



Mott Macdonald Limited
Sovereign House,
Vastern Road,
Reading,
Berkshire,
RG1 8BT

Tuesday 29th January 2019

Dear Sir/Madam,

**Contract Title: Potential Environmental Impacts of UK Space Launch Activity – A
Marine and Terrestrial Study**
Contract Reference: UK SBS CR18191

The Contract shall be subject to the UK Shared Business Services Ltd S1Terms and
Conditions for the Purchase of Services and the following Schedules:

Schedule 1	Special Conditions
Schedule 2	Purchase Order Form
Schedule 3	The Services
Annex 1	Specification
Annex 2	Mott Macdonald Limited Response

Please note that this Contract is subject to signed Contract Acceptance

Yours Sincerely,

[Redacted Signature]

Research – Category Support
UK Shared Business Services Ltd
Research@uksbs.co.uk

S1 - PRECEDENT CONTRACT FOR THE

PURCHASE OF SERVICES**SECTION A**

This Contract is dated: Tuesday, 29th January 2019

Parties

- (1) **UK Space Agency** - Polaris House, North Star Avenue, Swindon SN2 1FF (The Contracting Authority)
- (2) **Mott MacDonald Limited** – Mott MacDonald House, 8-10 Sydenham Road, Croydon CR0 2EE (the Supplier).

Background

The Contracting Authority wishes the Supplier to supply, and the Supplier wishes to supply, the Services (as defined below) in accordance with the terms of the Contract (as defined below).

A1 Interpretation

A1-1 Definitions. In the Contract (as defined below), the following definitions apply:

Agent: Where UK Shared Business Services is not the named Contracting Authority is Parties (1), UK SBS has been nominated as agent on behalf of the Contracting Authority and therefore all communications both written and verbal will be received as issued by the Contracting Authority.

Associated Bodies and Authorised Entities: Associated Bodies and Authorised Entities include but are not limited to The Science and Technology Facilities Council, The Medical Research Council, The Engineering and Physical Sciences Research Council, The Economic and Social Research Council, The Natural Environment Research Council, The Arts and Humanities Research Council, The Biotechnology and Biological Sciences Research Council, UK SBS Ltd, Central Government Departments and their Agencies, Non Departmental Public Bodies, NHS bodies, Local Authority's, Voluntary Sector Charities, and/or other private organisations acting as managing agents or procuring on behalf of these UK bodies. Further details of these organisations can be found at: <http://www.ukpbs.co.uk/services/procure/contracts/Pages/default.aspx>

Business Day: a day (other than a Saturday, Sunday or public holiday) when banks in London are open for business.

Charges: the charges payable by the Contracting Authority for the supply of the Services in accordance with clause B4.

Commencement: the date and any specified time that the Contract starts

Conditions: the terms and conditions set out in this document as amended from time to time in accordance with clause C7-11.

Confidential Information: any confidential information, knowhow and data (in any form or medium) which relates to UK SBS, the Contracting Authority or the Supplier, including information relating to the businesses of UK SBS, the Contracting Authority or the Supplier and information relating to their staff, finances, policies and procedures. This includes information identified as confidential in the Order or the Special Conditions (if any).

Contract: the contract between the Contracting Authority and the Supplier for the supply of the Services, in accordance with these Conditions, any Special Conditions and the Order only.

Contracting Authority: UK Space Agency, as specified at Section A (1) and any replacement or successor organisation.

Delivery Date (Services): the date or dates specified in the Order when the Services shall commence as set out in the Order and until the end date specified in the Order

Deliverables: all Documents, products and materials developed by the Supplier or its agents, contractors and employees as part of or in relation to the Services in any form, including computer programs, data, reports and specifications (including drafts).

Document: Includes, in addition to any document in writing, any drawing, map, plan, diagram, design, picture or other image, tape, disk or other device or record embodying information in any form.

EIR: the Environmental Information Regulations 2004 together with any guidance and/or codes of practice issued by the Information Commissioner or relevant government department in relation to such regulations.

FOIA: the Freedom of Information Act 2000 and any subordinate legislation made under the Act from time to time, together with any guidance and/or codes of practice issued by the Information Commissioner or relevant government department in relation to such legislation.

Information: has the meaning given under section 84 of FOIA.

Intellectual Property Rights: all patents, rights to inventions, utility models, copyright and related rights, trademarks, service marks, trade, business and domain names, rights in trade dress or get-up, rights in goodwill or to sue for passing off, unfair competition rights, rights in designs, rights in computer software, database right, topography rights, rights in confidential information (including know-how and trade secrets) and any other intellectual property rights, in each case whether registered or unregistered and including all applications for and renewals or extensions of such rights, and all similar or equivalent rights or forms of protection in any part of the world.

Order: the Contracting Authority's order for the Services, as set out in the Contracting Authority's completed purchase order form (including any Specification) which is in the format of the pro forma order form attached at Schedule 2. For the avoidance of doubt, if the Contracting Authority's purchase order form is not in the format of the pro forma order form at Schedule 2, it will not constitute an Order.

Public Body: any part of the government of the United Kingdom including but not limited to the Northern Ireland Assembly and Executive Committee, the Scottish Executive and the National Assembly for Wales, local authorities, government ministers and government departments and government agencies.

Request for Information: a request for information or an apparent request under FOIA or EIR.

Scheme Effective Date: the date on which the United Kingdom Research and Innovation become a legal entity.

Services: the Services, including without limitation any Deliverables Deliverables and Supplies required to complete the Services, to be provided by the Supplier under the Contract as set out in the Order.

Special Conditions: the special conditions (if any) set out in Schedule 1.

Specification: any specification for the Services or Supplies, including any related plans and drawings that is supplied to the Supplier by the Contracting Authority, or produced by the Supplier and agreed in writing by the Contracting Authority.

Supplier or Suppliers: the parties to the contract as named in Section A (2).

Supplies: any such thing that the Supplier is required to Deliver, that does not require or include Services or Deliverables

Supplier's Associate: any individual or entity associated with the Supplier including, without limitation, the Supplier's subsidiary, affiliated or holding companies and any employees, agents or contractors of the Supplier and / or its subsidiary, affiliated or holding companies or any entity that provides Services for or on behalf of the Supplier.

TUPE: the Transfer of Undertakings (Protection of Employment) Regulations 2006 as amended or replaced from time to time.

UKRI: UK Research Council and Innovation, established as a body corporate in accordance with the Higher Education and Research Act 2017.

UK SBS: UK Shared Business Services Limited (a limited company registered in England and Wales with company number 06330639). Where UK SBS is not named as the Contracting Authority within section A (1), UK SBS will be acting as an agent on behalf of the Contracting Authority.

Working Day: any Business Day excluding 27, 28, 29, 30 and 31 December in any year.

A1-2 Construction. In the Contract, unless the context requires otherwise, the following rules apply:

A1-2-1 A person includes a natural person, corporate or unincorporated body (whether or not having separate legal personality).

A1-2-2 A reference to a party includes its personal representatives, successors or permitted assigns.

A1-2-3 A reference to a statute or statutory provision is a reference to such statute or provision as amended or re-enacted. A reference to a statute or statutory provision includes any subordinate legislation made under that statute or statutory provision, as amended or re-enacted.

A1-2-4 Any phrase introduced by the terms including, include, in particular or any similar expression shall be construed as illustrative and shall not limit the sense of the words preceding those terms.

A1-2-5 The headings in these Conditions are for ease of reference only and do not affect the interpretation or construction of the Contract.

A1-2-6 A reference to writing or written includes faxes and e-mails.

A2 Basis of contract

A2-1 Where UK SBS is not the Contracting Authority, UK SBS is the agent of the Contracting Authority for the purpose of procurement and is authorised to negotiate and enter into contracts for the supply of Services on behalf of the Contracting Authority. UK SBS will not itself be a party to, nor have any liability under, the Contract unless it is expressly specified as Contracting Authority in the Order.

- A2-2** The terms of this Contract, any Special Conditions and the Order apply to the Contract to the exclusion of all other terms and conditions, including any other terms that the Supplier seeks to impose or incorporate (whether in any quotation, confirmation of order, in correspondence or in any other context), or which are implied by trade, custom, practice or course of dealing.
- A2-3** If there is any conflict or inconsistency between the terms of this Contract, the Special Conditions (if any) and the Order (including any Specification), the terms of the Contract will prevail over the Special Conditions and the Special Conditions will prevail over the Order (including any Specification), in each case to the extent necessary to resolve that conflict or inconsistency.
- A2-4** The Order constitutes an offer by the Contracting Authority to purchase the Services in accordance with this Contract (and any Special Conditions). This offer shall remain valid for acceptance by the Supplier, in accordance with clause A2-5, for 28 days from the date of the Order. Notwithstanding that after 28 days the offer will have expired, the Contracting Authority may, at its discretion, nevertheless treat the offer as still valid and may elect to accept acceptance by the Supplier, in accordance with clause A2-5, as valid acceptance of the offer.
- A2-5** Subject to clause A2-4, the Order shall be deemed to be accepted on the date on which authorised representatives of both parties have signed a copy of this Contract, at which point the Contract shall come into existence. The Contract shall remain in force until all the parties' obligations have been performed in accordance with the Contract, at which point it shall expire, or until the Contract has been terminated in accordance with clause A3.

A3 Termination

- A3-1** The Contracting Authority or UK SBS acting as an agent on behalf of the Contracting Authority may terminate the Contract in whole or in part at any time before the Services are provided with immediate effect by giving the Supplier written notice, whereupon the Supplier shall discontinue all work on the Contract. The Contracting Authority shall pay the Supplier fair and reasonable compensation for work-in-progress at the time of termination, but such compensation shall not include loss of anticipated profits or any consequential loss. The Supplier shall have a duty to mitigate its costs and shall on request provide proof of expenditure for any compensation claimed.
- A3-2** The Contracting Authority or UK SBS acting as an agent on behalf of the Contracting Authority may terminate the Contract with immediate effect by giving written notice to the Supplier if:
- A3-2-1** the circumstances set out in clauses B2-1-1, C3 or C4-1 apply;
 - A3-2-2** the Supplier breaches any term of the Contract and (if such breach is remediable) fails to remedy that breach within 30 days of being notified in writing of the breach; or
 - A3-2-3** the Supplier suspends, or threatens to suspend, payment of its debts or is unable to pay its debts as they fall due or admits inability to pay its debts or (being a company) is deemed unable to pay its debts within the meaning of section 123 of the Insolvency Act 1986, or (being an individual) is deemed either unable to pay its debts or as having no reasonable prospect of so doing, in either case, within the meaning of section 268 of the Insolvency Act 1986, or (being a partnership) has any partner to whom any of the foregoing apply; or
 - A3-2-4** the Supplier commences negotiations with all or any class of its creditors with a view to rescheduling any of its debts, or makes a proposal for or

enters into any compromise or arrangement with its creditors; or

A3-2-5 (being a company) a petition is filed, a notice is given, a resolution is passed, or an order is made, for or in connection with the winding up of the Supplier; or

A3-2-6 (being an individual) the Supplier is the subject of a bankruptcy petition or order; or

A3-2-7 a creditor or encumbrancer of the Supplier attaches or takes possession of, or a distress, execution, sequestration or other such process is levied or enforced on or sued against, the whole or any part of its assets and such attachment or process is not discharged within 14 days; or

A3-2-8 (being a company) an application is made to court, or an order is made, for the appointment of an administrator or if a notice of intention to appoint an administrator is given or if an administrator is appointed over the Supplier; or

A3-2-9 (being a company) a floating charge holder over the Supplier's assets has become entitled to appoint or has appointed an administrative receiver; or

A3-2-10 a person becomes entitled to appoint a receiver over the Supplier's assets or a receiver is appointed over the Supplier's assets; or

A3-2-11 any event occurs, or proceeding is taken, with respect to the Supplier in any jurisdiction to which it is subject that has an effect equivalent or similar to any of the events mentioned in clause A3-2-3 to clause A3-2-10 inclusive; or

A3-2-12 there is a change of control of the Supplier (within the meaning of section 1124 of the Corporation Tax Act 2010); or

A3-2-13 the Supplier suspends, or threatens to suspend, or ceases or threatens to cease to carry on, all or substantially the whole of its business; or

A3-2-14 the Supplier's financial position deteriorates to such an extent that in the Contracting Authority's opinion the Supplier's capability to adequately fulfil its obligations under the Contract has been placed in jeopardy; or

A3-3 Termination of the Contract, however arising, shall not affect any of the parties' rights and remedies that have accrued as at termination. Clauses which expressly or by implication survive termination or expiry of the Contract shall continue in full force and effect.

