



House of Commons
Defence Committee

**The Army's requirement
for armoured vehicles: the
FRES programme:
Government Response to
the Committee's Seventh
Report of Session 2006–07**

Ninth Special Report of Session 2006–07

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The Defence Committee

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Report

The Defence Committee published its Seventh Report of Session 2006–07 on The Army's requirement for armoured vehicles: the FRES programme on 21 February 2007, as House of Commons Paper HC 159. The Government's response to this report was received on 26 April 2007. This is appended below.

Appendix: Government response

Introduction

This is the Government's response to the Defence Select Committee's report entitled "The Army's requirement for armoured vehicles: the FRES programme" (Seventh Report of Session 2006–07), published on 21 February 2007. The Committee's conclusions and recommendations are set out in bold.

Responses to Conclusions and Recommendations

The medium weight vehicle requirement

1. The requirement for a new medium-weight fleet of vehicles was identified in the 1998 Strategic Defence Review. The experience of operations in Iraq and Afghanistan has strengthened the urgent operational need for this requirement. The Snatch Land Rover is very mobile but has proved vulnerable to attack from Improvised Explosive Devices and Rocket Propelled Grenades, whereas the Warrior is sufficiently armoured against most threats but lacks mobility. If the UK is to execute its expeditionary policy effectively, the Army urgently requires a fleet of vehicles which are rapidly deployable yet provide sufficient protection for Service personnel. (Paragraph 12)

We agree. The coherent approach being taken by the Department to meeting its medium weight armoured fighting vehicle requirements is consistent with this conclusion.

In the short term, there is an urgent need to address the risks faced by our soldiers on current operations. To address this need we are implementing a range of measures including upgrades to protection equipment, vehicle upgrades (eg BULLDOG) and introducing new equipment such as VECTOR and MASTIFF. These additional capabilities represent a timely response to the needs of our forces on current operations, and are already making a valuable contribution to ongoing operations in Iraq and Afghanistan. These measures, however, are not, and never were, intended to meet the Army's longer term requirement for new medium weight armoured fighting vehicles that will be effective across the full spectrum of operations including: Rapid Intervention; enduring Peacekeeping and Peace Enforcement operations and support to high intensity, major combat operations. That requirement will be met by FRES.

To ensure the coherent and effective implementation of these programmes, the MoD has established the Sustaining Armoured Vehicle Coherence (SAVC) Pathfinder programme and the new DE&S will organise its work in order to improve the focus on armoured vehicles and force protection more generally.

Meeting the requirement in the short term

2. We welcome the MoD's action in meeting the immediate operational need for a medium-weight armoured vehicle in Iraq and Afghanistan. But the procurement of Mastiff and Vector does not provide a long-term solution to the Army's medium-weight vehicle requirement. (Paragraph 20)

We agree with this conclusion. The Departments strategy for meeting the Army's Armoured Fighting Vehicles (AFV) needs makes a clear distinction between the urgent, short term need for Protected Patrol Vehicles, such as MASTIFF and VECTOR, designed for Peace Support Operations, and those AFVs needed to provide an effective FRES capability across the full spectrum of future operations.

3. We welcome the fact that the Treasury has funded the procurement of Mastiff but are disappointed that it did not make the funds available for the Vector procurement. On present plans the post-operations, through-life maintenance costs for Vector and Mastiff will fall on the defence budget. The Treasury should make additional funds available to the MoD for the through-life support and maintenance of Vector and Mastiff. (Paragraph 21)

We would offer two points of clarification regarding current Departmental policy.

Firstly, HM Treasury has been equally supportive of the need to field VECTOR as quickly as possible to meet the demands of current operations; however, their support to the MoD has taken a different form. Unlike MASTIFF, VECTOR was a project that was already included in the core Defence Programme and this funding was increased and brought forward through UOR procedures to deliver the capability ahead of the original schedule.

Secondly, the current policy for UORs is that they are procured with Treasury contingency funding, with support and maintenance costs claimed from the same fund retrospectively until they are brought into the core Defence Programme, at which point the Department assumes responsibility for support costs of in service equipment. In line with this policy, if a decision is taken to bring VECTOR and MASTIFF into the core programme, support and maintenance costs would properly fall to the defence budget.

4. The procurement of Mastiff and Vector must not deflect the MoD from working to meet the requirement for medium-weight vehicles over the longer term. (Paragraph 22)

We agree with this recommendation. The recent and rapid procurement of vehicles such as MASTIFF, VECTOR and BULLDOG, provide an additional capability to commanders, but remain separate from the FRES programme.

