

VEHICLE EMERGENCY LIGHTING SYSTEM (VELS).

Power Supply Optimisation Programme: Phase 2

Statement of Work (SOW)

Protected Mobility Vehicle Programme

Issue: 1.3
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AUTHORISATION

Prepared by:		
Signature:		
Date:	07/04/2016	
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Date:		
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AMENDMENTS

Issue No.	Date	Incorporated by	Para	Details of change
1.1	07/04/2016		Title 5. 6 a) 6 f) 6 j) 7 c) 7 d) 15 18 21	Study name change Addition of deliverable Removal of activity Change of Review Name Change of name. Defined meeting location. Additional report content added Additional deliverable Info regarding access to documentation CDRs to be provided in Appendix A Updated Points of Contact
1.2	18/04/2016		8-12	Added applicable Quality Management sections from the previous SoW which was referenced to.
1.3	19/07/2016		----	Finalisation and Addition of Appendicies

ANNEXES & APPENDICIES

ANNEX	Title of Document	Version
A	PMT/0027 PMVP VELS SOW	1.2
B	DEFFORM 315: CDR XXX	
APPENDIX		
A	SOW deliverables summary	
B	Data Item Descriptions for deliverables	

ACRONYMS, ABBREVIATIONS & DEFINITONS

Acronym / Abbreviation	Definition
ABW	Abbey Wood
CDR	Contract Data Requirement
EMC	Electromagnetic Compatibility
MOD	Ministry of Defence
PM's	Progress Meetings
PMVP	Protected Mobility vehicle Programme
POC's	Point of Contacts
POEMS	Project Oriented Environmental Management System
POSMS	Project Oriented Safety Management System
ROM	Rough Order of Magnitude
S&EA	Safety and Environmental Appraisal
SOR	Schedule of Requirements
SOW	Statement of Work
TRL	Technology Readiness Level
VELS	Vehicle Emergency Lighting System
WG's	Working Groups

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AIM

1. To define the scope of work and associated reference documents required in order for the Contractor to deliver the requirements as set out in this Statement of Work (SOW) and the Schedule of Requirements (SOR).

BACKGROUND

2. Following delivery of the Vehicle Emergency Lighting System (VELS) for the Protected Mobility fleet it has been noted that the through life costs have the potential to be reduced by improving the performance and/or length of life of the batteries. A Phase 1 study was completed by Aeroglow, which performed an investigative study into the current battery replacement regime, with a view to improve it, and also researched possible alternative battery technologies.

REQUIREMENTS

General

3. The Contractor shall provide the Authority with Articles and Services in accordance with the requirements of this SOW and the SOR. Delivery of completed Articles shall be in accordance with the Delivery Schedule at Annex B to the Contract.

Technical Requirement

4. The Contractor shall carry out Phase 2 of the investigation into possible improvement options for the VELS power solution and associated through life support costs. Phase 2 consists of; Test, qualification and selection of any short listed solutions.

5. A breakdown of the activities and deliverables to MOD to support the advancement of an Ultra Capacitor option are detailed below. The final deliverable will comprise a technical report and supporting presentation explaining the proposed solution with recommendations to enable agreement of a final production standard item. The technical report will be specific to UK MOD PMVP Platforms currently fitted with the VELS capability and will allow MOD to consider procurement of the final solution thus engaging Phase 3 of the project. The report will also include details of the through life cost savings that will be recognised by MOD as a result of upgrading the VELS capability to an Ultra Capacitor power source.

6. Activities to be undertaken are as follows;

- a. Start-up meeting with MOD and AeroGlow, which will be hosted at AeroGlow's office. This meeting shall include discussions on:
 - (1) User Specification Compliance - Military input expected.
 - (2) Platform Specific Analysis - Initial assessment of the impact of a power unit change to each specific platform operating VELS. Platform Managers for each VELS platform will add value if available.
 - (3) Test/Qualification Requirements - EMC, Environmental, Shock and Vibration etc.
- b. Progress and agree Specification with MOD. Expected to progress through day to day communications. Up to 3 stakeholder meetings.
- c. Carry out Platform Specific Analysis on all MOD Platforms fitted with the VELS capability to determine impact of proposed change to the VELS system.
- d. Prepare Test Plans, and agree with MOD.