A3-4 Without prejudice to clause A3-3, clauses B1, B2, B5, B6, **Error! Reference source not found.**, B7, B8, C1, C2, C3, C4, C6 and C7 shall survive the termination or expiry of the Contract and shall continue in full force and effect.

A3-5 Upon termination or expiry of the Contract, the Supplier shall immediately:

A3-5-1 cease all work on the Contract;

A3-5-2 Deliver to the Contracting Authority all Deliverables and all work-in-progress whether or not then complete. If the Supplier fails to do so, then the Contracting Authority may enter the Supplier's premises and take possession of them. Until they have been returned or delivered, the Supplier shall be solely responsible for their safe keeping and will not use them for any purpose not connected with this Contract;

A3-5-3 cease use of and return (or, at the Contracting Authority's or UK SBS's acting as an agent on behalf of the Contracting Authority's election, destroy) all of the Contracting Authority's Materials in the Supplier's possession or

control; and

A3-5-4 Cease all use of, and delete all copies of, UK SBS's or the Contracting Authority's or UK SBS's confidential information.

SECTION B

B1 Supply of Services

- B1-1** The Supplier shall from the date set out in the Contract and until the end date specified in the Contract provide the Services to the Contracting Authority in accordance with the terms of the Contract.
- B1-2** The Supplier shall meet any performance dates for the Services (including the delivery of Deliverables) specified in the Order (Including any Special Conditions and any applicable Specification) or notified to the Supplier by the Contracting Authority or UK SBS acting as an agent on behalf of the Contracting Authority.
- B1-3** In providing the Services, the Supplier shall:
- B1-3-1** co-operate with the Contracting Authority in all matters relating to the Services, and comply with all instructions of the Contracting Authority or UK SBS acting as an agent on behalf of the Contracting Authority;
 - B1-3-2** perform the Services with reasonable skill and care and in accordance with all generally recognised commercial standards and practices for services of the nature of the Services.
 - B1-3-3** use personnel who are suitably skilled and experienced to perform tasks assigned to them, and in sufficient number to ensure that the Supplier's obligations are fulfilled in accordance with this Contract;
 - B1-3-4** ensure that the Services and Deliverables will conform with all descriptions and specifications set out in the Contract (including any Special Conditions and any applicable Specification);
 - B1-3-5** provide all equipment, tools and vehicles and such other items as are required to provide the Services;
 - B1-3-6** use the best quality Supplies, materials, standards and techniques, and ensure that the Deliverables, and all Supplies and materials supplied and used in the Services or transferred to the Contracting Authority, will be free from defects in workmanship, installation and design;
 - B1-3-7** obtain and at all times maintain all necessary licences and consents, and comply with all applicable laws and regulations;
 - B1-3-8** observe all health and safety rules and regulations and any other security requirements that apply at any of the Contracting Authority's premises; and
 - B1-3-9** Not do or omit to do anything which may cause the Contracting Authority to lose any licence, authority, consent or permission on which it relies for the purposes of conducting its business, and the Supplier acknowledges that the Contracting Authority may rely or act on the Services.
- B1-4** The Contracting Authority's rights under the Contract are without prejudice to and in addition to the statutory terms implied in favour of the Contracting Authority under the Supply of Goods and Services Act 1982 and any other applicable legislation.
- B1-5** Without prejudice to the Contracting Authority's statutory rights, the Contracting Authority will not be deemed to have accepted any Deliverables until the Contracting Authority has had at least 14 Working Days after delivery to inspect them and the Contracting Authority also has the right to reject any Deliverables as

though they had not been accepted for 14 Working Days after any latent defect in the Deliverables has become apparent.

- B1-6** If, in connection with the supply of the Services, the Contracting Authority permits any employees or representatives of the Supplier to have access to any of the Contracting Authority's premises, the Supplier will ensure that, whilst on the Contracting Authority's premises, the Supplier's employees and representatives comply with:

B1-6-1 all applicable health and safety, security, environmental and other legislation which may be in force from time to time; and

B1-6-2 any Contracting Authority policy, regulation, code of practice or instruction relating to health and safety, security, the environment or access to and use of any Contracting Authority laboratory, facility or equipment which is brought to their attention or given to them whilst they are on Contracting Authority's premises by any employee or representative of the Contracting Authority's.

- B1-7** The Supplier warrants that the provision of Services shall not give rise to a transfer of any employees of the Supplier or any third party to the Contracting Authority or UK SBS acting as an agent on behalf of the Contracting Authority pursuant to TUPE.

B2 Contracting Authority Remedies

- B2-1** If the Supplier fails to perform the Services by the applicable dates, the Contracting Authority or UK SBS acting as an agent on behalf of the Contracting Authority shall, without limiting its other rights or remedies, have one or more of the following rights:

B2-1-1 to terminate the Contract with immediate effect by giving written notice to the Supplier;

B2-1-2 to refuse to accept any subsequent performance of the Services (including delivery of Deliverables) which the Supplier attempts to make;

B2-1-3 to recover from the Supplier any costs incurred by the Contracting Authority or UK SBS acting as an agent on behalf of the Contracting Authority in obtaining substitute Services from a third party;

B2-1-4 where the Contracting Authority has paid in advance for Services that have not been provided by the Supplier, to have such sums refunded by the Supplier; or

B2-1-5 To claim damages for any additional costs, loss or expenses incurred by the Contracting Authority or UK SBS acting as an agent on behalf of the Contracting Authority which are in any way attributable to the Supplier's failure to meet such dates.

- B2-2** These Conditions shall extend to any substituted or remedial Services provided by the Supplier.

- B2-3** The Contracting Authority's rights under this Contract are in addition to its rights and remedies implied by statute and common law.

B3 Contracting Authority Obligations

- B3-1** The Contracting Authority shall:

B3-1-1 provide the Supplier with reasonable access at reasonable times to the Contracting Authority's premises for the purpose of providing the Services;

and

B3-1-2 Provide such information to the Supplier as the Supplier may reasonably request and the Contracting Authority considers reasonably necessary for the purpose of providing the Services.

B4. Charges and Payment

B4-1 The Charges for the Services shall be set out in the Order, and shall be the full and exclusive remuneration of the Supplier in respect of the performance of the Services. Unless otherwise agreed in writing by the Contracting Authority or UK SBS acting as an agent on behalf of the Contracting Authority, the Charges shall include every cost and expense of the Supplier directly or indirectly incurred in connection with the performance of the Services.

B4-2 Where the Order states that the Services are to be provided on a time and materials basis, the Charges for those Services will be calculated as follows:

B4-2-1 the charges payable for the Services will be calculated in accordance with the Supplier's standard daily fee rates (as at the date of the Order), subject to any discount specified in the Order;

B4-2-2 the Supplier's standard daily fee rates for each individual person will be calculated on the basis of an eight-hour day worked between such hours and on such days as are agreed by the Contracting Authority or UK SBS acting as an agent on behalf of the Contracting Authority and the Supplier;

B4-2-3 the Supplier will not be entitled to charge pro-rata for part days without the prior written consent of the Contracting Authority or UK SBS acting as an agent on behalf of the Contracting Authority;

B4-2-4 the Supplier will ensure that every individual whom it engages to perform the Services completes time sheets recording time spent on the Services and the Supplier will use such time sheets to calculate the charges covered by each invoice and will provide copies of such time sheets to the Contracting Authority or UK SBS acting as an agent on behalf of the Contracting Authority upon request; and

B4-2-5 the Supplier will invoice the Contracting Authority monthly in arrears for its charges for time, as well as any previously agreed expenses and materials for the month concerned calculated as provided in this clause B4-2 and clause B4-3

B4-3 The Contracting Authority will reimburse the Supplier at cost for all reasonable travel, subsistence and other expenses incurred by individuals engaged by the Supplier in providing the Services to the Contracting Authority provided that the Contracting Authority's prior written approval is obtained before incurring any such expenses, that all invoices for such expenses are accompanied by valid receipts and provided that the Supplier complies at all times with Contracting Authority's expenses policy from time to time in force.

B4-4 The Supplier shall invoice the Contracting Authority on completion of the Services. Each invoice shall include such supporting information required by the Contracting Authority to verify the accuracy of the invoice, including but not limited to the relevant purchase order number.

B4-5 In consideration of the supply of the Services by the Supplier, the Contracting Authority shall pay the invoiced amounts within 30 days of the date of a correctly rendered invoice. Payment shall be made to the bank account nominated in writing by the Supplier unless the Contracting Authority agrees in writing to another payment method.

- B4-6** All amounts payable by the Contracting Authority under the Contract are exclusive of amounts in respect of value added tax chargeable for the time being (VAT). Where any taxable supply for VAT purposes is made under the Contract by the Supplier to the Contracting Authority, the Contracting Authority shall, on receipt of a valid VAT invoice from the Supplier, pay to the Supplier such additional amounts in respect of VAT as are chargeable on the supply of the Services at the same time as payment is due for the supply of the Services.
- B4-7** The Supplier shall maintain complete and accurate records of the time spent and materials used by the Supplier in providing the Services, and shall allow the Contracting Authority or UK SBS acting as an agent on behalf of the Contracting Authority to inspect such records at all reasonable times on request.
- B4-8** The Supplier shall not be entitled to assert any credit, set-off or counterclaim against the Contracting Authority in order to justify withholding payment of any such amount in whole or in part. The Contracting Authority may, without limiting any other rights or remedies it may have, set off any amount owed to it by the Supplier against any amounts payable by it to the Supplier under the Contract.
- B4-9** The Supplier acknowledges and agrees that it will pay correctly rendered invoices from any of its suppliers or other sub-contractors within 30 days of receipt of the invoice.

B5 Contracting Authority Property

- B5-1** The Supplier acknowledges that all information (including confidential information), equipment and tools, drawings, specifications, data, software and any other materials supplied by the Contracting Authority or UK SBS acting as an agent on behalf of the Contracting Authority to the Supplier (**Contracting Authority's Materials**) and all rights in the Contracting Authority's Materials are and shall remain at all times the exclusive property of the Contracting Authority and UK SBS (as appropriate). The Supplier shall keep the Contracting Authority's Materials in safe custody at its own risk, maintain them in good condition until returned to the Contracting Authority or UK SBS, and not dispose or use the same other than for the sole purpose of performing the Supplier's obligations under the Contract and in accordance with written instructions or authorisation from the Contracting Authority or UK SBS acting as an agent on behalf of the Contracting Authority.

B6 Intellectual Property Rights

- B6-1** In respect of any Supplies that are transferred to the Contracting Authority under this Contract, including without limitation the Deliverables or any part of them, the Supplier warrants that it has full clear and unencumbered title to all such items, and that at the date of delivery of such items to the Contracting Authority, it will have full and unrestricted rights to transfer all such items to the Contracting Authority.
- B6-2** Save as otherwise provided in the Special Conditions, the Supplier assigns to the Contracting Authority, with full title guarantee and free from all third party rights, all Intellectual Property Rights in the products of the Services, including for the avoidance of doubt the Deliverables. Where those products or Deliverables incorporate any Intellectual Property Rights owned by or licensed to the Supplier which are not assigned under this clause, the Supplier grants to the Contracting Authority a worldwide, irrevocable, royalty-free, transferable licence, with the right to grant sub-licences, under those Intellectual Property Rights to maintain, repair, adapt, copy and use those products and Deliverables for any purpose.
- B6-3** The Supplier shall obtain waivers of all moral rights in the products, including for the avoidance of doubt the Deliverables, of the Services to which any individual is now or may be at any future time entitled under Chapter IV of Part I of the

Copyright Designs and Patents Act 1988 or any similar provisions of law in any jurisdiction.