Meeting the requirement in the longer term

TRACER and MRAV Programmes

5. The TRACER and MRAV programmes cost a combined total of £188 million. The MoD asserts that output from these programmes has informed work on the FRES programme, but it is not clear how. The MoD should explain in its response to this report how the work carried out on the TRACER and MRAV programmes has contributed to the FRES programme. (Paragraph 26)

At this stage, specific pull-through from TRACER and MRAV has been limited. However it includes sub-system engineering expertise drawn into FRES TDPs during the IAP, improved understanding of the relationship between weight, mobility, capacity and protection characteristics, and understanding of the risks associated with combining the Scout and Ground Based Surveillance roles in a single vehicle.

Further opportunities for pull-through will be realised during the Assessment Phase for the Reconnaissance family of vehicles. The Department has initiated a project to ensure that a digest of key relevant TRACER information is available for exploitation at the launch of the Assessment Phase for the Reconnaissance family of vehicles.

The TRACER and MRAV programmes were managed entirely outside the scope of the FRES programme, however, a comprehensive body of information from those programmes is available to the FRES team and has helped to inform both the requirement and the development of viable technical and programme options. Lessons have been learned, as appropriate, from experience on TRACER and MRAV, with key individuals across the Department embedded within the FRES IPT. This has allowed the pull-through of analysis, methods and results and more efficient execution of the IAP. It has also helped to inform our understanding of integration risks, and the development of a viable solution for the FRES programme.

FRES 2001 – 2003: “the concept phase”

6. Following the completion of the work carried out by Alvis Vickers between 2001– 03, and over six years after the requirement for medium-weight forces was articulated in the Strategic Defence Review, FRES remained no more tangible than a concept. (Paragraph 31)

We accept that the FRES concept phase was too long, primarily due to inability to refine and stabilise the requirement quickly enough and failure to adopt early the most appropriate procurement strategy. The strategy was revised in 2003 to allow for an independent assessment of the best way to meet the FRES requirement, including consideration of the full range of candidate vehicles and technologies, during the Assessment Phase. This revised acquisition approach was approved via the Initial Gate Business Case (IGBC) in April 2004, and was formally announced by the Minister for Defence Procurement in May 2004. This established the firm foundation from which the Initial Assessment Phase (IAP) was launched.

Progress during the Assessment Phase has been good¹. The next stage is the competitive approach which was announced in November 2006. The initial wave of 3 competitions, which will select the Utility Vehicle (UV) Design, UV Integrator and System of Systems Integrator, has already been launched. The UV Design competition will involve trials of candidate vehicle designs this summer, with the outcome to be announced in November 2007.

¹ All key decision milestones have been achieved on time and all of the Technology Demonstrator Programmes are performing well against their contract schedules

Going forward, we intend to complete a rigorous Assessment Phase building on the outcome of these trials and competitions as this is an essential pre-requisite to a successful main investment decision. The Defence Committee has correctly urged² the Department to ensure adequate risk reduction work is done prior to the main investment decision.

The Requirement: the weight challenge

7. A vital requirement for FRES is that the vehicle will provide sufficient protection against Improvised Explosive Devices and Rocket Propelled Grenades. In the light of operational experience in Iraq and Afghanistan, the MoD has revised upwards its armour requirement for FRES. Consequently, the weight requirement for the vehicle has increased from 17 tonnes to between 20–27 tonnes. We consider it vital that UK troops are provided with sufficient protection and that the FRES requirement must be adapted to reflect this. (Paragraph 41)

We agree with this conclusion. We can confirm that the FRES Utility Vehicle requirement does reflect the need for increased levels of protection. This need was identified in response both to experience on current operations and our ongoing assessment of the future threat, and was confirmed as part of the FRES requirement at the end of June 2005. To meet the Army's minimum requirement for protection, the FRES Utility Vehicle needs to operate in the 27–30 tonnes weight range, without compromising capacity or mobility requirements. Only Current Development vehicles have the potential to achieve this, whilst retaining the ability to upgrade FRES in the future (as described in more detail in our response to Conclusion 10).

8. We note the tension between the requirements that the FRES Utility vehicles provide sufficient protection and that they be quickly deployable. The requirement that the FRES Utility vehicle should be transportable by the Hercules C130J proved over-ambitious. It remains to be seen whether transportability by A400M is achievable. (Paragraph 42)

We note the conclusion regarding the tension between providing adequate protection and speed of deployability. The question of the relative priority of speed of deployability and force protection in theatre has already been resolved. It is covered by our response to Conclusion 9. The decision to remove the requirement for Hercules C130 deployability reflects the anticipated change in the balance of the air transport fleet in favour of A400M. It also reflects the increased protection levels required for FRES which can not be accommodated within the C130 load limit.

