DCDS(EC) on what can be done to improve communication between UK and theatre, and for him and CDM to reinforce the urgency that everyone should attach to delivering UORs.”

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<sup>620</sup> Abbey Wood is the location of the Defence Procurement and Support Agency (DE&S).

<sup>621</sup> References to Desert Hawk from 2007 onwards refer to Desert Hawk 3 – a different model to that deployed in January 2004. Desert Hawk 3 was eventually withdrawn for technical problems.

### Upgrading battlefield helicopters to “theatre entry standard”

Following his visit to Iraq in March 2007, Lord Drayson sought advice on why a proposal to equip more helicopters to “Theatre Entry Standard” had been deferred.<sup>622</sup>

An MOD official reported on 12 March that the Defence Management Board (DMB) had reserved decisions on a package of savings and enhancements until after the Comprehensive Spending Review was settled. The package included the option “to equip more battlefield helicopters with theatre entry equipment” at a cost of £260m over 10 years.

Further advice sent to Lord Drayson on 16 March explained that the proposal was to upgrade 10 Chinook, 3 Apache, 11 Lynx, 8 Merlin and 17 Sea King.<sup>623</sup> The increase in capability was estimated to take between six and 24 months to deliver.

Following the DMB’s January decision, the proposal had not been developed further.

The Inquiry has seen no further references about taking the proposal forward.

**1188.** On 22 March, Lt Gen Houghton wrote to Lord Drayson requesting approval to adopt an “unusual contracting mechanism” quickly to deliver Tier 3 hardened structures at BAS.<sup>624</sup> That involved using a “single, trusted Prime Contractor and using proven nominated sub-contractors for discrete, complex elements of the work”; the contract would not go through a tendering process.

**1189.** The timescale for delivery was still 18 months but Lt Gen Houghton thought this was “a pessimistic figure” that could be reduced to 12 months once a detailed design had been agreed. There were no existing proven designs for structures that provided the level of protection sought, so design work was “breaking new ground”. That also made it unwise to shorten the design and trials period, but time would be saved by adopting the single tender process.

**1190.** Costs were estimated at US\$28m for hardening dining facilities and US\$145m for hardening “accommodation etc” for 4,500 personnel.

**1191.** A note from Lord Drayson’s Private Office on 26 April formally approved the contracting mechanism proposed by Lt Gen Houghton, but suggested that Lord Drayson had agreed it informally before that date.<sup>625</sup>

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<sup>622</sup> Minute MA/DCDS(EC) to APS1/MinDE&S, 12 March 2007, ‘Update on Issues Following Minister’s Visit to Iraq’.

<sup>623</sup> Minute DCDS(EC) to APS1/MinDE&S, 16 March 2007, ‘Further Update on Issues Following Minister’s Visit to Iraq’.

<sup>624</sup> Minute CJO to PS/Min(DE&S), 22 March 2007, ‘Hardened Accommodation at Basrah COB’.

<sup>625</sup> Minute APS/Minister(DES) to MA/CJO, 26 April 2007, ‘Hardened Accommodation at Basrah COB’.

**1192.** On 29 March 2007, Mr Browne wrote to Mr Timms to outline UOR funding requirements for financial year 2007/08.<sup>626</sup> That included:

- an additional £15m plus for ECM (see earlier in this Section);
- £50m for a C-RAM system; and
- £87m plus for intelligence and surveillance capabilities for both Iraq and Afghanistan, including ISTAR enhancements.

**1193.** That request was sent amidst the discussions between the Treasury and the MOD on the sustainability of the UOR process, which is addressed earlier in this Section in the context of protected mobility, and in detail in Section 13.1.

**1194.** On 24 April, Lt Gen Houghton briefed the Chiefs of Staff that the security situation in MND(SE) had been “dominated” by an IDF attack against Basra Palace.<sup>627</sup> Work continued on IDF protection and Phalanx was scheduled to be in place at the COB by 31 May.

**1195.** In discussion, the Chiefs noted:

“The critical need for measures to mitigate the IDF threat, both against people and equipment remained an issue of strategic importance. The risk to helicopters on the ground in particular was of concern, and while rear basing (where possible) could minimise the risk, the better option was to ensure that effective physical protection measures were in place. **CJO was to conduct a rapid investigation into the provision of additional physical protection for helicopters at the COB.**”

**1196.** The Chiefs of Staff also noted that the C-RAM capability had been off-line during the IDF attack, undergoing repairs after an earlier attack. The introduction of Phalanx could not be advanced. It was agreed that Scan Eagle cover should be extended until Hermes was operational in theatre.

**1197.** On 11 May, Dr Sarah Beaver, Command Secretary at PJHQ, updated Lord Drayson on the procurement process for hardened accommodation at BAS.<sup>628</sup> She asked Lord Drayson to approve the first tranche of building work and to write to Mr Timms seeking the Treasury’s agreement in principle that funding for the project could be met from the Reserve.

**1198.** The proposals received from the contractor quoted “some £95m” for the work, excluding VAT. The build would be done in three tranches: the first providing dining and welfare facilities for 4,500 personnel and the later two providing sleeping accommodation for up to 2,000, a hospital and gym facilities.

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<sup>626</sup> Letter Browne to Timms, 29 March 2007, [untitled].

<sup>627</sup> Minutes, 24 April 2007, Chiefs of Staff meeting.

<sup>628</sup> Minute Beaver to PS/Min(DES), 11 May 2007, ‘Iraq – Force Protection – Hardened Accommodation at Basra COB’.

**1199.** The first tranche could be delivered between 31 May and 31 August 2008 and would cost £40m. The date for overall completion of the project was estimated as “by December 2009”. Achieving those timescales was dependent on “long lead items” for the first tranche at a cost of £14m. That expenditure would be at risk on the core Defence budget unless the Treasury approved a call on the Reserve.

**1200.** Mr Browne wrote to Mr Timms on 21 May.<sup>629</sup> He stated that the MOD was proceeding with the £14m purchase of long lead items but would not commit further without Treasury agreement to fund from the Reserve. He added that the MOD would “negotiate a contract with suitable break clauses to allow us to reduce the project should circumstances allow and keep the overall requirement under review”.

**1201.** Mr Timms replied on 30 May.<sup>630</sup> He agreed that the £14m could be taken from the Reserve but added:

“In considering further funding, the business case for the project will need to demonstrate the continued requirement for the build once current UORs that seek to address the same indirect fire issue ... are deployed and operational in the COB. In addition, we will need to be convinced that the long construction time for the project is coherent with the UK strategic timeline for maintaining troops in Iraq, and the concept of operations for troops in the COB after withdrawal from Basra City.

“... We should treat this initial funding as a net additional cost of operations, but it is explicitly **not** a UOR, and should not be classified as such, given that it is investment in infrastructure and not equipment ...”

**1202.** A Land Command paper produced on 31 August 2010 stated that, between June and September 2007, the three months before Basra Palace was handed over in September 2007 (see Section 9.6), it received over 1,000 rounds of IDF.<sup>631</sup>

**1203.** On 5 June, Lt Gen Houghton briefed the Chiefs of Staff that the next six to eight weeks would see the introduction of a number of additional C-IDF capabilities:

- UK C-RAM at BAS would reach full operating capability by 10 June.
- The US had agreed to loan five AH64 attack helicopters for an initial period of 30 days starting on 10 June.
- Counter-battery fire would be enhanced by the arrival of capability in mid-June.<sup>632</sup>

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<sup>629</sup> Letter Browne to Timms, 21 May 2007, ‘Urgent operational requirement: Hardened accommodation in Iraq’.