- B6-4** The Supplier shall, promptly at the request of the Contracting Authority or UK SBS acting as an agent on behalf of the Contracting Authority, do (or procure to be done) all such further acts and things and the execution of all such other documents as the Contracting Authority or UK SBS acting as an agent on behalf of the Contracting Authority may from time to time require for the purpose of securing for the Contracting Authority the full benefit of the Contract, including all right, title and interest in and to the Intellectual Property Rights assigned to the Contracting Authority in accordance with clause B6-2.

B7 Insurance

B8-1 During the term of the Contract and for a period of 3 years thereafter, the Supplier shall maintain in force the following insurance policies with reputable insurance companies:

B8-1-1 professional Indemnity insurance for not less than £2 million per claim;

B8-1-2 public liability insurance for not less than £5 million per claim (unlimited claims); and

B8-1-3 employer liability insurance for not less than £5 million per claim (unlimited claims) ; and

B8-1-4 product liability insurance for not less than £5 million for claims arising from any single event and not less than £1 million in aggregate for all claims arising in a year.

B8-2 On request from the Contracting Authority's or UK SBS acting as an agent on behalf of the Contracting Authority, the Supplier shall provide the Contracting Authority or UK SBS with copies of the insurance policy certificates and details of the cover provided.

B8-3 The Supplier shall ensure that any subcontractors also maintain adequate insurance having regard to the obligations under the Contract which they are contracted to fulfil.

B8-4 The Supplier shall:

B8-4-1 do nothing to invalidate any insurance policy or to prejudice the Contracting Authority's entitlement under it; and

B8-4-2 notify the Contracting Authority if any policy is (or will be) cancelled or its terms are (or will be) subject to any material change.

B8-5 If the Supplier fails or is unable to maintain insurance in accordance with clause 0, the Contracting Authority or UK SBS acting as an agent on behalf of the Contracting Authority may, so far as it is able, purchase such alternative insurance cover as it deems to be reasonably necessary and shall be entitled to recover all reasonable costs and expenses it incurs in doing so from the Supplier.

B8 Liability

B8-1 In this clause B8, a reference to the Contracting Authority or UK SBS's liability for something is a reference to any liability whatsoever which the Contracting Authority

or UK SBS might have for it, its consequences, and any direct, indirect or consequential loss, damage, costs or expenses resulting from it or its consequences, whether the liability arises under the Contract, in tort or otherwise, and even if it results from the Contracting Authority's or UK SBS's negligence or from negligence for which the Contracting Authority's or UK SBS would otherwise be liable.

B8-2 The Contracting Authority or UK SBS acting as an agent on behalf of the Contracting Authority is not in breach of the Contract, and neither the Contracting Authority nor UK SBS has any liability for anything, to the extent that the apparent breach or liability is attributable to the Supplier's breach of the Contract.

B8-3 Subject to clause B8-6, neither the Contracting Authority nor UK SBS acting as agent on behalf of the Contracting Authority shall have any liability for:

B8-3-1 any indirect or consequential loss or damage;

B8-3-2 any loss of business, rent, profit or anticipated savings;

B8-3-3 any damage to goodwill or reputation;

B8-3-4 loss, theft, damage or destruction to any equipment, tools, machinery, vehicles or other equipment brought onto the Contracting Authority's premises by or on behalf of the Supplier; or

B8-3-5 Any loss, damage, costs or expenses suffered or incurred by any third party.

B8-4 Subject to clause B8-6, the Contracting Authority and UK SBS's total liability shall be limited to the Charges.

B8-5 Subject to clause B8-6, the Supplier's total liability in connection with the Contract shall be limited to £1,000,000.

B8-6 Nothing in the Contract restricts either the Contracting Authority, UK SBS or the Supplier's liability for:

B8-6-1 death or personal injury resulting from its negligence; or

B8-6-2 its fraud (including fraudulent misrepresentation); or

B8-6-3 Breach of any obligations as to title implied by Section 12 of the Sale of Goods Act 1979 or Section 2 of the Supply of Goods and Services Act 1982.

SECTION C

C1 Confidential Information

C1-1 A party who receives Confidential Information shall keep in strict confidence (both during the term of the Contract and after its expiry or termination) all Confidential Information which is disclosed to it. That party shall only disclose such Confidential Information to those of its employees, agents or subcontractors who need to know the same for the purpose of discharging that party's obligations under the Contract, and shall ensure that such employees, agents or subcontractors shall keep all such information confidential in accordance with this clause C1. Neither party shall, without the prior written consent of the other party, disclose to any third party any Confidential Information, unless the information:

C1-1-1 was public knowledge or already known to that party at the time of disclosure; or

C1-1-2 subsequently becomes public knowledge other than by breach of the Contract; or

C1-1-3 subsequently comes lawfully into the possession of that party from a third party; or

C1-1-4 is agreed by the parties not to be confidential or to be disclosable.

- C1-2 To the extent necessary to implement the provisions of the Contract (but not further or otherwise), either party may disclose the Confidential Information to any relevant governmental or other authority or regulatory body, provided that before any such disclosure that party shall make those persons aware of its obligations of confidentiality under the Contract and shall use reasonable endeavours to obtain a binding undertaking as to confidentiality from all such persons.
- C1-3 All documents and other records (in whatever form) containing Confidential Information supplied to or acquired by a party from the other party shall be returned promptly to the other party (or, at the election of the Contracting Authority or UK SBS acting as an agent on behalf of the Contracting Authority, destroyed) on expiry or termination of the Contract, and no copies shall be kept.

C2 Transparency

- C2-1 The Supplier acknowledges that the United Kingdom Government's transparency agenda requires that contracts, such as the Contract, and any sourcing document, such as the invitation to sourcing, are published on a designated, publicly searchable website.
- C2-2 The Supplier acknowledges that, except for any information which is exempt from disclosure in accordance with the provisions of FOIA, the content of the Contract is not Confidential Information. The Contracting Authority and or UK SBS acting as an agent on behalf of the Contracting Authority shall be responsible for determining in their absolute discretion whether any of the content of the Contract is exempt from disclosure in accordance with the provisions of FOIA.
- C2-3 Notwithstanding any other term of the Contract, the Supplier hereby consents to the Contracting Authority and or UK SBS acting as an agent on behalf of the Contracting Authority publishing the Contract in its entirety, (but with any information which is exempt from disclosure in accordance with the provisions of FOIA redacted) including from time to time agreed changes to the Contract, to the general public.

If any of the situations in C2-2-1, C2-2-2, C2-2-3 apply the Supplier consents to the Contract or sourcing documents being redacted by UK SBS to the extent necessary to remove or obscure the relevant material and being published on the designated website subject to those redactions.

In this entire clause the expression "sourcing documents" means the advertisement issued by UK SBS seeking expressions of interest, any pre-qualification questionnaire stage and the invitation to tender.

C3 Force Majeure

- C3-1 If any event or circumstance that is beyond the reasonable control of the Supplier, and which by its nature could not have been foreseen by the Supplier

or, if it could have been foreseen, was unavoidable, (provided that the Supplier shall use all reasonable endeavours to cure any such events or circumstances and resume performance under the Contract) prevent the Supplier from carrying out its obligations under the Contract for a continuous period of more than 10 Business Days, the Contracting Authority or UK SBS acting as an agent on behalf of the Contracting Authority may terminate this Contract immediately by giving written notice to the Supplier

C4 Corruption

C4-1 The Contracting Authority or UK SBS acting as an agent on behalf of the Contracting Authority shall be entitled to terminate the Contract immediately and to recover from the Supplier the amount of any loss resulting from such termination if the Supplier or a Supplier's Associate:

C4-1-1 offers or agrees to give any person working for or engaged by the Contracting Authority, UK SBS or any Public Body any favour, gift or other consideration, which could act as an inducement or a reward for any act or failure to act connected to the Contract, or any other agreement between the Supplier and Contracting Authority, or UK SBS or any Public Body, including its award to the Supplier or a Supplier's Associate and any of the rights and obligations contained within it;

C4-1-2 has entered into the Contract if it has knowledge that, in connection with it, any money has been, or will be, paid to any person working for or engaged by the Contracting Authority, or UK SBS or any Public Body by or for the Supplier, or that an agreement has been reached to that effect, unless details of any such arrangement have been disclosed in writing to the Contracting Authority, or UK SBS before the Contract is entered into;

C4-1-3 breaches the provisions of the Prevention of Corruption Acts 1889 to 1916, or the Bribery Act 2010; or

C4-1-4 Gives any fee or reward the receipt of which is an offence under Section 117(2) of the Local Government Act 1972.

C4-2 For the purposes of clause C4-1, "loss" shall include, but shall not be limited to:

C4-2-1 The Contracting Authority's or UK SBS's costs in finding a replacement supplier;

C4-2-2 direct, indirect and consequential losses; and

C4-2-3 Any loss suffered by the Contracting Authority or UK SBS as a result of a delay in its receipt of the Services.

C5 Data Protection

C5-1 The Supplier shall comply at all times with all data protection legislation applicable in the UK from time to time.

C6 Freedom of Information

C6-1 The Supplier acknowledges that the Contracting Authority and or UK SBS may be subject to the requirements of FOIA and EIR and shall assist and co-operate with the Contracting Authority and or UK SBS to enable them to comply with its obligations under FOIA and EIR.

C6-2 The Supplier shall and shall procure that its employees, agents, sub-contractors and any other representatives shall provide all necessary assistance as reasonably requested by the Contracting Authority or UK SBS to enable the Contracting Authority or UK SBS to respond to a Request for Information within the time for compliance set out in section 10 of FOIA or regulation 5 of EIR.

C6-3 The Contracting Authority and or UK SBS acting as an agent on behalf of the Contracting Authority shall be responsible for determining (in its absolute discretion) whether any Information:

C6-3-1 is exempt from disclosure in accordance with the provisions of FOIA or EIR;

C6-3-2 is to be disclosed in response to a Request for Information,

And in no event shall the Supplier respond directly to a Request for Information unless expressly authorised to do so in writing by the Contracting Authority or UK SBS acting as an agent on behalf of the Contracting Authority.

C6-4 The Supplier acknowledges that the Contracting Authority and or UK SBS may be obliged under the FOIA or EIR to disclose Information, in some cases even where that Information is commercially sensitive:

C6-4-1 without consulting with the Supplier, or

C6-4-2 Following consultation with the Supplier and having taken its views into account.

C6-5 Where clause C6-4-2 applies the Contracting Authority and or UK SBS shall, in accordance with any recommendations issued under any code of practice issued under section 45 of FOIA, take reasonable steps, where appropriate, to give the Supplier advanced notice, or failing that, to draw the disclosure to the Supplier's attention as soon as practicable after any such disclosure.

C6-6 Where the Supplier organisation is subject to the requirements of the FOIA and EIR, C6-7 will supersede C6-2 – C6-5. Where the Supplier organisation is not subject to the requirements of the FOIA and EIR, C6-7 will not apply.

C6-7 The Contracting Authority and UK SBS acknowledge that the Supplier may be subject to the requirements of the FOIA and EIR and shall assist and co-operate with the Supplier to enable them to comply with its obligations under the FOIA and EIR.

C7 General

C7-1 Entire Agreement

C7-1-1 The Contract constitutes the entire agreement between the Contracting Authority and the Supplier in relation to the supply of the Services and the Contract supersedes any earlier agreements, arrangements and understandings relating to that subject matter.