- e. Prepare in-service Trial Plan, and agree with MOD.
 - f. Pre-Verification Meeting. Any prototype designs or hardware will be discussed and reviewed by stakeholders. Held at MOD ABW or AeroGlow offices.
 - g. Refinement/Documentation Period following stakeholder review.
 - h. Conduct In-service trials and support.
 - i. Conduct testing and qualification.
 - j. Hold end of Phase 2 Critical Design Review meeting to discuss progress and achievements. Held at either MOD ABW, AeroGlow offices or a suitable location relevant to the project.
7. Deliverables to be provided are as follows;
- a. Monthly progress report to MOD - short form report or correspondence highlighting project progress. To be delivered monthly via email to PMs until project completion.
 - b. Copy of Specification / User Compliance Document. Soft Copy Only (CD) in conjunction with delivery of the Final Technical Report.
 - c. Final Technical report, delivered as soft copy on CD one calendar month after the Critical Design review. This shall detail the proposed AeroGlow design solution and prototypes, with recommendations to enable agreement of a final production standard item. This deliverable shall include:
 - (1) An impact analysis with respect to each VELs-equipped Platform.
 - (2) A summary of the proposed Ultra Capacitor Solution/s.
 - (3) An appraisal of how system changes have affected the performance and intended purpose of the system as a safety device. Include risks, opportunities and any recommendations for the User.
 - (4) An evaluation of equipment safety due to design and material changes. Hazardous material sheets provided if applicable.
 - (5) A review of any secondary effects to associated MOD DLoDs.
 - (6) A synopsis of expected Through Life Costs from installation of the Ultra Capacitor power Supply compared to the current battery solution.
 - (7) All test results, photos, videos and any other associated documentation, delivered as Annexes.
 - (8) Recommendations towards agreeing a final production standard item.
 - (9) Recommendations regarding impact to technical publications.
 - (10) Recommendations regarding impact to NSN management.
 - (11) Manufacturing and integration considerations.
 - (12) A ROM costed and resourced implementation plan for Phase 3.
 - d. Face to face delivery of a presentation summarising the findings in the report. To be delivered at the Critical Design Review.

QUALITY MANAGEMENT

8. The Contractor shall be certified or actively working towards the ISO 9001:2008 series of standards, or to a similar recognised national or international third party accreditation scheme, appropriate to the scope of this requirement.

9. During the term of the Contract, quality assurance may be carried out by the Authority Defence Quality Assurance Group (DQAG) or their representative, on behalf of the Authority in accordance with ISO 9000:2008 series and Allied Quality Assurance Publications (AQAP) standards. The Contractor shall provide reasonable access to their premises and those of their subcontractor(s) for the MOD Defence Quality Assurance – Field Force (DQA-FF) to undertake Quality Assurance surveillance activities.

10. The Contractor shall, maintain and document a Quality Assurance Management process in accordance with ISO 9001 and AQAP 2110.

PROJECT MANAGEMENT

11. The Contractor shall provide the Authority with a delivery schedule which shall be updated and reissued if necessary.

12. The Contractor shall attend formal Progress Meetings (PMs) and Working Groups (WGs) with the Authority as is reasonably required by the Authority. The PMs and WGs are to enable both the Contractor and the Authority to inform on progress, discuss issues and problems and reach resolution.

13. The Contractor shall carry out secretarial activities for formal progress meetings including the provision of an agenda, collation of reports and preparation of minutes for agreement by the meetings attendees. The Authority shall receive the minutes within five working days of the meeting.

14. Any issues that are not able to be resolved at any of the meetings held between the Contractor and the Authority shall be escalated in accordance with the Conditions of Contract and in accordance with the conditions of the Contract.

15. The Contractor shall provide a full list of their Assumptions, Dependencies and Constraints.

RISK MANAGEMENT

16. The Contractor shall ensure that risks associated with this contract are managed effectively such that the impact is reduced to as low a level as is reasonably practicable (ALARP).