<sup>630</sup> Letter Timms to Browne, 30 May 2007, ‘Hardened Accommodation in Iraq’.

<sup>631</sup> Report Land Command, 31 August 2010, ‘Operations in Iraq: An Analysis from a Land Perspective’.

<sup>632</sup> Minutes, 5 June 2007, Chiefs of Staff meeting.

**1204.** Lt Gen Houghton was asked to provide the Chiefs of Staff with an analysis of the effectiveness of the counter-IDF measures one month after the UK C-RAM became fully operational.

**1205.** On 12 June, Lord Drayson was advised that initial operating capability for Hermes 450 would be achieved in Iraq on 25 June.<sup>633</sup> Additionally, 45 ground terminals had been delivered to theatres in Iraq and Afghanistan to enable FMV viewing.

**1206.** An annex on ISTAR UORs stated that initial operating capability for Desert Hawk 3 had been achieved in Iraq on 6 June.

**1207.** On 9 July, an official confirmed that the Hermes 450 had reached initial operating capability.<sup>634</sup>

**1208.** On 10 July, Lt Gen Houghton briefed the Chiefs of Staff that, between April and July 2007, there had been a “marked increase” in attacks to the COB with over 200 IDF attacks in a three-month period.<sup>635</sup>

**1209.** In his post-operation tour report, Major General Jonathan Shaw, GOC MND(SE) from January to August 2007, described the fielding of UAVs as delivering a “step change in capability” although he warned that MND(SE) still required Corps level assistance.<sup>636</sup> He continued:

“... the imperative is now to integrate effectively our new UK UAVs to reduce this dependency.”

**1210.** On 4 September, the Chiefs of Staff were briefed that the US attack helicopter had returned to Baghdad but was “available if required”.<sup>637</sup>

**1211.** Major General Graham Binns, GOC MND(SE) from August 2007 to February 2008, told the Inquiry:

“By late 2007, we had a very sophisticated method of protecting ourselves against rocket attack, which was the predominant form of attack.”<sup>638</sup>

**1212.** When asked about the threat of IDF, Maj Gen Binns said it had “reduced significantly” because of the improvement in surveillance:

“Our ability to engage those who were firing rockets at us from the air improved to such an extent that we forced them back into the town and the further away they are, the more inaccurate they are. So the whole threat of indirect fire reduced.

<sup>633</sup> Minute DEC ISTAR to PS/Min(DES), 12 June 2007, ‘ISTAR UORs’.

<sup>634</sup> Email MOD [junior official] to APS/Minister(DES), 9 July 2007, ‘Hermes 450’.

<sup>635</sup> Minutes, 10 July 2007, Chiefs of Staff meeting.

<sup>636</sup> HQ MND(SE) report, 14 August 2007, ‘Post Operation Tour Report Shawforce Jan – Aug 07’.

<sup>637</sup> Minutes, 4 September 2007, Chiefs of Staff meeting.

<sup>638</sup> Public hearing, 15 January 2010, page 33-34.

It was still an irritant, but the number of casualties sustained by indirect fire reduced dramatically from August onwards.”

**1213.** In September, the DOC undertook an “extensive review and analysis” of the UK’s force protection capability in order to “expose risk, provide assurance and present strategic recommendations” to the Chiefs of Staff.<sup>639</sup>

**1214.** The review is addressed earlier in this Section with regards to protected mobility but specific points were also made about countering the IDF threat.

**1215.** The DOC wrote that units should have access to force protection equipment prior to pre-deployment training if possible to ensure that all personnel were adequately trained in force protection procedures and equipment (particularly UOR equipment) before arriving in theatre. The “recent Treasury decision to permit UOR procured equipment to include an allocation for training” was already having an effect but it was noteworthy that “several Commands were not aware of this significant development”.

**1216.** On accommodation, the DOC stated that the current Tier system was “based on permanence (rather than the provision of FP)” and the nature of contemporary operations suggested that that approach might be “sub-optimal” for force protection:

“Recent experience has indicated that the decision to move from tents to more resilient steel/concrete structures tends to be delayed by the understandable desire to limit the deployed footprint, but this should be balanced against the nature of the threat and type of operation (as well as other criteria such as FPE [Force Protection Engineering] effort, cost and the logistic burden).”

**1217.** Considering the IDF threat, the DOC wrote that “the most effective way of reducing the potential scale of a successful IDF attack is through a mix of good ISTAR, physical compartmentalisation and infrastructure protection together with active measures such as dominating the likely firing area through regular patrols and C-RAM-type systems”.

**1218.** The DOC recommended: “ISTAR capability should continue to be developed to provide a consistent 24/7 stream of fused intelligence to force protection decision makers.”

**1219.** The DOC noted that investigations into the US Sense and Warn system were under way. The Phalanx system had been deployed into theatre in May 2007 and, after “initial teething problems”, its performance was improving. The likelihood of IDF being a significant threat to deployed forces in current and future operations suggested that a C-RAM capability needed to be taken into the core Equipment Programme as an enduring requirement. C-RAM measures should be included in the design phase of building a deployed base.

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<sup>639</sup> Report DOC, September 2007, ‘Directorate of Operational Capability Protection of the Deployed Force Operational Audit Report 1/07’.

## CONSIDERING WHETHER TO DEPLOY REAPER TO IRAQ

**1220.** ACM Stirrup visited Iraq from 13 to 16 May 2007.<sup>640</sup> Considering the IDF threat, the report of his visit stated:

“CDS believed an armed UAV would provide the ideal platform to deliver a precision, time sensitive response whilst minimising the risks of collateral damage.”

**1221.** Lt Gen Figgures was tasked to investigate how an armed UAV might be acquired.

**1222.** On 25 May, Lt Gen Figgures advised ACM Stirrup that there were three options for providing a weaponised UAV in Iraq:

- extending the Reaper programme (a UK version of Predator B) to purchase extra airframes for Iraq (the funding at this time was for three airframes all to be delivered to Afghanistan);
- asserting pressure on the US to apportion a greater proportion of Predator A hours to MND(SE); or
- investigating the possibility of weaponising Hermes 450.<sup>641</sup>

**1223.** On 12 June, Air Cdre Gordon advised Lord Drayson that the option to purchase a further nine Reaper as part of the 2007 Equipment Programme had been delayed until the outcome of the Comprehensive Spending Review was known.<sup>642</sup>

**1224.** The Inquiry asked ACM Stirrup if there were decisions he wished had been taken differently during his time as DCDS(EC).<sup>643</sup> He replied that one of the difficulties had been that pressures on the defence programme and equipment plan had meant that money was taken out of areas that needed increased investment.

**1225.** ACM Stirrup told the Inquiry that, up until 2002, funding in ISTAR had increased by 15 percent but some of that was removed in subsequent years through savings measures. He added:

“I also felt that we were far too slow to improve our capabilities in persistent surveillance, particularly through unmanned vehicles, and when I became CDS, one of the first things I did was to stop the arguing about whether we should purchase Reaper from the United States and tell people to go and buy it, and it is now in operation as a consequence.”

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<sup>640</sup> Minute PSO/CDS to PSSC/SofS [MOD], 17 May 2007, ‘CDS Visit to Iraq 13-16 May 07’.

<sup>641</sup> Minute DCDS(EC) to PSO/CDS, 25 May 2007, ‘CDS Visit to Iraq 13-16 May 07 – Equipment Issues’.

<sup>642</sup> Minute DEC ISTAR to PS/Min(DES), 12 June 2007, ‘ISTAR UORs’.

<sup>643</sup> Public hearing, 1 February 2010 page 64.