Transportability by A400M is recognised as a risk to the programme but is being carefully managed with appropriate mitigation strategies.

2 HCDC Sixth Report 28 July 2004

CONCLUSIONS

4. It comes as no surprise that a key underlying cause of poor performance, in terms of delivering projects to time and cost, has been MoD's failure to invest enough money and time to sufficiently de-risk projects in the Assessment Phase. This is a concern which we, our predecessors and the National Audit Office, have highlighted over the past 20 or so years. MoD now proposes to spend more money and time in the Assessment Phase. We welcome this intention, but given past failures to address this longstanding problem we are still to be convinced that it will be implemented in practice. (Paragraph 28)

9. We are concerned that there could be a vicious circle of delays as the requirement is continually revised. It is unrealistic for the MoD to seek a perfect solution to its medium-weight vehicle requirement. If it is impossible to develop sufficient armoured protection for the FRES Utility vehicle while remaining within current weight requirements, the MoD should make a decision as to which is its priority. Failing to make the decision will simply cause further delay. (Paragraph 43)

We agree that the requirement should not be continually revised. However, the Committee's recommendation at paragraph 41 makes clear the need for adequate levels of protection, and we have acted in accordance with this recommendation. This does not constitute a vicious circle of delays but rather represents sensible decision making in light of operational experience. Both the threat and the requirement remain under review.

We agree we should not pursue unrealistic levels of capability for FRES. We are seeking a pragmatic solution that delivers, at the earliest opportunity, the capability that the Army needs with the potential for further improvements through life.

The question of the relative priority of force protection in theatre and air deployability has been resolved. Whilst both are important, protection in theatre is a higher priority than air deployability by A400M/C17.

Our intention remains to pursue the delivery of the FRES UV at the earliest possible time while providing significantly improved capability and sustained operational effectiveness through life in comparison with relevant vehicles in the current fleet (eg the FV 430 Series and SPARTAN).

An Off the Shelf (OTS) Solution

10. The MoD considers that there is no off-the-shelf vehicle available which would be capable of meeting its FRES requirement. It bases this judgment on its requirement that the chosen platform should be capable of supporting upgrades for the next thirty years. (Paragraph 46)

We agree that there is no in service vehicle currently available Off The Shelf (OTS) that can meet the FRES UV requirement and offer the following clarification.

An Off the Shelf vehicle has been defined as an armoured vehicle currently in service that would not need further modification. Evidence from the Initial Assessment Phase (iAP) has comprehensively demonstrated that no OTS vehicle exists that would meet the UV requirement. OTS vehicles cannot operate in the 27–30 tonne weight range, the weight necessary to provide the required level of protection, and cannot be upgraded to meet it in the future. This shortfall in protection would mean that OTS vehicles would not be operationally effective as the FRES UV.

Analysis of Current Development (CD) platforms indicates that some do have the potential to operate in the 27–30T range and could therefore provide the levels of protection required for FRES. They may however require significant upgrades to their current chassis, drive train, engines etc to achieve these levels of protection and this would need to be achieved without unduly compromising capacity and/or mobility requirements.

In addition, only current development platforms offer the potential to retain the scope to upgrade FRES in the future, as re-iterated by the Committee in Conclusion 11 below.

A more detailed assessment of candidate current development platforms will be carried out during the UV Design competition (the Trials of Truth) in 2007.

11. The MoD must ensure there is scope to upgrade FRES in the future. This must include the scope to insert new technologies which must increase the vehicle's protection. Without this, the MoD would have to procure vehicles off-the-shelf every time operational threats changed. This would be unacceptable. (Paragraph 47)

The Report rightly recognises the importance of growth potential to allow FRES vehicles to accommodate new technologies throughout their operational life in response to changing needs and threats. We agree with this conclusion which is consistent with the approach already adopted by the Department and reinforces the need to base FRES UV on a current development solution which has the scope for future upgrade.

International Co-operation

12. We consider it surprising that the MoD has found no scope for collaboration with international partners on developing FRES, particularly at the sub-systems level. The MoD should consider whether there is any scope for exploiting synergies with the programmes of other nations aimed at meeting a similar requirement to FRES. (Paragraph 51)

The observation may have arisen from a misunderstanding of the oral evidence provided by CDP on 12th December 2006. CDP accurately stated that there were no plans to conduct a co-operative programme based on FCS (Future Combat System). However, this does not preclude co-operation at the sub-system level with a number of other nations. This is something we are actively considering and we have already conducted a considerable amount of work with Sweden, the US and other nations to explore the potential for co-operation.