C7-2 Liability

C7-2-1 Where the Contracting Authority is more than one person, the liability of each such person for their respective obligations and liabilities under the Contract shall be several and shall extend only to any loss or damage arising out of each such person's own breaches.

C7-2-2 Where the Contracting Authority is more than one person and more than one of such persons is liable for the same obligation or liability, liability for

the total sum recoverable will be attributed to the relevant persons in proportion to the price payable by each of them under the Contract.

C7-3 Assignment and Subcontracting

C7-3-1 The Contracting Authority or UK SBS acting as an agent on behalf of the Contracting Authority may at any time assign, transfer, charge, subcontract or deal in any other manner with any or all of its rights or obligations under the Contract.

C7-3-2 The Supplier may not assign, transfer, charge, subcontract or deal in any other manner with any or all of its rights or obligations under the Contract without prior written consent from the Contracting Authority's or UK SBS acting as an agent on behalf of the Contracting Authority.

C7-4 Further Assurance

C7-4-1 The Supplier will promptly at the request of the Contracting Authority or UK SBS acting as an agent on behalf of the Contracting Authority do (or procure to be done) all such further acts and things, including the execution of all such other documents, as either the Contracting Authority or UK SBS acting as an agent on behalf of the Contracting Authority may from time to time require for the purpose of securing for the Contracting Authority the full benefit of the Contract, including ensuring that all title in the Supplies is transferred absolutely to the Contracting Authority.

C7-5 Publicity

C7-5-1 The Supplier shall not make any press announcements or publicise this Contract in any way without prior written consent from the Contracting Authority or UK SBS acting as an agent on behalf of the Contracting Authority.

C7-5-2 The Contracting Authority or UK SBS acting as an agent on behalf of the Contracting Authority shall be entitled to publicise this Contract in accordance with any legal obligation upon Contracting Authority or UK SBS, including any examination of this Contract by the National Audit Office pursuant to the National Audit Act 1983 or otherwise.

C7-5-3 The Supplier shall not do anything or cause anything to be done, which may damage the reputation of the Contracting Authority or UK SBS or bring the Contracting Authority or UK SBS into disrepute.

C7-6 Notices

C7-6-1 Any notice or other communication given to a party under or in connection with the Contract shall be in writing, addressed to:

C7-6-1-a in the case of the Contracting Authority: [REDACTED];
Address: **Polaris House, North Star Avenue, Swindon, Wiltshire SN2 1FF**; Email: [REDACTED] (and a copy of such notice or communication shall be sent to: **Research Category, Polaris House, North Star Avenue, Swindon, Wiltshire SN2 1FF**; Email: **Research@uksbs.co.uk** and the Chief Procurement Officer, Polaris House, North Star Avenue, Swindon, Wiltshire SN2 1FF;

C7-6-1-b in the case of the Supplier: the address, fax number and email address set out in the Order, or any other address, fax number or email address which that party may have specified to the other party in writing in accordance with this clause C7-6, and shall be delivered personally, or sent by pre-paid first-class post, recorded delivery, commercial courier, fax or e-mail.

C7-6-2 A notice or other communication shall be deemed to have been received: if delivered personally, when left at the address referred to in clause C7-6-1; if sent by pre-paid first-class post or recorded delivery, at 9.00 am on the second Working Day after posting; if delivered by commercial courier, on the date and at the time that the courier's delivery receipt is signed; or, if sent by fax or e-mail between the hours of 9.00am and 5.00pm on a Working Day, upon successful transmission (provided that the sender holds written confirmation automatically produced by the sender's fax machine of error free and complete transmission of that fax to the other party's fax number), or if sent by fax or e-mail outside the hours of 9.00am and 5.00pm on a Working Day, at 9.00am on the next Working Day following successful transmission (provided that the sender holds written confirmation automatically produced by the sender's fax machine of error free and complete transmission of that fax to the other party's fax number).

C7-6-3 This clause C7-6-3 shall only apply where UK SBS is not the Contracting Authority. In such cases, UK SBS may give or receive any notice under the Contract on behalf of the Contracting Authority and any notice given or received by UK SBS will be deemed to have been given or received by the Contracting Authority.

C7-6-4 Except for clause C7-6-5, The provisions of this clause C7-6 shall not apply to the service of any proceedings or other documents in any legal action.

C7-6-5 The Supplier irrevocably appoints and authorises [REDACTED] Group General Counsel and Group Company Secretary of Mott MacDonald House, 8-10 Sydenham Road, Croydon, CR0 2EE (or such other person, being resident in England, as the Supplier may by notice substitute) to accept service on behalf of the Supplier of all legal process.

C7-7 Severance

C7-7-1 If any court or competent authority finds that any provision of the Contract (or part of any provision) is invalid, illegal or unenforceable, that provision or part-provision shall, to the extent required, be deemed to be deleted, and the validity and enforceability of the other provisions of the Contract shall not be affected.

C7-7-2 If any invalid, unenforceable or illegal provision of the Contract would be valid, enforceable and legal if some part of it were deleted, the provision shall apply with the minimum modification necessary to make it legal, valid and enforceable.

C7-8 Waiver. A waiver of any right or remedy under the Contract is only effective if given in writing and shall not be deemed a waiver of any subsequent breach or default. No failure or delay by a party to exercise any right or remedy provided under the Contract or by law shall constitute a waiver of that or any other right or remedy, nor shall it preclude or restrict the further exercise of that or any other right or remedy. No single or partial exercise of such right or remedy shall preclude or restrict the further exercise of that or any other right or remedy.

C7-9 No Partnership, Employment or Agency. Nothing in the Contract creates any partnership or joint venture, nor any relationship of employment, between the

Supplier and either the Contracting Authority or UK SBS. Nothing in the Contract creates any agency between the Supplier and either the Contracting Authority or UK SBS.

C7-10 Third Party Rights. A person who is not a party to this Contract shall not have any rights under or in connection with it, except that UK SBS and any member of the UK SBS, Associated Bodies or Authorised Entities that derives benefit under this Contract may directly enforce or rely on any terms of this Contract.

C7-11 Variation. Any variation to the Contract, including any changes to the Services, these Conditions, the Special Conditions or the Order, including the introduction of any additional terms and conditions, shall only be binding when agreed in writing by the Contracting Authority or UK SBS acting as an agent on behalf of the Contracting Authority and the Supplier.

C7-12 Governing Law and Jurisdiction.

C7-12-1 Subject to clause C7-12-2, the Contract, and any dispute or claim arising out of or in connection with it or its subject matter or formation (including non-contractual disputes or claims), shall be governed by, and construed in accordance with, English law, and the parties irrevocably submit to the exclusive jurisdiction of the courts of England and Wales.

C7-12-2 The Contracting Authority or UK SBS acting as an agent on behalf of the Contracting Authority shall be free to enforce its intellectual property rights in any jurisdiction.

C7-13 Modern Slavery Act 2015

C7-13-1 During the Term or any extension of the Contract, the Contracting Authority is committed to ensuring that its supply chain complies with the above Act.

C7-13-2 The Supplier shall provide a report covering the following but not limited to areas as relevant and proportionate to the Contract evidencing the actions taken, relevant to the Supplier and their supply chain associated with the Contract.

C7-13-2-a Impact assessments undertaken

C7-13-2-b Steps taken to address risk/actual instances of modern slavery and how actions have been prioritised

C7-13-2-c Evidence of stakeholder engagement

C7-13-2-d Evidence of ongoing awareness training

C7-13-2-e Business-level grievance mechanisms in place to address modern slavery

C7-13-2-f Actions taken to embed respect for human rights and zero tolerance of modern slavery throughout the organisation

C7-13-3 The Contracting Authority or UK SBS when acting as an agent on behalf of the Contracting Authority reserves the sole right to audit any and all reports submitted by the Supplier to an extent as deemed necessary and the Supplier shall unreservedly assist the Contracting Authority or UK SBS acting as an agent on behalf of the Contracting Authority in doing so.

Note: the Contracting Authority also reserves the right to amend or increase the frequency of reporting, as it deems necessary to secure assurance in order to

comply with the MSA.

The Contracting Authority requires such interim assurances to ensure that the Supplier is compliant and is monitoring its supply chain, so as to meet the requirements of the above Act.

The Supplier agrees that any financial burden associated with the completion and submission of this report and associated assistance at any time, shall be at the suppliers cost to do so and will not be reimbursable.

C7-14 Changes In Costs Resulting from Changes to Government Legislation, Levies or Statutory Payments

The Contracting Authority will reimburse during any term or extension (or, where such costs, awards or damages arise following termination/expiry) of this Agreement, any increases in the Supplier's cost of providing the Services by reason of any modification or alteration to the Government legislation duties or levies or other statutory payments (including but not limited to National Insurance and/or VAT and/or introduction of or amendment to working time minimum wages). Subject always to open book access to the Supplier's records and always after a period of due diligence carried out by the Contracting Authority, relevant and proportionate to the value concerned.

C7-15 Taxation Obligations of the Supplier

C7-15-1 The relationship between the Contracting Authority, UK SBS and the Supplier will be that of "independent contractor" which means that the Supplier is not an employee, worker, agent or partner of the Contracting Authority or UK SBS and the Supplier will not give the impression that they are.

(1.) The Supplier in respect of consideration shall at all times comply with the income tax Earnings and Pensions Act 2003 (ITEPA) and all other statutes and regulations relating to income tax in respect of that consideration.

(2.) Where Supplier is liable to National Insurance Contributions (NICs) in respect of consideration received under this contract, it shall at all times comply with the Social Security Contributions and Benefits Act 1992 (SSCBA) and all other statutes and regulations relating to NICs in respect of that consideration.

(3.) The Contracting Authority may, at any time during the term, completion extension or post termination of this contract, request (Supplier) to provide information which demonstrates how Supplier complies with its obligations under tax and National Insurance Clauses (1) and (2) above or why those clauses do not apply to it.

C7-15-2 As this is not an employment Contract the Supplier will be fully responsible for all their own tax including any national insurance contributions arising from carrying out the Services.

C7-15-3 A request under Clause (3) above may specify the Information which Supplier shall provide and the period within which that information must be provided.

C7-15-4 In the case of a request mentioned in Clause (3) above, the provision of inadequate information or a failure to provide the information within the requested period, during any term or extension, may result in the Contracting Authority terminating the contract.

C7-15-5 Any obligation by Supplier to comply with Clause (1) and (2) shall survive any extension, completion or termination and Supplier obligations to indemnify the Contracting Authority shall survive without limitation and until such time as any of these obligations are complied with.

C7-15-6 The Contracting Authority may supply any information, including which it receives under clause (3) to the commissioners of Her Majesty's Revenue and Customs for the purpose of the collection and management of revenue for which they are responsible.

C7-15-7 If the Contracting Authority or UK SBS acting as an agent on behalf of the Contracting Authority has to pay any such tax under clauses (1) and (2) then the Supplier will pay back to the Contracting Authority or UK SBS in full, any money that the Contracting Authority or UK SBS has to pay, and they will also pay back the Contracting Authority or UK SBS for any fine or other punishment imposed on the Contracting Authority or UK SBS because the tax or national insurance was not paid by the Supplier.

C7-16 Cyber Essentials Questionnaire

The Supplier agrees that during any term or extension it shall complete and return the attached questionnaire as advised below, within 14 days from notice and shall send this information as directed by the Contracting Authority or UK SBS acting as an agent on behalf of the Contracting Authority. The Contracting Authority and UK SBS acting as an agent on behalf of the Contracting Authority is required to provide such assurances to comply with Government advice and guidance.

Note: the Contracting Authority also reserves the right to amend or increase the frequency of the questionnaire submission due dates, as it deems necessary. The Contracting Authority requires such interim assurances to ensure that the Supplier is still compliant with the security needs of this Contract.