**1226.** On 12 December, a USUR for an “armed long loiter, long range capability” was raised by MND(SE).<sup>644</sup> It stated that existing measures to protect against IDF and IEDs were reactive:

“MND(SE) therefore needs a pro-active SENSE capability that will also INTERCEPT IED and IDF attacks before they can launch their attack. Rapid and decisive disruption of IED and IDF teams will also be a potential deterrent.”

**1227.** The USUR stated that between January and October 2007:

- IED attacks had caused 21 deaths and 81 casualties.
- IDF attacks had caused five deaths and 127 casualties. The rate of attacks had abated since September but the sustained level of attacks by insurgents in the first part of the year indicated “their capability and capacity to sustain high rates of fire when the intent exists”.

**1228.** The operational requirement was:

“... to observe insurgents and their weapon systems (IDF/IED) across the AO [Area of Operations] over long durations and long range, which is integrated with a rapid, precision capability to engage targets once identified.”

**1229.** The solution proposed by MND(SE) was an armed Predator B UAV.

**1230.** The Inquiry asked the MOD to confirm that the Predator B (Reaper) was never deployed to Iraq. The MOD stated that it was “available to the UK as a Coalition asset” but was never deployed to Iraq.<sup>645</sup>

## THE DRAWDOWN OF UK FORCES

**1231.** From July 2007, the further hardening of accommodation was complicated by uncertainty surrounding the UK’s position in Iraq. Mr Gordon Brown, the Prime Minister, announced plans for the military drawdown in Basra in October.

**1232.** On 29 July 2007, Mr Browne wrote to Mr Andy Burnham, Chief Secretary to the Treasury, requesting an additional £32m from the Reserve for hardened accommodation.<sup>646</sup>

**1233.** Mr Browne explained that the estimated total cost of the work at Basra Air Station would be £186m and work would be complete by March 2011. Due to “uncertainties on future force levels”, it was proposed to approve the structures in “up to six tranches”.

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<sup>644</sup> Minute MND(SE) EC [junior officer] to PJHQ – DACOS J3 EC, 12 December 2007, ‘Operation TELIC – Urgent Statement of User Requirement (USUR) for an Armed Long Loiter, Long Range Capability’.

<sup>645</sup> Letter Duke-Evans to Hammond, 4 February 2016, [untitled].

<sup>646</sup> Letter Browne to Burnham, 29 July 2007, ‘Tier 3 Hardened Accommodation at the Basra Contingent Operating Base’.



**1234.** Mr James Quinault, Head of the Defence, Diplomacy and Intelligence spending team in the Treasury, advised Mr Burnham to “hold off” replying until September, pending decisions about the scale and duration of the UK’s commitment in Basra.<sup>647</sup>

**1235.** Mr Burnham replied on 11 September 2007.<sup>648</sup> He recognised that the case for hardening accommodation was “compelling” if UK troops were to remain at Basra Air Station for a prolonged period, but that “the scale of additional resources committed to the project” should be agreed once there was greater clarity on the UK’s posture in Basra, expected at the end of that month. He concluded:

“It is clearly desirable that you continue to take the decisions necessary to ensure that suitable accommodation can be provided as soon as possible should UK troops remain in theatre for the foreseeable future. I understand that you are currently taking such decisions at risk of around £10m to your own budget. I think this is prudent and you should be reassured that, in the event of a decision for an early withdrawal, these sunk costs will be admissible against the Reserve.”

### Moving JHF-I to Kuwait

On 5 October 2007, a PJHQ official sought Mr Browne’s agreement for the UK to establish a logistic support facility in Kuwait.<sup>649</sup> It would include the relocation of JHF-I. The minute stated:

“The proximity of Camp Buehring to Basra (around 30 minutes flying time) allows us to de-risk the force protection of our helicopters without affecting their ability to undertake their operational tasking. A forward helicopter detachment will however remain in the COB as the Incident Response Team (IRT).”

Mr Browne agreed on 9 October.<sup>650</sup>

**1236.** On 2 October, Major General James Dutton, DCJO(Ops), briefed the Chiefs of Staff that the Tier 1 and Tier 2 builds at Basra Air Station were complete and the full Tier 3 programme would be finished in December 2009.<sup>651</sup> The “Enhanced Personal Bunkers project, an intermediate Tier1/2 solution” had commenced on 17 September and was known as Stonehenge.

**1237.** On 7 December, Mr Ian Gibson, Deputy Command Secretary at PJHQ, recommended that Mr Browne write to Mr Burnham requesting a further £65m from

<sup>647</sup> Minute Quinault to Burnham, 21 August 2007, ‘Hardened Accommodation for UK Troops in Basra’.

<sup>648</sup> Letter Burnham to Browne, 11 September 2007, ‘Hardened Accommodation in Basra’.

<sup>649</sup> Minute PJHQ [junior official] to PS/Secretary of State [MOD], 5 October 2007, ‘Op TELIC: Logistic Support Facility in Kuwait’.

<sup>650</sup> Minute APS/Secretary of State [MOD] to PJHQ J9 Hd Pol/Ops 1, 9 October 2007, ‘Op TELIC: Logistics Support Facility in Kuwait’.

<sup>651</sup> Minutes, 2 October 2007, Chiefs of Staff meeting.

the Reserve for Tranche 2 of the hardened accommodation programme.<sup>652</sup> Tranche 2 comprised a hardened medical facility and three hardened accommodation blocks, housing a total of 900 personnel.

**1238.** Mr Gibson wrote that force level planning for spring 2008 suggested there would be 2,830 UK military personnel, along with supporting civilians, contractors and other “multi-national military elements”, bringing the total number of personnel at Basra Air Station to 5,321. A further 745 UK military personnel would be based at the Kuwait support facility.

**1239.** To avoid “a situation where we failed to provide protection for personnel should UK forces remain at the COB longer than we might originally have anticipated”, PJHQ’s work assumed an “enduring military force of around 2,500”.

**1240.** Mr Gibson recommended that Mr Browne should also seek £30m of the £32m currently carried at risk for the first tranche and the subject of Mr Browne and Mr Burnham’s correspondence in September. The £2m “delta” reflected Treasury uncertainty that an element of the dining facility protection was required.

**1241.** Officials in Mr Browne’s Private Office replied on 12 December, stating that Mr Browne agreed with Mr Gibson’s proposal and had written to Mr Burnham accordingly.<sup>653</sup>

**1242.** The reply also highlighted that Sir Bill Jeffrey had written to Mr Browne on 11 December confirming his view that to proceed with Tranche 2 was “justifiable” but the position should be considered in the New Year, with the MOD ready to “scale the plans down” if it seemed “right to do so”.

**1243.** On 18 December, Mr Burnham agreed to fund both elements of the request but wrote:

“We will, however, want to think together about the balance of investment decisions to be taken on this project before I can commit to further funding ... We will need to be convinced that the long construction time ... is coherent with the UK strategic timeline for troop levels in Iraq, and the total numbers of people ... that will be based at the COB and require protection.”<sup>654</sup>

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<sup>652</sup> Minute Gibson to PS/SofS [MOD], 7 December 2007, ‘Tier 3 – Update Submission for Secretary of State’.

<sup>653</sup> Minute APS/Secretary of State [MOD] to DCS(RES) PJHQ, 12 December 2007, ‘Tier 3 – Update Submission for Secretary of State’.

<sup>654</sup> Letter Burnham to Browne, 18 December 2007, [untitled].

**1244.** Mr Bob Ainsworth, the Minister of State for the Armed Forces, visited Iraq from 17 to 21 December 2007.<sup>655</sup> The visit report stated:

“The Minister saw for himself the effect of Operation Stonehenge – the hardening of personal bed spaces. This, like C-RAM, appeared initially to have been greeted with mixed feelings but was now generally considered to be a positive development, both in terms of protection and morale.”