Engagement with Sweden has included requirements harmonisation and co-operative risk reduction work. This work is carried out under the auspices of an Implementing Arrangement to the Defence Materiel Co-operation Memorandum of Understanding (MoU), 1994.

Engagement with the US has been conducted under the auspices of a Land Battlespace MoU which allows the exchange of technical and requirements data between the US and UK project teams.

We are also engaged with a number of European allies who have defined medium weight armoured vehicle requirements to examine possible opportunities for further joint working at the sub-system level.

Whilst our current thinking is that there is no scope to collaborate *at the overall programme level*, there is scope for co-operation at the sub-system level. The Reconnaissance, Fire and Manoeuvre Support vehicle families are likely to offer further opportunities for co-operative working.

A decision on whether to pursue a collaborative programme will be taken at the time of the main investment decision and our open, competitive approach enables us fully to exploit relevant international developments.

Army Involvement

13. The success of the FRES programme is dependent on the knowledge and experience of a wide range of Army personnel, including those who will use the vehicles, being applied to the programme. The MoD must ensure that the interests of the soldiers who will use FRES are considered fully when defining the FRES vehicle requirement. (Paragraph 58)

We agree with this conclusion which is consistent with the approach already adopted by the Department. The importance of engaging the views of the soldiers who will use the FRES vehicles is well understood and is reflected by: the roles of the User and Sponsor within the MoD, the use of Army Subject Matter Experts in the FRES IPT³ and the involvement of the Army's Trials and Development Units, who will play a key role in the Trials of Truth scheduled for mid 2007.

The Army is further represented at all levels throughout the programme. The Army is an integral part of FRES programme governance and is involved in all assessment phase activities, in the initial wave of 3 competitions and in programme decision making. The new DE&S organisation has further reinforced senior Army involvement in the programme through the creation of Chief of Materiel (Land) and Armoured Fighting Vehicle Group Leader posts, at Lieutenant General and Major General respectively.

The role of the Systems House

14. We note with interest the appointment of a Systems House and recognise the potential benefit to the MoD of a source of independent project management expertise. We recommend that the MoD publish the performance criteria by which the contribution by Atkins to the FRES project will be judged and their subsequent performance in meeting them. (Paragraph 61)

As the Committee has recognised, the Systems House (SH) approach offers potential benefits to the Department.

The Department's policy is not to release detailed assessments of the performance of contractors into the public domain because of their commercial sensitivity.

In keeping with normal contract management procedures, the performance of Atkins has been kept under review throughout the IAP. Their performance will be assessed formally at the end of the phase. We would propose to update the Committee confidentially (not for publication) on the contribution Atkins has made to the IAP in the further update at the end of the year.

3 30% of total IPT numbers are embedded Army personnel, half of which are Army Subject Matter experts.

Acquisition Strategy: Intellectual Property Rights

15. We welcome the MoD's insistence that intellectual property rights to FRES should remain in the UK. For such a vital project, the UK must retain the essential systems knowledge within the UK. (Paragraph 71)

We agree with this recommendation which is consistent with the approach already adopted by the Department.

Absolute clarity on the ownership of Intellectual Property Rights and technology transfer issues will be essential in ensuring we can upgrade FRES vehicles throughout their life, thereby securing operational sovereignty. Agreement that all intellectual property and design authorities should reside in the UK is a pre-requisite for companies participating in FRES competitions.

16. Retaining the intellectual property rights within the UK will enable the MoD and defence companies residing in the UK to exploit fully the potential export market for FRES. UK-based companies producing the FRES vehicle for export would not only benefit the UK economy but also help support the UK's defence industrial base. (Paragraph 72)

We agree with this conclusion which is consistent with the approach already adopted by the Department. The benefits to UK Industry and the UK Industrial base are recognised.

In Service Date and Main Gate Approval: Utility variant

17. The FRES Utility vehicle ISD must be challenging but achievable. Although the Defence Industrial Strategy states a planning assumption of delivery by "the early part of the next decade", the Systems House, appointed by the MoD for its project management expertise, considers there to be little evidence that FRES will be in service before 2017. (Paragraph 81)

Our strategy is designed to achieve the earliest ISD of a vehicle which meets the Army's requirement and offers the potential for sustained operational effectiveness through life. Our planned activities for 2007, together with the UV Demonstration Phase which follows, are designed to generate the hard evidence required for a successful Main Gate decision, and are designed to provide the required capability much earlier.