The Supplier agrees that any financial burden associated with the completion and submission of this questionnaire and associated assistance at any time, shall be at the suppliers cost to do so and will not be reimbursable.



Copy of Statement
of Assurance Questionnaire

Schedule 1 Special Conditions

Not Applicable

Schedule 2 Pro forma purchase order form

The format of the Proforma Purchase Order will be as follows. Please note that the Purchase Order form will be submitted directly to your chosen email address on completion of the receipt of the signed contract and will contain the confirmed value of goods and services as well as the Purchase Order number that must be used for invoicing purposes

Proforma Order/01

(Contracting Authority Logo)

Order	
Order Date	
Revision	0
Revision Date	
Payment Terms	As per terms and conditions

Supplier:

**PLEASE QUOTE THE PURCHASE ORDER NUMBER ON ALL CORRESPONDENCE.
INVOICES NOT CARRYING THE PO NUMBER WILL BE REJECTED IMMEDIATELY**

Tel:

For all purchase order queries, please contact:
PERS@uksharedbusiness.co.uk
For all invoicing queries, please contact: Invoicing@uksharedbusiness.co.uk

Fax:

SAP to: Contracting authority SAP to address

Invoice to: Contracting Authority Invoice Address

Line	Part Number/Description	Delivery Date	Quantity	UOM	Unit Price (GBP)	Tax	Net Amount (GBP)
1							

Total

Grand Total

Whenever a UK SBS Contract number is cited within the narrative description of the Purchase Order that Purchase Order is subject to the Terms and Conditions relating to that Contract, otherwise, the Purchase Order is subject to the Terms and Conditions incorporated herein by this reference. For a copy of the Terms and Conditions, please see <http://www.uksharedbusiness.co.uk/procurement/Document/SCF-01.htm.pdf>

Commercial In Confidence

UKSBS

Shared Business Services

VAT Registration Number GB 616 367 325

(Contracting Authority) , Polaris House, North Star Avenue
Swindon, United Kingdom SN2 1EU

Page 1 of 1

Schedule 3 The Service**D1 SCOPE OF SERVICES TO BE PROVIDED**

D1-1 To carry out CR18191 – Potential Environmental Impacts of UK Space Launch Activity – A Marine and Terrestrial Study, as outlined in Annex A – Specification and Annex B – Bid Response.

D2 COMMENCEMENT AND DURATION

D2-1 This Contract shall commence on Thursday 31st January 2019 and subject to any provisions for earlier termination contained in the Standard Terms shall end no later than Sunday 31st March 2019.

D3 MANAGEMENT AND COMMUNICATIONS

D3-1 The Customer appoints: [REDACTED], Policy Lead, UK Research and Innovation, Polaris House, North Star Avenue, Swindon, SN2 1FF, Tel: [REDACTED], Email: [REDACTED], (or such other person as is notified by the Customer to the Supplier in writing) to be the Customer's Contract Manager.

D3-2 The Supplier appoints [REDACTED], Mott Macdonald Limited, CSovereign House, Vastern Road, Reading, Berkshire, RG1 8BT, Tel: [REDACTED], Email: [REDACTED], (or such other person as is notified by the Supplier to the Customer in writing) to be the Supplier's Contract Manager.

D3-3 UK Shared Business Services appoints: [REDACTED], Category Support, Research Team, Polaris House, North Star Avenue, Swindon, Wiltshire SN2 1ET; Email: Research@uksbs.co.uk.

D4 – Contract Price

D4-1 Total Contract price shall not exceed £38,942.03 excluding VAT in accordance with the Contract price and breakdown submitted for this contract detailed below:

[illegible]

D4-2 The Contract price will be agreed at inception meeting.

D4-3 All Invoices should be sent to finance@services.uksbs.co.uk or UK Research and Innovation, Polaris House, North Star Avenue, Swindon SN2 1ET). A copy of the invoice should also be sent to the Project Manager, [REDACTED].

**For and on behalf of
(The Supplier)**

Signed

Name

Position

Date



.....
.....
.....
.....

**For and on behalf of
(The Contracting Authority)**

Signed

Name

Position

Date



.....
.....
.....
.....

THIS IS THE LAST PAGE OF THESE TERMS & CONDITIONS

Annex A – Specification**1. Background****UK Space Agency (UKSA)**

The UK Space Agency (UKSA) is an agency of the Department for Business, Energy and Industrial Strategy (BEIS). The Agency is responsible for all strategic decisions on the UK civil space programme and we provide a clear, single voice for UK space ambitions. The UK Space Agency is at the heart of UK efforts to explore and benefit from space. The UK's thriving space sector contributes £9.1 billion a year to the UK economy and directly employs 28,900 with an average growth rate of almost 7.5%.

UKSA Spaceflight Programme

Our Spaceflight programme will develop the skills, capabilities and supply chains to grow the UK share of the global commercial launch market. This will create high skilled jobs, local opportunities around UK spaceports and allow our thriving space industry to compete in all areas of the space economy. It will also ensure that UK small satellite launch and sub-orbital spaceflight services are safe, sustainable and in compliance with all international regulations and treaties.

This is a key strategic priority for the UK Space Agency, which will help us to deliver our ambition for the UK to achieve 10% of the global space market by 2030. The Agency is working across government to establish the legal framework that will enable these services to be offered safely using a range of technologies – including traditional vertical launchers, rockets air-launched from carrier craft and manned sub-orbital spaceplanes and balloons.

We are also working to support industry to develop capabilities and are considering options to provide funding to help to build spaceport facilities and launch technology for satellite launch and sub-orbital systems. This study only considers satellite launch systems.

Key background

- The UKSA has previously had a report on the "Potential Impact of space vehicle launches - Initial assessment for the marine environment north of Scotland" delivered earlier this year. This report gave a high level assessment of the potential range of impacts from a series of hypothetical launches but did not go into further detail. The recommendations from this study have informed this tender and will act as a foundation for this new study, providing data, methodology and broader context. This report will be provided to the successful applicant.
- Since the completion of this report we have publicly announced grant funding for the Sutherland spaceport and two initial launch operators, Lockheed Martin and Orbex. This gives us a known location and launch vehicles. We have also announced intentions for a horizontal launch fund to promote new technologies and operation from the UK. This can also feed in.
- We have been engaging actively with those who may be affected, including the potential environmental impacts. We now need to develop evidence to support these discussions.

- The primary business areas related to this tender are the UKSA's Spaceflight Programme and key projects on international engagement, seeking permissions for launch from our neighbours and gathering evidence on the impacts of launch. This supports wider UKSA business areas in UK space industry development, technology and science (in terms of new opportunities for launching from the UK) and drafting regulation.
- The primary recipient of this work will be the Spaceflight Programme's International Team, who's function is to manage relationships with our neighbours, gather intel on competitor spaceports, engage with ESA and other global organisations on launch and develop policy to ensure launch can operate successfully from the UK.
- The lead for this piece of work will be [REDACTED], UKSA with support from other UKSA teams, Defra and Scottish Government.

2. Aims and Objectives of the Project

Aims

The Spaceflight Programme aims to ensure that UK small satellite launch and sub-orbital spaceflight services are safe, sustainable and in compliance with all international regulations and treaties.

Space activities based in the UK, either vertically or air-launched, may cause material to be deposited into seas north of Scotland, including those of Iceland, the Faroe Islands and Norway. This includes both planned 'stage drops' of rockets, and potentially debris created by an intentional or unintentional termination of the launch system.

Currently evidence on the potential environmental impacts of such activity is limited worldwide. With the UK and others developing new small launch capability, there is a need to develop this evidence. This is further required by our engagement with international partners and neighbouring states who may be affected by UK launch. Given the UK want to be thought-leaders in commercial spaceflight, we want to be seen as leading this work.

To further inform our international engagement and develop the evidence base, we require a detailed understanding of the potential environmental impacts of UK launch operations, focusing on the risk, consequences and significance of these. This evidence will also help us build a position on issues such as marine licensing and spaceflight regulation, working with DfT, Defra and Marine Scotland.

Currently the Sutherland site (A'Mhoine) is expected to be amongst the first of the UK's operational vertical launch spaceports. The UK expects further spaceports to be developed as the market develops and the outputs of this study can inform these as well. We also know the first launch operators planning to operate from Sutherland – Lockheed Martin and Orbex – and details of their launch vehicles and launch trajectories. Data from the operators will be fed into the study.

It is also expected that air-launch will take place from the UK in future, and could take off from anywhere on the UK coast, and deposit anywhere in UK or international waters. A supporting view on the impacts of a generic horizontal launcher on the environment should

be included to inform this.

The main aims of this tender are:

- To build upon previous high level study of the potential impacts from a hypothetical UK launch and assess the risk, consequence and significance.
- To develop the UK's evidence base on potential environmental impacts from small launch activity, primarily to the north of Scotland from vertical launch but also more generally from air-launch.
- To inform ongoing discussions with neighbouring states on how UK launch may interact with their environments and how to ensure safe, secure and sustainable operations.
- To review the Government's proposed approach to assessing environmental effects from launch, that all operators will need to submit before receiving a licence.
- The exam question for this research can be defined as: "What environmental impacts might space launch from the UK have on the marine and terrestrial environment?"

Objectives

To produce a single report assessing the potential risk, consequence and significance of impacts on the marine and terrestrial environment from two types of UK launch:

- Vertical launch north from a Scottish spaceport site, with a specific focus on Sutherland. This should include:
 - An overview of the environments and ecosystems that may be impacted from a set of indicative flight trajectories and stage drop zones north of Scotland, assuming normal and failed launch scenarios (with debris dispersed along the flight corridor).
 - An assessment of the direct, indirect and short-to-long term environmental impacts from specific launch vehicle components and fuels, provided by the potential launch operators and other studies.
 - A high level risk assessment and subsequent review of the significance of a range of impacts (see Scope) with an indication of consequence. This may also include a comment on likelihood of impacts based on generic data from the global launch market.
 - Single and cumulative impacts assuming a set number of launches per year.
 - Consideration of interactions with critical factors such as fisheries and marine protected areas (MPAs).
 - A summarising infographic, table or scoring system across impacts studied.
- Air-launch where a carrier craft could launch from a spaceports anywhere in the UK, and deposit anywhere in UK or international waters, to understand potential impacts without knowing spaceport location or flight trajectory at this stage. This should include:
 - The same study as above but using hypothetical data on possible air-launch vehicles and flight trajectories.
 - A higher level assessment of impacts in a generic marine or terrestrial environment (for example coastal or deep waters) and an indication of impacts from an indicative launcher.
- To assess the UK Government's proposed approach to assessing environmental effects (AEE) and ensure that it is fit for purpose based on the outputs of this study. All operators will be required to complete an AEE ahead of licence. Draft guidance will be provided to the successful applicant for this.

More general objectives will include:

- Identification of key similarities and differences between vertical and horizontal.
- To build upon a previous high level study of potential marine impacts undertaken for the UK Space Agency earlier this year (to be provided to successful applicant) and build on this by:
 - Using detailed information to be provided by UKSA on specific launch vehicles, components, fuels and launch trajectories, as well as specific spaceport locations
 - Using broader scale international habitat data for the region north of Scotland
 - An improved understanding of biochemical impacts on the oceans e.g. from fuels
 - Consideration of air-launched or horizontal launch impacts
- To produce a releasable report that can be used to inform our discussions with neighbours and other interested international parties.
- To recommend further work and identify evidence gaps.
- To, where possible and budget/time allows, compare this to existing international evidence on launch impacts on the environment.