**1245.** On 15 January 2008, Lt Gen Houghton told the Chiefs of Staff that Project Stonehenge had “progressed well” and would be complete by February.<sup>656</sup> The third tranche of the Tier 3 hardening project was progressing and 2,100 hardened bunks would be complete by 2009, although the final decision point on this for Ministers was 20 March 2008.

**1246.** On 20 March, Mr Gibson advised Mr Browne to place Tranche 3 of the hardened accommodation programme on hold because of uncertainty about the UK’s future presence in Iraq.<sup>657</sup> That tranche would have brought 1,500 further hardened bed spaces, bringing the total to 2,400. He noted that the IDF threat had recently increased and provided an analysis of the options, finally stating:

“This is a fine call, involving judgements about force levels over a year away. It represents a significant change in emphasis in our approach to this project: in essence, rather than continuing with Tier 3 until it is proven no longer to be required, we would be deciding only to proceed with Tranche 3 once it has been demonstrated that it was required, and in doing so for the first time accepting that we will not provide Tier 3 accommodation for all at the COB as quickly as possible.”

**1247.** Officials in Mr Browne’s Private Office replied on 27 March.<sup>658</sup> Following discussion with ACM Stirrup and Sir Bill Jeffrey, Mr Browne had noted:

- The ongoing work on future options for the UK’s long-term presence in southern Iraq was unlikely to conclude before the summer.
- There were options “under consideration” which would render Tranche 3 “unnecessary”.

**1248.** Mr Browne agreed that the Tranche 3 programme should be placed on hold until the likely UK presence in 2009 was clearer.

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<sup>655</sup> Minute PS/Minister(AF) to APS 4/Secretary of State, 10 January 2008, ‘Minister(AF)’s Visit to Iraq, 17-21 December’.

<sup>656</sup> Minutes, 15 January 2008, Chiefs of Staff meeting.

<sup>657</sup> Minute Gibson to PS/SofS [MOD], 20 March 2008, ‘Tier 3 – Update Submission’.

<sup>658</sup> Minute APS/Secretary of State [MOD] to Gibson, 27 March 2008, ‘Tier 3 – Update Submission’.

**1249.** On 30 May, Mr Gibson advised Mr Browne that the MOD should “cease to plan on the basis that Tier 3 Tranche 3 will be required and take the steps necessary to reconfigure Tranches 1 and 2” to get best value for money from the project.<sup>659</sup>

**1250.** That was because the focus on training and mentoring of Iraqi Security Forces meant there was “greater confidence” that the UK would have completed the bulk of its mission in Iraq by early 2009. Against that background, it seemed unlikely to Mr Gibson that the UK would need or wish to retain a large base at Basra Air Station.

**1251.** While Ministerial decisions on the timing and pace of any drawdown in 2009 were yet to be agreed, approval for Tranche 3 would be needed “now” if it were to be delivered by “October-December 2009” (at the earliest). If a bid for funding was not made before the summer, the project would not be delivered until 2010.

**1252.** With “very limited time”, it was possible to adjust Tranches 1 and 2 into “a more coherent package, perhaps consisting of two feeding halls, the hospital plus five accommodation blocks, sufficient for a force of around 1,500”. Mr Gibson advised that that was “the most pragmatic, best value for money approach without taking excessive additional risk over and above the other options currently available to us”.

**1253.** On 26 July, Brigadier Julian Free, Commander of 4 Mechanised Brigade, assessed that the completion of enhanced individual overhead protection had “markedly increased the force protection afforded to troops on the COB” but warned that the risk of a mass casualty event still remained.<sup>660</sup> He implied that was because not all of the communal buildings had been hardened.

**1254.** On 17 October, a PJHQ official advised Mr Browne that the final structure of first tranche would be complete and operational by 20 October.<sup>661</sup> The other structures had come into use on 14 July, 14 August and 24 September.

**1255.** The second tranche was “to start coming on line in March-April 2009” but, given the plans for transition, it was unlikely that the UK would “derive significant benefit from these facilities”.

**1256.** The US had expressed an interest in taking over structures from the first two tranches as part of their plans to move to Basra Air Station in 2009. It was estimated that £4.9m could be saved from stopping the Tranche 2 programme “now” but PJHQ judged, subject to Ministerial and Treasury approval, “it would make sense to complete the structures as part of a wider arrangement with the US regarding the transfer of responsibility in MND(SE)”. That would still result in a £3.5m saving.

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<sup>659</sup> Minute Gibson to PS/Secretary of State [MOD], 30 May 2008, ‘The Tier 3 Programme at Basra COB’.

<sup>660</sup> Report Free, 26 July 2008, ‘Op TELIC 11: HQ 4 Mechanized Brigade Post Operational Report’.

<sup>661</sup> Minute PJHQ [junior official] to PS/SofS [MOD], 17 October 2008, ‘Iraq: Update on the Protected Structures Programme (Tier 3)’.

**1257.** While hardened accommodation would no longer be provided to 900 personnel from March to April 2009 as planned, forces would be living in the existing accommodation until drawdown. Personal overhead protection was “now fitted to every military, MOD civilian and OGD civilian’s sleeping bay” and the level of IDF remained “much reduced from previous levels”.

**1258.** On 18 November, Ms Cheryl Plumridge, Command Secretary at PJHQ, sent an update on the hardened accommodation programme to Mr John Hutton, the Defence Secretary.<sup>662</sup> The advice sought to re-address the issues raised in the 17 October minute, which had been withdrawn following questions from Mr Hutton’s Private Office.

**1259.** Ms Plumridge explained that the planned adjustments to Tranche 2, to create a medical facility and accommodation blocks, had been put on hold following discussions with the US who, for its own purposes, preferred the structures to be left empty.

**1260.** The UK would need an agreement with the Iraqi Government to reflect the transfer of any structures to the US instead of to Iraq, assuming standard terms were agreed in the Status of Forces Agreement (see Section 9.7).

**1261.** Ms Plumridge wrote: “Balance of risk has been at the heart of the Tier 3 project as it has developed and Ministers have previously accepted increased risk in this area.” She highlighted the cancellation of Tranche 3 and stated the revised plan would now only provide Tier 3 protection for the feeding halls.

**1262.** It was “extremely hard to predict the impact of not having Tier 3 accommodation” and instead relying on Stonehenge. Ms Plumridge laid out the different factors that could lead to a mass casualty event occurring and stated:

“To put this into context, as at today’s date, 45 days have passed since the last indirect fire attack on the COB – so we are currently a long way from the worst-case position.”

**1263.** Ms Plumridge proposed that PJHQ officials would seek Treasury approval for the structures to be treated as a gift to the US, in line with the arguments set out in the 17 October minute.

**1264.** Mr Hutton approved Ms Plumridge’s proposal on 25 November.<sup>663</sup>

## THE REMAINING LEVELS OF HELICOPTER AND ISTAR SUPPORT IN MND(SE)

**1265.** On 6 December 2007, Mr Browne wrote to Mr Brown with an update on “helicopter issues”.<sup>664</sup> He stated that there would always be demands for more

<sup>662</sup> Minute Plumridge to APS/SofS [MOD], 18 November 2008, ‘Iraq: Update on the Protected Structures Programme (Tier 3)’.

<sup>663</sup> Manuscript comment Hutton on Minute Plumridge to APS/SofS [MOD], 18 November 2008, ‘Iraq: Update on the Protected Structures Programme (Tier 3)’.