18. The Army's lack of suitable medium-weight armoured vehicles has meant that the MoD has had to devote considerable sums on the ad hoc purchase of Mastiff and Vector armoured vehicles and upgrading the FV430 series of vehicles. If FRES does not enter service until 2017-18 further interim purchases are likely to be necessary at considerable cost. (Paragraph 82)

We are driving hard for the earliest delivery of FRES to minimise the need for interim expenditure on AFVs. Mastiff and Vector, however, were purchased as Protected Patrol Vehicles to address specific needs on current operations.

19. We acknowledge the increased rigour that Lord Drayson's leadership has brought to the MoD's procurement process and note the reasons he gives for not announcing the ISD for FRES before it has passed its Main Gate review. However there is a

legitimate public interest in knowing at least the planning assumptions of when equipment is expected to be delivered to our Armed Forces and the MoD should be more transparent about this. (Paragraph 85)

Our decision not to formally release the in-service date until all the relevant factors have been taken into account and the main investment decision has been taken is consistent with the policy outlined by Lord Drayson to the committee on 19th December 2006.

20. We acknowledge the need for Ministers to have bargaining power with industry. However, sparing Ministers from political difficulties is not a sound reason to not announce targets for the delivery of programmes. The decision not to announce a target Main Gate for FRES might give the impression that the programme is being driven by the concerns of the DPA rather than by military need. In its response to this report, the MoD should explain its overall approach to negotiating procurement contracts. (Paragraph 86)

We do not accept this conclusion. It is neither helpful nor accurate to suggest that the Department's policy not to release target dates for the delivery of equipment programmes ahead of the main investment decision is in any way designed to avoid political difficulties. Equally, there is no justification for the suggestion that the FRES programme is being driven by the concerns of the DPA (now DE&S) rather than by military need. In fact, the converse is the case.

Lord Drayson outlined the Department's policy on the release of planned in service dates to the committee on 19th December 2006. He made clear that the premature release of cost, timescale or performance forecasts can lead to pressure to conclude projects within unrealistic constraints. It is MoD procurement policy therefore not to release such data, including a target date for Main Gate and the in-service date, until all the relevant factors have been taken into account and a thorough risk assessment conducted. With regard to FRES, however, we have provided further advice, in confidence, to the Committee.

The Department's approach to contract negotiation recognises the uniqueness of each project. In general terms, we seek to apply commercial best practice, tailored to the particular circumstances of a given negotiation. The report rightly recognises the need for Ministers to have bargaining power with industry, conducting negotiations in public would undermine this aim.

The Heavy and Reconnaissance Variants

21. The MoD gives no indication of when the Heavy and Reconnaissance variants of FRES will enter their Initial Assessment Phase. As with the Utility variant, it remains unclear when the Heavy and Reconnaissance variants of FRES will enter service. The procurement of a successor reconnaissance vehicles is particularly important owing to the ageing fleet of the CVR(T) vehicle. (Paragraph 91)

We accept the conclusion regarding the importance of replacing CVR(T). However, in recognising its importance, our first priority remains the delivery of the UV family. FRES programme activity reflects these departmental priorities.

Work on the Reconnaissance and Heavy vehicle families has already begun, and an initial contract has been placed with the Systems House. Under this contract they will begin the work necessary to further define the Reconnaissance family requirements and analyse options for meeting a number of the Manoeuvre Support vehicles within the Heavy family.

Overall Conclusion

22. This is a sorry story of indecision, constantly changing requirements and delay. We are concerned that the FRES requirement may simply be unachievable without a major technical breakthrough. The tension between the survivability and deployability is particularly acute: satisfying both requirements may prove impossible. It is high time the MoD decided where its priorities lay. We shall take further evidence on the FRES programme in the Autumn of this year. (Paragraph 93)

We accept that the FRES Concept Phase took too long, primarily due to not adopting early the most appropriate procurement strategy and not adopting early a process to refine and stabilise the requirement. We also accept many of the recommendations made, noting that the majority are entirely consistent with the approach that the Department has adopted for the FRES programme.

However, we believe that real progress has been made since the launch of the IAP in April 2004. The Acquisition Strategy was approved and announced by Min(DES) in November 2006, and the initial wave of three competitions has formally been launched. Candidate Utility vehicles will undertake proving trials this Summer, with the outcome to be announced in November 2007.

Moving forward, we intend to build on the successes achieved during the IAP, taking the decisions necessary to drive the programme forward at pace. This will enable delivery, at the earliest opportunity, of a FRES capability that will ensure value for money and be operationally effective through life.

We look forward to providing a further update towards the end of the year.