Scope*In scope*

- An assessment of the potential risk, consequence and overall significance of impacts on the marine and terrestrial environment.
- A comment on likelihood of impacts based on generic global launch data.
- Vertical launch impacts from the proposed Sutherland spaceport with flight trajectories north of Scotland.
- Horizontal launch impacts based on an indicative launcher that could impact generic marine or terrestrial environments anywhere around the UK (e.g. coast, deep ocean).
- Data on vertical launch vehicles from Lockheed Martin and Orbex (Prime vehicle) including key components, materials, fuels and other relevant available information such as debris dispersal. This will be provided by UKSA and/or the operators.
- Normal and failed launch scenarios (with assumptions on debris dispersal provided by UKSA or operators) from the point of launch to either planned stage deposition, or failure and debris dispersal. This includes the coastal region around the spaceport.
- Assessment of single, cumulative (set no. per year TBC) direct, indirect and short-medium-long term impacts (long being at least 20 years).
- Environmental designations and broad-scale habitat data for regions north of Scotland including those around Iceland, Norway, the Faroe Islands and Greenland.
- Assessment of impacts on affected marine and terrestrial environments (recognising marine impacts are the primary interest) including but not limited to:
 - direct strike
 - acoustic disturbance
 - toxic contamination and biochemistry/water quality
 - smothering of organisms
 - floating debris
 - light pollution
 - ingestion of debris
 - creation of artificial reefs
 - air quality
 - biodegradability/longevity
- Key assumptions and methodologies provided by UKSA, launch operators and the previous study (to be provided to successful applicant) which may include affected environment classes (e.g. intertidal, deep water, coast...), ecosystem components (e.g., fish, pelagic, mammals, birds), sensitive species..., assessment categories and other environmental baselines – these can be referenced rather than duplicated.
- Where possible, consideration of interactions with fisheries north of Scotland.
- A review of the proposed Assessment of Environmental Effects (AEE) that all operators will need to complete before obtaining a licence (to be provided to successful applicant).

- Reference to other studies such as New Zealand's Electron impact assessment report and those provided by UKSA.
- Comparison to other relevant International studies and launch Impact assessments.

Out of scope

- Impacts on environments or ecosystems anywhere else in the world.
- Other launch vehicles or launch types not 'in scope' e.g. balloon, sea-launch.
- Assessment of the spaceport site itself or any other related ground infrastructure.
- Commercially sensitive data from launch operators.
- Specific complex, uncertain or large scale impacts such as climate change, terrestrial hydrology, fish stocks, economics i.e. no study of social, economic, geological impacts etc

3. Suggested Methodology

We believe this study is best undertaken using desk research, but are open to creative proposals.

The work will need to include a literature review (of existing studies, published launch impact assessments e.g. Electron in New Zealand, ecosystems in the region etc) and follow standard practice and methodologies for assessing environmental impacts for risk, significance and consequence. This can be based on the previous report undertaken for UKSA which will be provided to successful applicant.

There could also be some quantitative assessment if appropriate and within scope (i.e. on cumulative launches, debris ingestion...) supported by consultation with experts in relevant fields, such as biochemistry.

Data on the launch vehicles, spaceport locations and flight trajectories (including indicative stage drop zones) will be provided by UKSA to the successful applicant and in commercial confidence. UKSA will also provide the AEE guidance document.

Please note that no additional funding will be available for travel.

Please list the total hours of desk research, or other methods, you will use to complete this study.

4. Deliverables

- Full report providing detailed assessment of potential environmental impacts from UK launch, as per aims and objectives
- Executive summary providing an overview of the outputs of the study (approx. 2 pages plus map/table/Infographic in publishable format)
- A short non-technical note that can be used with international partners/neighbours
- A scoring summarising the findings of the impact study, in a suitable format and with supporting graphics if needed
- A review of the proposed assessment of environmental effects (AEE) guidance document for launch operators
- Final presentation on findings to UKSA (e.g. PowerPoint)
- Any supporting notes or appendices relevant to the study

Full payment will need to be made by **31st March 2019**.

We should seek regular updates throughout, including:

- Kick-off meeting at UKSA
- Initial list of countries, spaceports, launchers to be assessed in report
- Mid-term review
 - First draft report delivered for UKSA review
 - Early view on competitors discussed
 - Identify challenges or likely gaps in evidence
- Final review
 - Final draft report delivered for UKSA review
 - Infographic/map and summary table presented

Annex B - Mott Macdonald Limited**PROJ1.1 Approach and Methodology**

Our methodology describes how we will deliver the answers to the study question posed by the UK Space Agency (UKSA), namely: "What environmental impacts might space launch from the UK have on the marine and terrestrial environment?". In our response, we set out some of the challenges to delivery, describe the methodology we will use and why it will achieve the required outcomes, and how, working with the UKSA team, we propose to meet the project objectives.

We recognise there are some challenges to delivering the answers to this question, as the evidence of the potential environmental impacts of space vehicle launch is limited worldwide and is new in the UK. Notwithstanding this, we consider our proposed methodology to be sufficiently robust to tackle these issues and our technical team is competent and highly skilled, with a proven track record and understanding of the issues developed from delivery of the Marine Impact of Launches Study which we undertook for the UKSA in 2018 ('the 2018 Study').

Some of the main challenges to delivery we identified are set out in the following table. Our response to overcoming these challenges is provided in the last column.

1	There is a lack of launch monitoring to provide useful evidence on possible environmental impacts (or lack of).	<i>We will include consideration of similar studies which could be applied to launch vehicle activities, e.g. firework display impacts on birds in Dubai (see 1.3).</i>
2	Comparison between findings from launch monitoring studies is problematic because (1) monitoring may measure multiple emission sources, and (2) there are differing environmental conditions around launch sites which may affect measurements e.g. temperature, humidity, rainfall etc.	<i>Our methodology recognises that the data may have limitations to launch scenarios and we will clearly identify what assumptions and methods could be transferred to this study and set out an approach for dealing with assumptions and data gaps.</i>
3	The appraisal of the environmental impacts of new technology (such as new types of launch vehicle) may not have a sufficient evidence base at the current time to evaluate levels of risk, consequence or significance, or identify launch vehicle failure rates.	<i>In the 2018 Study, we made assumptions about the scenarios being assessed, and about data limitations and reliability. We have allowed for the same approach in this new study, although we expect that with the involvement of specific launch vehicle operators there will be more certainty on some of the assumptions.</i>
4	Our understanding is that vertical launch technology is more 'tried and tested' than air (horizontal) launches with innovation in this latter area continuing. This gives rise to more uncertainty for horizontal launches.	<i>Our methodology allows for the identification of more assumptions for the horizontal launch scenarios and recognises that there may be less certainty of the impacts than for the 2018 Study on vertical launches.</i>

Our proposed methodology will deliver the key project objectives of assessing the potential risk, consequence and significance of impacts of vertical and horizontal launches, and our team comprises suitably qualified and experienced staff to deliver the work, and also to provide the necessary review of the governments' proposed

Assessment of Environmental Effects (AEE) approach. We have taken into consideration the project deadlines, to ensure that the development of the UK spaceflight programme outcomes can continue at the desired pace.

Our methodology delivers the support needed to inform the future operation of sustainable and legally compliant launches and spaceflight in the UK, and support the development of Sutherland's spaceport, but stops short of undertaking an Environment Impact Assessment (EIA), so as not to duplicate the AEE required for future licences or exceed project time or budget constraints.

STAGE 1: Project Start Up and Confirming the Scope of Work

The project start-up meeting is critical for successful project delivery as we use this meeting to confirm and agree the project requirements. We will discuss the proposed methodology, including use of qualitative or quantitative methods, and agree environmental designation scope. A key action is to agree the study areas for each launch type for both normal and failed launches, the countries to be considered, whether a failed launch would include occurrence on the launch pad, and where a 'launch' will start. For the purposes of this Study we have assumed that impacts from the launched vehicle are included and operational elements of the spaceport facilitating a launch (e.g. launchpad, lighting), and construction and operation of a spaceport, are excluded.

For vertical launches, we suggest the study area will include the UK, Iceland, Norway, Greenland and Faroe Islands (marine areas and some specific terrestrial landmass areas), as this follows the study area from the previous marine survey and likely trajectory assumptions. The study area for horizontal launch will need agreement and delineation as the ITQ advises launch activities could occur anywhere on the UK coast (launch), and anywhere in UK or international waters (debris deposition).

We will agree the number and content of scenarios to be used. We consider there to be four scenarios for vertical launch: normal or failed launches for the Orbis and Lockheed Martin launch vehicles, operating from the Sutherland spaceport (unless they have similar characteristics such as materials and fuel that would create similar likely impacts), and two scenarios for the horizontal launch: normal or failed launches – a total of six scenarios.

We will discuss the aspects of the launch that may have environmental impacts and agree the environmental topics that will be considered in the study. The focus being primarily on marine and then terrestrial impacts, we envisage that topics including air quality, noise and vibration, light pollution, water quality / ocean chemistry / contaminated land will need consideration only in such that they create a pathway between the launch and the marine/terrestrial environment. Separate assessments are not proposed for pathway topics, only an understanding to interpret potential ecological effects. We propose to focus on the key pathway topics identified through the literature review and from the previous work. We understand the intent of this study is to focus on the ecology of the marine and terrestrial environment and because of this focus, we have excluded consideration of the following topics: complex / uncertain / large scale impacts such as climate change; ecosystem services and economics (including fish stocks); social impacts (including human health and safety, population); geology and soil; cultural heritage and archaeology; infrastructure (such as oil rigs, wind farms); recreation and tourism; landscape; terrestrial hydrology. The majority of these topics would be considered in an EIA. Construction and operational elements of spaceports are also considered excluded.

We will agree the cumulative assessment approach, including the number of vertical and horizontal launches per year, and consider the potential for cumulative effects between

impact topics additional to the previously identified accumulation of debris in the ocean, and consider the potential for in-combination effects of both horizontal and vertical launches.

We will list the data we expect from the UKSA, which will include information specific to Sutherland (on proposed launch vehicles, trajectories, fuel types, generic assumptions for horizontal launch, whether day or night launches), and confirm timescales for receipt if not immediately available. We will discuss likely data gaps and how they could be filled, agree any involvement of third parties, and how such data or communications will be managed. Feedback from organisations commenting on the previous study can be taken on board, if received within the delivery timescales for the project.

The Project Manager and marine and terrestrial ecology leads will attend the kick-off meeting with the UKSA.

STAGE 2: Data Collection and Compilation, Including Literature Reviews

Data Collection

We will make best use of existing high-level data and other related studies for the analysis, with marine impacts being of primary interest. We will expand the data collected for the previous high-level study of marine impacts and establish a robust evidence base with a clear understanding of limitations and gaps, from which the assessment can be progressed.

Data supplied by the UKSA will include:

- Existing environmental assessments of space launches, including: studies on the impact of launches on the marine environment (such as Lamarche, et al 2017 "Ecological Risk Assessment of the Impact of debris from space launches on the marine environment" and MacDiarmid, 2016 "Marine ecological risk assessment of the cumulative impact of Electron rocket launches"); studies on the impacts of launches on the terrestrial environment; and assessments undertaken for competitor spaceports, such as Canso Spaceport in Nova Scotia Canada, and Andøya, Norway.
- Generic global launch data (indicating likelihood).
- Launch vehicle details (including trajectories) from Lockheed Martin and Orbex, including information on material and fuel composition, toxicity and behaviour in the environment.
- If available, draft environmental objectives proposed by the Secretary of State in relation to the Space Industry Act 2018.
- Habitat data held by third parties including non-UK countries.
- If purchased by the UKSA, the previously used marine data can be supplemented by the bird species data held by Bird Life International and data on international and national designations and globally threatened species (IUCN Red List) held by the Integrated Biodiversity Assessment Tool (IBAT).

We will obtain the following marine and terrestrial data:

- International marine and terrestrial environmental designations from www.protectedplanet.net (International marine and terrestrial protected areas) and IBAT.
- Information for statutory designated sites that fall within UK territorial waters (marine and terrestrial Special Areas of Conservation, Special Protection Areas, and other Marine Protected Areas such as Marine Conservation Zones, Sites of Special Scientific Interest, National Nature Reserves) will be identified using MAGIC, Scottish Natural Heritage (SNH) Site Link and Natural Spaces websites, Joint Nature Conservation Committee (JNCC), the Marine Management Organisation's marine planning evidence interactive map <http://mis.marinemanagement.org.uk/marine-planning-evidence-base>.