<sup>664</sup> [Letter Browne to Brown, 6 December 2007, ‘Update for the Prime Minister on Helicopter Issues’](#).

helicopters on operations given “the scale and intensity of our current operational commitments”.

**1266.** One of the principles underpinning the MOD’s approach to helicopters was “to rationalise our helicopters by theatre”. Mr Browne added:

“While we are clear about the imperative to provide increased support to operations in the short term, we are also concerned not to sacrifice the future sustainability of the helicopter fleet for the immediate needs of today.”

**1267.** Mr Browne wrote that helicopter support to operations in Iraq was “generally assessed as satisfactory” and therefore additional capability for Afghanistan was the priority.

**1268.** The update noted that there were five Merlin and six Lynx in Basra and there were seven helicopters in Baghdad. The Sea King fleet had been withdrawn earlier than planned because of the reduction in troop levels and the helicopters were being switched to Afghanistan, four having already been deployed.

**1269.** The requirement for the six Danish Merlins procured to enable the release of the Sea King fleet from Iraq had “fallen away along with our reduction in force levels there” so the possibility of deploying them to Afghanistan was under consideration.

**1270.** Mr Browne explained:

“It may seem counter-intuitive that, despite the fact we have so many more helicopters in our inventory, we are able to deploy a relatively small number on operations. We are limited by the need to keep our burden on our airframes, crews and ground support staff at a sustainable level over time. As a rule of thumb, it takes three or four additional helicopters to enable the deployment of a single helicopter on operations with the remaining aircraft used for training and to enable us to rotate our deployed helicopters in and out of maintenance and to carry out essential modification programmes.”

**1271.** Mr Browne concluded:

“To borrow a line from David Cameron, there is no ‘magic pot’ of money into which we can dip in order to buy all the helicopters we might like to. We do not have access to the Treasury Reserve for the procurement of such enduring capabilities, and helicopters must compete with other pressing requirements within our hard-pressed equipment programme. Equally neither are there any helicopters currently readily available on the market which would be an obvious aspiration for us; most order books are full, and the procurement of a new helicopter type would be both costly and time-consuming.

“That said, I can give you an assurance that, while we continue to make the most of what we have got ... This is not an area where we can afford complacency.

We shall continue to seek out opportunities to improve and enhance our deployed helicopter fleets ... but I believe that we are on the right path towards an enduring and sustainable capability which will allow us to fulfil our key tasks, delivering upon our important commitments in Iraq and Afghanistan.”

**1272.** A report of Mr Ainsworth’s visit to Iraq in December 2007 stated:

“Concerns were raised with regard to ISTAR provision, which had decreased over recent months, but which would become increasingly important in the overwatch posture; there had been successes – such as Hermes 450 – but the withdrawal of capabilities such as the Danish ... helicopter and Scan Eagle were significant losses.”<sup>665</sup>

**1273.** Mr Ainsworth was briefed by key personnel involved in manning and operating the C-RAM system:

“He was reassured to hear that its success rate in interdicting IDF rounds continued to improve although he noted that there was still some way to go. He was particularly struck by the extent to which the general perception of C-RAM’s capability had turned around since his last visit, with personnel at all levels praising its hugely positive impact on morale.”

**1274.** On 9 January 2008, a junior officer in MND(SE) produced a review of ISTAR capability within MND(SE) for PJHQ.<sup>666</sup> He explained that the move to Provincial Iraqi Control (PIC) in the UK’s AOR had:

“... necessitated a wholesale review of ISTAR capability to support the MND(SE) mission. This has occurred at a time when there is a noticeable reduction in the ISTAR assets and capabilities provided by organic and MNC-I/Theatre platforms. This is now affecting MND(SE)’s ability to prosecute operations against irreconcilable Shia extremists and will constrain MND(SE) in delivering its missions and tasks ...”

**1275.** The officer made a number of recommendations including bringing forward the Astor and Raptor programmes, introducing an aircraft such as Defender to enable low-level support to ground forces and the introduction of a weaponised UAV capability.

**1276.** The officer stated that MND(SE) could find no record of “a formal ISTAR Estimate” having been conducted and “rather an iterative approach” had been adopted, “resulting in a fragmented approach to ISTAR” that had led to capability gaps.

**1277.** Considering the FMV capability, the officer explained that there were “a number of Corps assets” but MND(SE) was having “less success in securing these” and two assets

<sup>665</sup> Minute PS/Min(AF) to APS/SofS [MOD], 10 January 2008, ‘Minister(AF)’s Visit to Iraq 17-21 December’.

<sup>666</sup> Minute COS MND(SE) to ACOS J2 PJHQ, 9 January 2008, ‘Review of ISTAR Capability Within MND(SE)’.

would be withdrawn by March 2008. He described the only assets that could be “tasked with a degree of certainty”:

- Hermes 450 which suffered from technical and spares issues. It was recommended that its maintenance contract was re-negotiated to expedite the release and availability of spare parts.
- Desert Hawk 3 was heavily used and any reduction as a result of drawdown work would have a significant impact.
- Iraqi Security Forces (ISF) assets which were limited.

**1278.** Manned aerial surveillance assets were “extremely limited”. Nimrod MR2 had been withdrawn and the use of helicopters in this role had a cost to their “lift” role.

**1279.** An annex to the review provided a “snapshot” of the existing MND(SE) ISTAR capability:

Table 3: ISTAR availability in MND(SE), January 2008

UK	Quantity	Provision
Broadsword	3 x [Helicopter]	[...] hours per month
Hermes 450 UAV	3 (2 more expected in January 2008)	800 hours per month
Desert Hawk 3 Mini UAV	64	10 x 1hr each day
Nimrod MR2	Principally in support of Op HERRICK, not Coalition asset	Not MND(SE) dedicated

**1280.** On 15 January, the Chiefs of Staff were advised that the first Hermes 450 had crashed during bad weather two days earlier and the next two were not due in service until the end of January.<sup>667</sup>

**1281.** Gen Dannatt visited Iraq from 13 to 15 January.<sup>668</sup> He reported:

“I am aware that CJO is conducting a comprehensive review of ISTAR but the 25% reduction of support to MND(SE) is completely counter-intuitive at a time when we need even greater situational awareness. I think the time has come for some original thinking about how to increase our RW MAS [rotary-wing manned airborne surveillance] capability – if the Danes were able to introduce the Fennec as a low cost solution within a three month period, surely we could produce a similar package?”

<sup>667</sup> Minutes, 15 January 2008, Chiefs of Staff meeting.

<sup>668</sup> Minute, CGS to PSO/CDS, 21 January 2008, ‘CGS Visit to Iraq 13-15 Jan 08’.



**1282.** An internal Army lessons learned report was published on 31 August 2010, known as the “Barry Report”.<sup>669</sup> It stated that one of the lessons for future transitions was to increase, not decrease, the ISTAR requirement:

“As transition progresses and UK boots and eyes on the ground decrease, so there is an increased requirement for ISTAR in order to maintain the same overall level of situational awareness. The Iraq experience demonstrated that once we withdrew to the COB we lost a very large part of our situational awareness. Supporting indigenous forces with our ISTAR also enhances effectiveness and commanders’ prestige and thereby maintains our ability to influence.”

**1283.** On IDF, the Barry Report stated:

“In 2004 MND(SE) had predicted that the IDF threat would increase ... the threat was acknowledged but did not seem to result in structural force protection of our bases for some time. Although some were in very robust buildings, such as Basra Palace, the majority of troops on the COB remained in tented accommodation until very late in the campaign ...”