SAFETY AND ENVIRONMENTAL MANAGEMENT

General

17. The Contractor shall update the Safety and Environmental Appraisal (S&EA) for VELs if required as a result of changes made due to this SOW in accordance with:

- a. JSP 454
- b. Projected Oriented Safety Management System (POSMS)
- c. Projected Oriented Environmental Management System (POEMS)
- d. Protected Mobility Team Safety Management System (Appendix 2 to Annex A)

(Documentation available from the authority upon request)

Legislation

18. Contractor shall update the legislative compliance matrix provided for the original VELs Contract if necessary as a result of changes made due to this SOW.

19. Contractor shall ensure they are registered with any appropriate authorities and compliant with the applicable ITAR regulations prior to commencing this phase of the programme.

DELIVERY AND ACCEPTANCE

20. Acceptance shall be in accordance with the conditions provided in the data item descriptions outlined in Appendix B.

Documentation

21. The Deliverable documentation shall be supplied in accordance with the Contract Data Requirements (CDR) in Annex B.

22. The date of delivery for deliverable documentation shall be in accordance with the data item descriptions outlined in Appendix B.

AMENDMENTS TO THE STATEMENT OF WORK

23. Any amendments to this Statement of Work or the requirement will be advised in writing and in accordance with the Contract Change Procedure of the Contract.

POINTS OF CONTACT FOR THE SOW

24. The Authority Points of Contact (POCs) for this SOW are, at the time of Contract award, as follows. Any changes to Authority Personnel shall be noted and agreed in the Monthly Progress Meetings.

Name	Role	Phone	Email
██████████	Project Manager (Primary POC)	██████████	██████████
██████████	Project Manager	██████████	██████████
██████████	Requirements Manager	██████████	██████████
██████████	Commercial Manager	██████████	██████████
██████████	Senior Project Manager	██████████	██████████

APPENDIX A

Core Services	Ref	Area
Monthly Progress Report	DID-001	Reports
Final Technical Report	DID-002	Reports
Demonstration of accreditation to ISO 9001:2008		Accreditation

APPENDIX B

(DID)	
1. Identification Number DID-001	
2. Title Monthly Progress Reports	
3. Description This Data Item covers the requirement for Progress Reports	
4. Contract reference XXXX	5. UK MoD Responsibility Project Manager
6. To be delivered on the first working day of the month.	7.
8. UK MoD Review Time-scales N/A	
10. Preparation Instructions	
11. Content The Progress Report will include, but is not limited to, the following information: <ol style="list-style-type: none"> 1. Number, value and progress of open tasks; 2. Key Programme issues; 3. Update on key technical issues; 4. If there are delays in completion of tasks, then details of actions being undertaken to remedy the situation are required; 5. Statement and summary of invoices submitted to date; Format To be supplied in softcopy via Email.	
11 Addressees, Distribution and Media UK MoD Project Manager, one soft copy	

DATA ITEM DESCRIPTION (DID)	
1. Identification Number DID-002	
2. Title Final Technical Report	
3. Description This Data Item covers the requirement for the Final Technical Reports	
4. Contract reference XXXX	5. UK MoD Responsibility Project Manager
6. Initial draft to be delivered by the 13/01/2017	7. Final version to be delivered by the 13/01/2017
8. UK MoD Review Time-scales N/A	
10. Preparation Instructions	
11. Content <p>The Report will include, but is not limited to, the following information:</p> <ol style="list-style-type: none"> 1. An impact analysis with respect to each VELS-equipped Platform. 2. A summary of the proposed Ultra Capacitor Solution/s. 3. An appraisal of how system changes have affected the performance and intended purpose of the system as a safety device. Include risks, opportunities and any recommendations for the User. 4. An evaluation of equipment safety due to design and material changes. Hazardous material sheets provided if applicable. 5. A review of any secondary effects to associated MOD DLoDs. 6. A synopsis of expected Through Life Costs from installation of the Ultra Capacitor power Supply compared to the current battery solution. 7. All test results, photos, videos and any other associated documentation, delivered as Annexes. 8. Recommendations towards agreeing a final production standard item. 9. Recommendations regarding impact to technical publications. 10. Recommendations regarding impact to NSN management. 11. Manufacturing and integration considerations. 12. A ROM costed and resourced implementation plan for Phase 3. <p>This information is to also be summarised within a presentation.</p> <p>Format To be supplied in softcopy via CD.</p>	
11 Addressees, Distribution and Media UK MoD Project Manager, one soft copy	