Data used in the 2018 Study will be checked for updates with the UKSA, e.g. the EUSeaMap from the European Marine Observation Data Network indicating broad scale marine habitats, and JNCC data on the classification of marine habitats.

- We will obtain data on factors that would contribute to identifying the presence of marine species to be impacted, as recommended in the 2018 Study, including for example marine mammals (migration corridors), bird migratory routes, bird and seal breeding (and haul out) sites and their seasonal and spatial variations, mapping of (commercial and artisan (local)) fisheries (time of year, vessels) and related species, and bathymetry depths.
- Data relating to terrestrial ecology for the UK will be drawn from on-line sources and GIS databases including SNH's Site Link and Natural Spaces data bases, NBN Atlas Scotland and the Scottish Biodiversity List to identify priority habitats and species of principal importance at international and national levels. Google satellite Imagery will be utilised to provide a high-level assessment of habitat types where there are data gaps within the available databases.
- Additionally, GIS mapping on MAGIC and Marine Scotland's website will be used.
- For assessment of impacts to the terrestrial environment in territories beyond the UK, additional data sources are available e.g. IBAT, WWF and Conservation International to identify eco-regions, biodiversity hotspots and habitats and species of highest conservation importance. However, this data may need to be purchased. Our ecologists have extensive experience in working on overseas projects, with over 60 projects completed in more than 30 countries in the last five years.

Compilation

The team will manage and compile the data and it will be checked in accordance with our management system processes. Mott MacDonald has a great deal of experience in the collation of large ecological data sets, having recently delivered major commissions for HS2, Crossrail and Thames Tideway Tunnel where we used an in-house tool for mapping site data.

Literature Review

Our technical teams will undertake the literature review and we will build on the review undertaken for the 2018 Study, to identify pertinent information (focussing on information over and above that reviewed for the 2018 Study) to inform our proposed methodology, sources of data, and possible aspects and impacts to be considered.

If useful, we can share our knowledge and expertise obtained from studies we have delivered elsewhere, e.g. aviation and defence projects, where the information may be of relevance to this study. For example, there may be interest in the study of firework display impacts on protected wetlands and birds in Dubai, which we undertook in 2015/2016.

Assumptions and Exclusions

The following assumptions and exclusions will apply:

- Data purchase, purchase of GIS layers or other third-party data are excluded.
- The client will provide all necessary information and data in a timely fashion so as not to cause delay to the services, and we will rely on that information in providing the services.
- All baseline information ('other studies'/comparative studies) will be provided by the UKSA, and we will not be required to identify appropriate baseline data (for example for types of contaminants from types of spacecraft).
- Map licensing fees are excluded.

We have not included for consultation with any parties to obtain data, or to create data that is not already available.

- We are not proposing any new research.

Stage 3: Analysis

The Mid-Term Review

We will document the outcome of the desk study, literature review and confirm the proposed methodology in the draft report template for UKSA review at the mid-term review meeting. Whilst the analysis of the information will not yet be available, we will present the methodology scenarios, assumptions and limitations for acceptance. The majority of these points would have been discussed and agreed through telephone conversations and emails during Stage 2.

In order to maintain the programme and meet the final deadlines, the analysis of the data will be undertaken in parallel with the collation of the data for the mid-term review point. We propose to provide the following:

- Data summary and baseline maps (in GIS);
- Data limitations and gaps;
- Scenario details (normal and failed launch);
- Aspects of space vehicle launch which may affect the marine and terrestrial environment, based on those used for the 2018 Study;
- Environmental classes, ecosystem components and sensitive marine and terrestrial environments (based on those used for the previous study on the marine environment);
- An outline methodology of the proposed risk assessment (explained in 'Analysis' below);
- A list of key assumptions.

The mid-term review meeting will be held as a Skype call attended by the PM, the technical leads and the UKSA, with all documentation shared digitally.

Analysis

We will analyse the data and discuss the findings with other in-house technical specialists, and we have allowed a small budget for this support. Air quality and noise, or other, specialists may be called on to review relevant topic assumptions or methods and provide commentary on the data, e.g. Air Pollution Information System may be used to identify background air quality levels and critical loads. Checks will ensure there is consistency across the topics. Any difficulties in assessing issues within this area will be discussed within the project team to agree an appropriate approach, and key issues will be discussed and agreed with the UKSA.

In line with the 2018 Study, we will record the assessment outcomes in a table / matrix showing ecosystem components, environmental classes and aspects of launch likely to cause impacts, plus risk, consequence and significance. One matrix will be populated for each of the 6no. scenarios being assessed. The key findings will be summarised and any key similarities and differences between vertical and horizontal launch identified in the report.

We will use the 2018 Study approach for the analysis of marine impacts, utilising the existing list of aspects, marine identified environmental classes (broad habitat groups) and ecosystem components (groups of species living in the environmental classes), but with additional consideration of risk.

In order to undertake an equivalent assessment of marine impacts to the 2018 Study, we will identify aspects of the launch that may affect the terrestrial environment (including freshwater). This assessment will be principally based on assessing impacts to the UK terrestrial environment, though would be expanded to include small areas of international territories as appropriate within the study area. We will create environmental classes, ecosystem components and sensitive terrestrial environments equivalent to those for the 2018 Study. To do this we would use the data collected to create broad scale habitats (of international and national importance) and link to these broad groups of species (focus on species of international and national importance). These would be analysed in relation to the aspects of launch likely to cause impacts. The equivalent terrestrial statutory designated sites, both international/ European (Ramsar, Important Bird and Biodiversity Areas, Natura 2000), as well as national (Site of Special Scientific Interest and National Nature Reserves) will be located and their key (including qualifying) features identified (which correlate to the environmental classes and ecosystem components). Designated sites will not be assessed to avoid assessment duplication, as potential impacts could be inferred for a designation through the environmental classes and ecosystem components that represent the key features and comparing these to the impacts in the matrices. The approach will also ensure no duplication or gaps with the marine elements of the assessment, for example birds.

The seasonality of impacts, such as the time of year species are present/absent in an area in respect of risk /consequence etc could overly complicate the study. We propose to consider all seasons in one assessment but consider seasonality in the likelihood and identify key differences in the summary notes.

The assessment will consider impacts such as direct and indirect (within the aspects of launch), and short-medium-long term (20 years) (within the matrices). Short-term impacts are likely to be associated with the launch process (e.g. disrupted migration routes and breeding) where long-term impacts are likely to be linked to repeated launches (e.g. ongoing deposition of chemicals or materials, changing water or land chemistry and influencing the habitat that can survive, potential impacts on designated site integrity).

The risk assessment categories and the method will be agreed with the UKSA at the start-up meeting. We propose to base the assessment on the Lamarche *et al.* 2017 New Zealand study and use a qualitative assessment of high/medium/low instead of a numbered scoring system. The findings will be presented in a similar red / amber / green colour coding which can be easily interpreted by all readers. (We wish to avoid the implication that a numbered / scored approach is an exact science when it is not). A version of a risk assessment such as PERSEUS (Policy orientated marine Environmental Research in the Southern European Seas) may be appropriate, and we need to ensure risk assessment standards followed are applicable to the UK/Scotland and possibly also internationally acceptable with impacts to other countries being considered. The assessment of likelihood will be based on generic global launch data.

Vertical Launch Methodology

We will consider four vertical launch scenarios as described above. The assessment will include the marine and terrestrial environments, the terrestrial environment limited to that within the study area and therefore likely to include parts of Scotland and possibly a non-UK territory such as Jan Mayen being islands within the previous study area.

Dependent on information available on the debris (such as weight, area and number of fragments for the Electron vehicle and its Stages) generated by the proposed space launch vehicles, it may be possible to undertake a form of quantitative assessment when

considering impacts on the marine environment due to cumulative launches, and debris ingestion. Additional information on whether debris would float/sink in water, any

contaminants present on the debris, and how/If it would disperse will assist this. A review of literature in previous studies will assist in determining whether the same cumulative assessment approach could be undertaken for the terrestrial environment.

Air (Horizontal) Launch

We will consider two horizontal launch scenarios as described above. We will define the aspects of horizontal air launch and focus on the less known impacts. Assumptions will be developed about the key elements of horizontal launch to ensure a clear understanding and basis for considering impacts. We have included for the assessment of risk, consequence and significance, however, if appropriate information is not available (as per the limitations of the 2018 Study), it may not be possible to advise on risk, consequence and significance for this launch type. Due to a launch location not being available, we propose to develop an assessment with a similar level of detail to the 2018 Study.

It may be considered appropriate to exclude the initial launch process (take-off) from the study of impacts (or extrapolate possible impacts) if it is likely the carrier craft would have similar impacts to an aeroplane taking off and/or if the take-off is likely to occur from a spaceport location that currently or historically has experienced aircraft take off (e.g. an existing airport). The horizontal launch spaceports being considered in the UK include existing airports/airfields in Newquay in Cornwall, Glasgow Prestwick and in Snowdonia in Wales. These locations are likely to have existing environmental assessments of the take-off impacts and there is a better understanding of the environmental impacts of UK airports (Mott MacDonald having recently conducted a study at an east of England RAF base that considered operational noise and long-term deposition of nitrogen and sulphur). Therefore, the focus of this study could be on the point after space vehicle separation from the carrier craft, which would occur over the ocean. Consideration of the study area will also be linked to the aspects of the horizontal launch process being included, and likely trajectories. However, consideration of the terrestrial environment is only likely to include the coastal zone if at all. If there appears to be similarities between the impacts of vertical and horizontal launch we will adapt the approach to avoid duplication, with agreement from the UKSA.

As per vertical launch, dependent on information available on the debris generated by the proposed space launch vehicles, it may be possible to undertake a form of quantitative assessment when considering impacts on the marine and terrestrial environments, and the review of literature in previous studies will assist in determining this approach.

Drafting the Report and other Deliverables

The study will be written up into one final report that consists of: a 2-page executive summary (including map, table or infographic); the findings of the desk study review, and the assessment of potential environmental impacts and risk assessment.

Our report will be similar in layout to the 2018 Study and include the new information on launch location and trajectories, vehicle fuel type and terrestrial habitats. The assumptions from the 2018 Study will be reviewed and updated, particularly in relation to the new information to be obtained on normal and failed launch scenarios for the two vertical launch vehicles, and the addition of horizontal launch. A section on data limitations and gaps in evidence will be included. We will also provide recommendations on further research which may be required to further understand potential impacts, e.g. for monitoring to gather environmental impact evidence, or overview of avoidance measures for significant impacts.

The final report will be checked and approved internally, and provided to the client in draft for comment, and we have included for the review of one set of comments prior to finalising the report. Our programme has allowed for a review period of 1 week between submission of the draft and final reports.

A short non-technical note will also be provided following completion of the final report. The note will summarise the findings of the full report in non-technical language. It is assumed that this document will be made available to the public.

We will compile a Memo or Technical Note presenting our review comments on the proposed AEE guidance document, focusing on possible environmental effects identified in full report and within the context of our scope of work.

Project Management and Meetings

Our fees include for the management of the project in accordance with our Internal Business Management System, including quality and environmental management, communications planning and project risk management.

We have allowed for attendance at the following meetings within our proposal:

1. Kick-off meeting (In person)
2. Mid-term meeting (by telephone / skype)
3. Close-out / presentation – of final report (In person)

Meetings in person are assumed to be held at our offices in either London or Reading. Meetings at the UKSA offices are assumed to be either Swindon or Harwell. An allowance has been made for travel expenses within our proposal. We have made allowance for a single presentation in person at the close out meeting.