**1284.** The DOC’s final Op TELIC lessons report was endorsed by the Chiefs of Staff on 17 March 2010.<sup>670</sup> It stated that there had been a lack of an enduring intelligence picture for “at least the first four years” of the campaign and that perhaps that stemmed from “the very widely held view that, up to and throughout 2006 and into 2007, there were insufficient ISTAR assets available to MND(SE), and hence by necessity they were focused on maintaining as much of the day-to-day tactical picture as possible”.

**1285.** The DOC wrote that it had also been suggested “that rather than there not being enough, the Coalition as a *whole* had sufficient ISTAR assets; but that due to a lack of in-depth understanding of the capability”, the effort was “mistakenly focused on requesting ISTAR platforms rather than their product”. It continued:

“The situation was exacerbated by the lack of effective engagement by MND(SE) with MNC-I via the coalition chain of command. The result was increased requests from theatre directly to the UK for additional national ISTAR assets, which were eventually provided. Had the correct engagement of the in-theatre chain of command been followed this might have delivered the required increase in ISTAR capability far sooner.”

**1286.** The DOC report offered the following lessons:

- “When tasking limited ISTAR assets sources, consideration of the creation and maintenance of the strategic through to the tactical picture must be undertaken.”
- “When operating as part of a coalition, understanding the procedures to gain access to coalition ISTAR assets are vital; defaulting to the national route, whilst potentially easier, will probably not deliver as quickly.”

<sup>669</sup> Report Land Command, 31 August 2010, ‘Operations in Iraq: An Analysis From a Land Perspective’.

<sup>670</sup> Report DOC, 17 March 2010, ‘Operation TELIC Lessons Study Vol. 4’.

**1287.** In his review of the land operation in Iraq, Brig Barry wrote that “there was no effective single land sponsor for ISTAR”.<sup>671</sup> He stated:

“There is overwhelming evidence of a comprehensive failure to generate an adequate tactical intelligence capability to meet the requirements of tactical commanders. What capability was fielded was almost always too little too late. This appears to have resulted from significant weaknesses in almost every area of intelligence direction, collection, analysis, dissemination ...”

**1288.** Comparing the ISTAR assets across the coalition, Brig Barry wrote that senior US officers were “astonished to find the UK so lacking” in that capability. The US were able to field platforms capable of both persistent ISTAR and armed action which improved the ability to engage fleeting targets and act as deterrent “top cover” for ground troops. The UK never had sufficient assets to do the same.

**1289.** On the lack of UAVs, Lt Gen Shirreff told the Inquiry that he had been told that “no more staff effort could possibly be put into deploying UAVs to South-East Iraq”.<sup>672</sup> He thought that that was not because of the intention to draw down forces, but because the MOD “was incapable of generating the drive and energy to deliver them”.

**1290.** Maj Gen Shaw told the Inquiry that there was always a worry that UK forces would find it difficult to respond if security in MND(SE) deteriorated.<sup>673</sup> He said that the problem was not so much the number of UK troops available but “it was more to do with situational awareness and intelligence”.

**1291.** Maj Gen Shaw told the Inquiry that ISTAR was “the major issue” and that “we never got as much as we wanted”. While the UOR system was a responsive one, and new equipment arrived “at a remarkable rate”, Maj Gen Shaw said that UAVs were “the big equipment shortage and problem”.

**1292.** Sir Peter Spencer, Chief of Defence Procurement from May 2003 to April 2007, told the Inquiry that ISTAR was “a classic example” of where incremental procurement was necessary.<sup>674</sup> He stated that anybody who “tried to envisage a big bang project which will deliver everything you need will get it wrong, because the time it takes to develop will be such that during that period all of your assumptions would have been tested and some will have changed”.

**1293.** Sir Peter said that he thought the MOD went about trying to understand the requirement “quite well”, by putting “some really good people in place who concentrated on it quite hard”. The testing point came where the MOD “was invited to cancel a major project platform to pay for it”.

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<sup>671</sup> Report Land Command, 31 August 2010, ‘Operations in Iraq: An Analysis From a Land Perspective’.

<sup>672</sup> Public hearing, 11 January 2010, pages 35-36.

<sup>673</sup> Public hearing, 11 January 2010, pages 33-35.

<sup>674</sup> Public hearing, 26 July 2010, pages 62-63.

**1294.** The difficulty with Watchkeeper was that “it became very political”.<sup>675</sup> Sir Peter referred to Lord Bach’s evidence before the House of Commons Defence Committee, in which Sir Peter said that Lord Bach gave an In Service Date “under political pressure” and before the requirement was properly understood.

**1295.** Sir Peter said that “you have to be thick-skinned enough to stand up to that pressure politely, but in a way which informs Ministers that ... a short term gain here is going to lead to a lot of grief later”.

**1296.** At the time that the MOD was debating whether to bring in the Hermes 450 UAV as a “gap filler”, Sir Peter said: “there were some quite hard decisions which needed to be made in London by the military customer to decide what they want to spend the money on, because they could not have both simultaneously”.<sup>676</sup>

**1297.** Sir Peter concluded:

“The compelling lesson from all of this is if you want something quickly to work, you go for something which is available apart from anything you might need to do to integrate it to work inside your own organisation, because there will be some aspects of the way we operate UK military forces which will be different, say, from the Americans.”<sup>677</sup>

**1298.** The Inquiry asked Lt Gen Figgures whether, if the Reaper UAV that was sent to Afghanistan had instead been sent to Iraq, it would have made a difference to the UK’s ability to defend itself against the indirect fire threat at Basra Air Station.<sup>678</sup> He replied that it “could potentially have made a difference. Indeed the Hermes in 2007 and Desert Hawk I think had some success.”

**1299.** Lt Gen Fulton acknowledged to the Inquiry that the UK should have procured its own UAV sooner than the Hermes 450 in 2007.<sup>679</sup>

**1300.** The Watchkeeper UAV was never deployed to Iraq. The MOD told the Inquiry that it came into service in August 2014 and was deployed in Afghanistan.<sup>680</sup>

**1301.** Asked when Watchkeeper had been scheduled to come into service, Lt Gen Fulton replied that he thought a date of 2009 to 2010 was “what people had in mind”, but referred to Lord Bach’s evidence to the House of Commons Defence Committee in June 2003 that it would be 2005 to 2006.<sup>681</sup> He added:

“I think what that showed was not so much that they got it wrong, but a reflection of the keenness to get it in, and the wish to put pressure on not only us to work

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<sup>675</sup> Public hearing, 26 July 2010, pages 65-67.

<sup>676</sup> Public hearing, 26 July 2010, pages 67-68.

<sup>677</sup> Public hearing, 26 July 2010, pages 68-69.

<sup>678</sup> Public hearing, 27 July 2010, pages 109-110.

<sup>679</sup> Public hearing, 27 July 2010, pages 100-107.

<sup>680</sup> Letter Duke-Evans to Hammond, 4 February 2016, [untitled].

<sup>681</sup> Public hearing, 27 July 2010, page 100.

harder but equally ... we were absolutely determined that Watchkeeper was one programme that was not going to get derailed by people changing their minds midway through ...”

**1302.** Speaking about the areas of capability in which it was not possible to invest to the extent he would have liked, Lt Gen Figgures said of ISTAR:

“Did we anticipate the requirement we would need [to] provide coverage of areas as big as southern Iraq or as big as Afghanistan? No we didn’t and therefore we had to develop that.”<sup>682</sup>

**1303.** The Inquiry asked Gen Dannatt about his visit report from October 2006 where he had raised the need for greater ISTAR capability.<sup>683</sup> He referred to the Watchkeeper programme and said that was another example of where savings were made to the programme only to be added back later as a UOR or emergency programme:

“Once a real operational requirement for UAVs was derived for Iraq and Afghanistan, surprise, surprise, energy was then put back into the Watchkeeper programme. Money was added back into the Watchkeeper programme. Hermes 450 ... was brought forward.”

**1304.** Gen Dannatt told the Inquiry that it was difficult to have a balanced programme of capability for future when the present was “staring you very bloodily in the face”.<sup>684</sup> He added:

“The trick is not to be so wrong that you can’t adjust when the future reveals itself. That’s what I think we should be working towards at the present moment. Absolutely funding properly what is staring us in the face, which today is Afghanistan and previously was Afghanistan and Iraq. I don’t think we did that.”

**1305.** The DOC report in March 2010 also recognised “the profound and fundamental impact” that running two medium scale operations concurrently had on resources afforded to Iraq.<sup>685</sup>

**1306.** The DOC considered the impact of the UK’s decision in 2005 to return to Afghanistan and stated as a key lesson that “knowingly exceeding Defence Planning Assumptions requires the most rigorous analysis”.

**1307.** The DOC wrote that running two concurrent, enduring medium scale operations, in excess of the Defence Planning Assumptions, had a “profound and fundamental impact on the progression of Op TELIC between 2006 and 2009”. It added:

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<sup>682</sup> Public hearing, 27 July 2010, pages 21-22.

<sup>683</sup> Public hearing, 28 July 2010, pages 68-69.

<sup>684</sup> Public hearing, 28 July 2010, pages 71-72.

<sup>685</sup> Report DOC, 17 March 2010, ‘Operation TELIC Lessons Study Vol. 4’.

“The challenges of prioritising insufficient resource, in terms of personnel, equipment, funding, planning and decision making effort, between Iraq and Afghanistan, have had a direct and negative effect on the UK’s ability to carry out all its tasks and responsibilities in both campaigns. These pressures of prioritising resources between the assumed, but ultimately not achieved, rapid drawdown in requirements of Op TELIC, and the increases required over and above the initial estimate of troop numbers for Op HERRICK, were significant ...”

**1308.** The DOC stated that the growing casualty rates in Basra in 2006 and 2007 increased public pressure on politicians to devote more resources to Iraq but by that point “there was very limited scope to reverse, or even stop troop drawdown in Iraq:

“There had been a considerable hollowing out of capability in Basra over this period, as a consequence of the need to meet the increasing demands of Afghanistan.”

**1309.** Speaking about balancing the two commitments in Iraq and Afghanistan, General Sir Nicholas Houghton told the Inquiry:

“I felt in Iraq, we could deliver the strategy, with risk, with the means that were available, but it became relatively quickly evident that within Afghanistan we were not militarily in a position of strategic coherence. We did not have the means to deliver on objectives, and, therefore the requirement ... to make us strategically rebalanced in Afghanistan.”<sup>686</sup>

**1310.** Gen Houghton said that it was not “troop numbers per se” that was the problem, but rather the “strategic and operational enablement of them through what are rare breed capabilities” such as strategic lift, ISTAR, aviation and attack helicopters.

**1311.** Sir Kevin Tebbit told the Inquiry that he was “very concerned” about the discussions in 2004 to deploy an additional force to Afghanistan because the UK was still “heavily engaged in Iraq” and was still recuperating from its large scale operation during the invasion.<sup>687</sup> The view of the Chiefs of Staff was that “they could do it and it was manageable” and so Sir Kevin did not press his “objections fully”.

**1312.** The “planning assumption” was that the UK should put itself forward because “if the UK didn’t come forward, nobody else was going to”. If the UK came forward, it was hoped that would create “a snowball effect”, with other countries providing “support forces, helicopters, the things that we were relatively lacking in”. Sir Kevin recognised that it was not possible to predict at that time, mid-2005, whether the UK would secure those commitments.

**1313.** Gen Jackson was asked by the Inquiry whether Ministers were advised, when they took the decision in 2004 to deploy UK forces to Afghanistan, that it would reduce their options in Iraq.<sup>688</sup>

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<sup>686</sup> Public hearing, 5 January 2010, pages 35-38.

<sup>687</sup> Public hearing, 3 February 2010, pages 14-17.

<sup>688</sup> Public hearing, 28 July 2010, pages 65-67.

**1314.** Gen Jackson replied that it was “not unreasonable” at that time to have forecast the UK’s drawdown “to probably a few hundred” but the difficulty was that the timetable for Iraq did not go as planned. He said it was not possible, when the timetable did go awry, to “suddenly put up our hand and say, ‘We can’t do this in Afghanistan’”, because it would have “severely disrupted” the whole NATO effort.

**1315.** Gen Jackson said the fact that the Defence Planning Assumptions “were not upheld by events” and were “almost overturned by events” demonstrated how difficult it was to predict what future capabilities were necessary.<sup>689</sup>

**1316.** The Inquiry heard evidence about how running two medium scale operations concurrently had an impact on the provision of support helicopters.

**1317.** Lt Gen Dutton told the Inquiry:

“Nobody wanted to deploy any more troops ... or any more helicopters. In fact, I can recall a conversation with DCDS(C) [Lt Gen Rob Fry], perhaps a slightly light-hearted one which was ‘Don’t, whatever you do, ask for any more helicopters’. Of course, we did end up asking for lots more helicopters and we got some more helicopters ...”<sup>690</sup>

**1318.** Lt Gen Dutton added:

“Given the circumstances at the time and the helicopters that we had in the inventory, I certainly felt that they [PJHQ] ... were doing their best to provide, if not more helicopters and crews, more hours because ... that’s just as valuable if you can fly the aircraft for longer and have the spares to allow you to do the servicing to allow that.”<sup>691</sup>

**1319.** The Inquiry asked Lord Drayson what advice he had received on the ability of the UK’s support helicopter force to support the operations in Iraq and Afghanistan. Lord Drayson wrote:

“I was advised that, although the UK’s helicopter force was under pressure due to the decision taken in 2004 under Medium Term Workstrand to remove funding, increased provision of flying hours and the deployment of additional aircraft, the battlefield helicopter requirements in Iraq and Afghanistan were being met (e.g.VCDS minute to SofS 7 Sept [2006] refers.). This however was not the impression I gained following my visits to theatre. Again I found myself having to get senior officers together to try to reach agreement on whether there was a requirement, and if so, what it was. Even when we were in the process of strengthening our helicopter capability in 2006/7 the view of the military was there

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<sup>689</sup> Public hearing, 28 July 2010, page 88.

<sup>690</sup> Public hearing, 12 July 2010, page 31.

<sup>691</sup> Public hearing, 12 July 2010, pages 33–34.

was no requirement in Afghanistan for more helicopters at the time, just a utility to having more helicopters so we could meet future requirements. The military view was also that there was no requirement for a new small helicopter.”<sup>692</sup>

**1320.** Asked if he was concerned whether the MOD had an insufficient number of support helicopters capable of being deployed in the threat environment of Iraq, Lord Drayson wrote:

“Yes ... However it was difficult to get the military to agree on the requirement. Helicopters specifically were not seen as the responsibility of any particular service and therefore suffered from the lack of a ‘service champion’. It was not believed that helicopters could be procured quickly ...”

**1321.** ACM Torpy disagreed with Lord Drayson’s view on helicopter ownership and prioritisation. He told the Inquiry that the Joint Helicopter Command did have advocates and champions:

“Actually it was owned by a single service. It was operational command CINC Land Forces ... So there was an advocate for Joint Helicopter Command, and if I look at the interest that the three Chiefs took in Joint Helicopter Command it was pretty key.”<sup>693</sup>

**1322.** The Inquiry asked ACM Stirrup for his view of the helicopter situation during his time as Chief of the Air Staff, from 2003 to 2006. He replied that it “was not a significant issue” in Chiefs of Staff discussions during that time.<sup>694</sup> There was a requirement to make modifications as lessons were learned, but “there was no sense that ... we needed – urgently needed twice as many helicopters than we had, although it was quite clear that we could always have used more”.

**1323.** ACM Stirrup told the Inquiry that, between 2006 and 2009, when he was Chief of the Defence Staff, the constraint on the helicopter fleet was twofold:

“First was we had eight Chinooks sitting in a shed unable to fly. That is a significant percentage of the total Chinook force ...

“Secondly, we were operating in two theatres, which was well beyond our planning assumptions and although it was a strain to generate sufficient infantry battalions for the rotation between the two theatres, the really critical elements were the enablers. They were the strategic and tactical mobility. They were the helicopters, they were the ISTAR, they were all of those specialist areas that are so important for any operation, wherever it is and whatever it is.”<sup>695</sup>

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<sup>692</sup> Statement, 15 December 2010, page 8.

<sup>693</sup> Public hearing, 18 January 2011, page 81-82.

<sup>694</sup> Public hearing, 1 February 2010, pages 17-18.

<sup>695</sup> Public hearing, 1 February 2010, pages 66-67.

**1324.** The Inquiry asked Gen O’Donoghue whether increasing the flying hours of helicopters sooner would have made sure that more were available in Iraq. Gen O’Donoghue replied that it took time to do because more spares would have to be acquired to fly the helicopters and maintenance schedules had to be adjusted.<sup>696</sup>

**1325.** Gen O’Donoghue said that there were a number of factors to consider when looking at whether to procure a new type of helicopter, including the procurement cost, the cost of certifying airworthiness, what changes were necessary to meet the theatre entry standard and what was best to bring into service alongside existing models.

### The £1.4bn reduction in helicopter spending

The majority of witnesses to the Inquiry said that the decision to reduce helicopter funding by £1.4bn in 2004 had not had an effect on what was available for Iraq.

Mr Hoon told the Inquiry that he did not believe that earlier funding decisions about the Equipment Programme were “relevant” to helicopter availability in Iraq.<sup>697</sup> That was because of the lead time for any new helicopters to come into service.

Speaking about the Spending Review settlement in 2004, Sir Kevin Tebbit told the Inquiry that the MOD preserved resources for Iraq and made cuts in the areas considered least likely to be called upon.<sup>698</sup> He said that it was “very difficult” to say that it had had a long-term impact on operations in Iraq and Afghanistan because the savings were made in forward programmes, such as with helicopters.

The Inquiry asked Sir Peter Spencer if the £1.4bn reduction in 2004 had affected the number of helicopters available in Iraq.<sup>699</sup> Sir Peter replied that he was unable to comment on that specifically because he was not involved in the support of those helicopters but did state that it was an example of how the MOD had to decide what its priorities were:

“[It] goes back to the fundamental issue at the heart of all of this, which is being more realistic about what the money would actually buy you and to just accept that you can’t have every toy in the shop.”

Lt Gen Fulton indicated that the spending reduction did not have an impact on Iraq as it affected amphibious and light helicopter procurement rather than support helicopters which is what commanders relied upon for troop transport:

“So for very good reasons, all the reasons you identify, whilst the £1.4bn cut to the helicopter budget was profoundly unwelcome, it had no effect at all on anything to do with Iraq.”<sup>700</sup>

Gen Jackson said of the 2004 funding cut that he thought “some of the difficulties with helicopters stem from that decision” as well as the procurement difficulties with the eight Chinook Mk3s.<sup>701</sup>

<sup>696</sup> Public hearing, 14 July 2010, pages 73-79.

<sup>697</sup> Public hearing, 19 January 2010, page 197.

<sup>698</sup> Public hearing, 3 February 2010, pages 9-12.

<sup>699</sup> Public hearing, 26 July 2010, pages 59-61

<sup>700</sup> Public hearing, 27 July 2010, page 96.

<sup>701</sup> Public hearing, 28 July 2010, page 86.



In March 2011, the MOD told the Inquiry:

“Had SABR [Support Amphibious Battlefield Helicopter programme] continued, the earliest delivery of new Chinooks would have been after the end of UK operations in Iraq, so the Department does not assess that the removal of £1.4 billion from the helicopter programme affected the availability of support helicopters for operations in Iraq.”<sup>702</sup>

**1326.** The Inquiry was told that the Treasury was not an obstruction in the UOR process but there were difficulties with the flexibility of the MOD’s budget.

**1327.** Mr Ingram told the Inquiry:

“... everything had to be finely justified and there was constant tussles with the Treasury in all of that as to whether it was a UOR or whether it should come from core expenditure ...”<sup>703</sup>

**1328.** Lt Gen Fulton told the Inquiry this process was one whereby “we had to try to find the money ourselves and if we couldn’t find the money then we went to the Treasury for UORs once Iraq had started”.<sup>704</sup>

**1329.** Lt Gen Figgures described a process of rigorous scrutiny of requirements which involved “some tough negotiation”.<sup>705</sup> He told the Inquiry:

“We were given considerable sums of money over the period of time that I filled my appointment to make that case. Whether it was helicopters or protective mobility, defensive aid suites, all of those where we made the case were funded, but it was – they were very rigorous in their scrutiny of the case we put forward, and you could as a taxpayer say, well, yes, they should be. As a soldier it was hard work producing the evidence to get past that scrutiny.”<sup>706</sup>

**1330.** Lt Gen Figgures added:

“When it came to the urgent operational requirements, if we could identify requirement, justify it, have a reasonable idea of what it might cost, deliver it in an acceptable time-frame, then the Treasury would give us the money for it ...”

**1331.** Asked whether he had sufficient resources to fund the equipment he thought was relevant to operations in Iraq, Lt Gen Fulton told the Inquiry that the starting point was that *The Strategic Defence Review* was not properly funded to deliver what it was supposed to.<sup>707</sup> That meant that the MOD was left with “an equipment capability that existed within but did not fill the defence planning requirement”.

<sup>702</sup> Paper [MOD], 1 March 2011, ‘Request for Evidence, Support Helicopters’.

<sup>703</sup> Public hearing, 16 July 2010, page 29.

<sup>704</sup> Public hearing, 27 July 2010, page 25.

<sup>705</sup> Public hearing, 27 July 2010, page 27.

<sup>706</sup> Public hearing, 27 July 2010, pages 23-26.

<sup>707</sup> Public hearing, 27 July 2010, pages 19-20.

**1332.** Lord Drayson told the Inquiry:

“I actively stressed the importance of addressing the deficiencies of equipment on operations following my visits to theatre and feedback from front line reports. However the opportunities to redirect resources from core Equipment Programme were limited by the inherent resistance in the system to changes to the core Equipment Programme outside the annual planning rounds. It was very difficult to reach agreement on the re-prioritisation of resources as there was no flexibility in the budget. It required a push from me to do this. I also asked for the Department to look at rationalising the equipment programme to create a 10-15% head-room for reprioritisation to meet short-term operational requirements.”<sup>708</sup>

**1333.** Asked how effective the MOD’s efforts were to draw on core Equipment Programme funding to support ongoing operations, Lord Drayson wrote:

“... the Services were concerned that their long term programmes would be cannibalised and lose funding to short term operational needs ... it was quite unusual for core equipment funding to be redirected to operational needs. This only happened when the military had a strong desire for it ...”

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<sup>708</sup> Statement, 15 December 2010, page 7.