Attendance at other meetings, if required, will be charged in accordance with our hourly rates and expenses. We have assumed that meetings with spaceport or launch vehicle providers will not be required, and any relevant information provided via the UKSA.

Dissemination

The final report is intended to be published and accessible for readers outside of the UKSA. Upon publication, we can look at quick ways to reach as wide an audience as possible, such as publishing on our external website and social media platforms, issuing a press release, and drafting articles for industry and professional magazines (e.g. Transform magazine by IEMA). We would utilise the skills of our dedicated marketing team to advise how our staff might use social networks (twitter, linkedin, facebook) to signpost to the report and related articles with the intention of stimulating discussion. We are a global company and our articles and press releases are seen by our readers around the world.

Our staff can be available for presentations, as required, for example to present to Defra, the Scottish Government, Marine Scotland or other government departments. Industry forums may be interested in hosting themed sessions, and we would be happy to help identify such opportunities for the UKSA during our commission. If organised as a type of marketing 'campaign', we would discuss with you how to collate and respond to issues raised through the various media and debating activities.

We note that fees relating to dissemination activities are not included within our proposal and would form part of a separate offer, if required.

PROJ1.2 Staff to Deliver

Mott MacDonald's experience in assessing the environmental impacts of UK space launch activity is demonstrated through our successful delivery of the Marine Impact of Space Launch Study for the UK Space Agency (UKSA) in 2018 ('the 2018 Study'). Our project team will be led by the Project Principal, [REDACTED], and Project Manager, [REDACTED], who

worked successfully in partnership with the UKSA to deliver the project management and technical aspects of the 2018 Study. Specialist marine and terrestrial ecological support will be provided by our in-house teams, who have a wealth of applied knowledge and a practical understanding of both the UK and international context. Our highly skilled team, working alongside the UKSA team, will aim to deliver successful project outcomes to a high quality and, as has been requested, for suitability for wider dissemination.

We have a large and experienced environmental assessment team, with a proven track record in delivering Environmental Impact Assessment (EIAs) and Strategic Environmental Assessments (SEAs) for a wide range of projects, including studies within the space, aviation and defence sectors. The following table summarises the skills and expertise for the proposed core team members as required for the successful delivery of this project.

Role / Name and Qualifications	Skills	Essential Expertise
Project Principal: [REDACTED] 25+ years' experience; Chartered Environmentalist (CEnv); Certificate of Managing Excellence	Principal Environmental Consultant and Project Principal. Broad environmental skills, including environmental planning, EIA, compliance, due diligence, risk assessment and contaminated land. Project Management of major development and Infrastructure projects.	Project Principal for the successful 2018 Study. EIA Technical Lead for major infrastructure and development projects in the UK. Responsible for technical quality, commercial management and risk direction.
Project Manager: [REDACTED] 10+ years' experience; CEnv, Full member of Institute of Environmental Management and Assessment	Principal Environmental Consultant. Skills in managing, coordinating and undertaking EIA and SEAs for UK Infrastructure projects, and developing bespoke appraisal methodologies for clients.	Project Manager for the successful 2018 Study. Practical experience of the emerging UK Spaceflight sector and working with the UKSA. Experience of EIA assessments, undertaking EIA reviews, and developing bespoke methodologies to review design changes for environmental risks, and assess river catchments for environmental constraints and identify locations for natural flood management activities.
Marine Ecology Lead: [REDACTED] 23 years' experience; Fellow of Society of Biology	Senior Marine Biologist with industry leading skills in species management, spatial planning and environmental surveys for the marine environment, as well as EIA skills. Industry Leader for Marine Plastics Pollution. Expert in coastal zone management and resilience planning.	Delivered the ecology impact assessment for the successful 2018 Study. Experience of delivering marine ecology projects in Scotland, the wider UK and internationally. Technical and Project Manager for major UK water and energy companies including Thames Water, Coal Authority UK, SSE and oil companies. Led fieldwork for innovative field study assessing impact of light pollution on nesting turtles in Cyprus.
Terrestrial Ecology Lead: [REDACTED] 20+ years' experience; CEnv, Member of the IAIA, and the Chartered Institute of Ecology and Environmental Management	Principal Environmental Consultant and expert in terrestrial, freshwater and coastal biodiversity, habitats and flora. Skills in EIA, Ecological Impact Assessment (EclA), Habitats Regulations Assessments, critical habitat assessments, due diligence, ecological mitigation, ecosystem services, and biodiversity offsetting.	Principal Ecologist leading ecological and botanical studies in UK and internationally, including for two airport projects in southern England, Dubai Creek Harbour EIA, HS2 (Phase 1) EIA, the National Grid, and many overseas projects for renewable energy, infrastructure and oil field developments. Led study in Dubai assessing the impact of firework displays on bird species in a Ramsar site, and RAF airport redevelopment (included study of fuel deposition).
Terrestrial Senior Ecologist, Scottish Region: [REDACTED] 15 years' experience	Senior Ecologist for terrestrial and freshwater biodiversity in Scotland and the rest of the UK. Skills in EIA, EclA, fish habitat surveys, habitat management plans and protected species licensing.	Expertise in Scottish environmental legislation and policy. Practical knowledge of Scottish and UK terrestrial habitat and species sensitivities. Technical lead for EclAs for energy projects, hydro-schemes, wind farms and water utilities.
Other – Various Specialists and Support	Large pool of specialist support including noise (15), air quality (8), ecology (100+), GIS (10), contamination and biochemistry (30) and aviation (50+) with a full range of skills and experience, and specialists (e.g. ornithologists, ecologists) in our Scottish offices.	

Maintaining our ability to deliver through the lifetime of the project

We can confirm that our named resources have current capacity to deliver the project to meet the delivery programme of this short-term commission, and this will be captured in our Project Plan of Work (PPW). The effective 2018 Study approach will be continued; providing

a core management team with supporting technical experts, with our Project Manager providing a single point of contact with the UKSA, ensuring technical specialists were available to the UKSA team for more detailed discussions. The full team of technical leads with support will provide project delivery continuity whilst not relying on the availability of one single person. The PPW will identify deputy staff members for project management and technical delivery to provide resilience in the case of staff illness for example. In addition, Mott MacDonald proactively manages business continuity, with Disaster Recovery Plans for each office and service continuity plans for IT systems recovery.

PROJ1.3 Understanding the Project Environment

The United Kingdom (UK) Government is encouraging the development of the space sector through the UK Spaceflight Programme, managed by the UK Space Agency (UKSA), which will support the UK ambitions for growing a world-leading market for regular, reliable and responsible access to space. This proposed study, to investigate the marine and terrestrial environmental impacts of UK space launches, will inform the regulatory and licensing framework being developed by the UKSA, and support the engagement with neighbouring countries (states) being undertaken by the Spaceflight Programme International Team. The study will contribute to an increasing understanding of the potential environmental impacts of space launches and associated risk levels in the UK.

Our Understanding

The Space Industry Act, which was approved in March 2018, put in place the law for regulating small satellite launch and sub-orbital flight from UK soil. The UKSA is now developing the legal framework to regulate the industry, enabling spaceflight services to be delivered safely, sustainably and in compliance with international laws and agreements.

Our team has developed a robust understanding the project environment as a direct outcome from our work for the UKSA in 2018 on the potential impact of space vehicle launches on the marine environment north of Scotland ('the 2018 Study'). This was the first study of its kind for the UK and our technical specialists worked with the UKSA team to develop the study methodology and scenarios for appraisal, whilst at the same time, developing our understanding of the key drivers for the UKSA in relation to the future development of the space sector through the UK Spaceflight Programme. The work has established a good baseline from which further studies can now be advanced. The aim of the 2018 Study was to understand the possible impacts from space vehicle launches on the marine environment, to inform UKSA decision-making about potential space launch vehicle operations and to inform discussions with countries potentially affected by UK launches. On completion, the UKSA acknowledged that the work had significantly reduced uncertainties within the UKSA as to the potential marine impacts of launch (comment from the UKSA Project Manager for the 2018 Study).

Following the announcement of grant funding for the first Spaceport in Sutherland, two confirmed satellite launch operators will now move the understanding of risks and mitigation from hypothetical scenarios to tangible locations and technologies. The consideration of air (horizontal) launches will expand the previous study area out from north of Scotland to other parts of the UK marine and terrestrial environment and into other international waters.

The development of the 'evidence base', through more detailed understanding of potential environmental impacts (including risk, consequence, significance and likelihood), will assist the UKSA with their requirements to engage with international neighbours, develop guidance on the assessment of environmental effects, and encourage UK Spaceflight before competitor locations. We will use our knowledge gained on the 2018 Study and work with the

UKSA as the first step to deliver a broader and more detailed appraisal of both marine and terrestrial impacts. We will also contribute our relevant knowledge from other business sectors, such as aviation, defence and large development projects, to support the evidence base development.

Key members of our team now have a developed understanding of the project environment. The Project Principal () and Project Manager () delivered the 2018 Study, and from their experience, will ensure that the whole team understands the requirements for delivering this work. More generally, the Project Manager, , attended the UK Launch roadshow in Glasgow (2017) and the Westminster Business Forum Seminar on 'Priorities for the UK Space Industry – investment, infrastructure and international competitiveness' in March 2018. Other members of our team also have relevant knowledge, including our nominated graduate (an astrophysicist and environmental scientist) and our marine expert () delivered the marine impact assessment for the 2018 Study).

Knowledge Relevant to the Project

Marine Ecology

From our work on the 2018 Study, our marine ecology team (led by), understand the key impacts and risks associated with vertical launches on the marine environment. In that study, for a defined area north of Scotland, we identified possible aspects that could impact on the marine environment, with the highest potential of impacts from the physical impact of debris landing on the ocean and on marine species close to the surface. brought his understanding of the Scottish marine environment, from his work on oil spill contingency planning, to consider these further including inter-tidal, coastal, deep water, fisheries, and the various ecosystem components. Although risk, likelihood and consequence were not covered in the 2018 Study, we know the hazards from launches, the range of environmental receptors likely to be impacted, and the techniques and approaches that will be used to apply to these new assessments.

will apply his knowledge gained on other projects to benefit further understanding in this sector. For example, has recently successfully delivered an innovative study on the impact and possible mitigation of light pollution (a key impact of launches) from development on nesting turtles in Cyprus in 2018.

Terrestrial Ecology

To further the understanding of terrestrial ecology impacts, our team will be led by , who has a wealth of UK and international experience of relevance to the study. is supported by our Scottish regional ecology team (led by) who have practical and expert working knowledge of Scottish legislation, policy and habitat/species sensitivities from their experience of delivering ecology projects in the region.

Our terrestrial ecology experts bring a wealth of knowledge and experience that will be directly relevant to this study. For example, in 2015, led a study for a large, mixed-use development in Dubai which looked at the impact of firework displays on bird species within an internationally designated Ramsar site. The study comprised a detailed literature review, collating evidence to show that the firework displays cause direct mortality and significant disturbance to bird populations, disrupting seabird breeding, increasing flight stress, disorientation and strikes with static objects for distances over 1km from the firework display. worked on the management plan and compensation strategy to mitigate the impacts of the displays, developing specifications for maximum noise levels, and controls on frequency and intensity (percussive noise) to avoid sudden mass bird disturbance. The findings from this study may be relevant to space vehicle launches where high intensity noise, vibration and light from launches may result in similar impacts caused by intense firework displays.

██████ also led an ecological study (at an east of England RAF base) into the impacts of the airport redevelopment (including new aircraft type) on a European designated site and Site of Special Scientific Interest together with their qualifying features. The study involved the review of the number and type of aircraft, flight frequency, fuel composition and likely deposition on the ground from the aircraft. In consultation with Natural England and using Air Pollution Information System data for critical loads of different pollutants and habitats, an assessment was undertaken of the long term and cumulative effects on habitats and species from the deposition of nitrogen and sulphur. Fuel deposition is possible from space launch vehicles over land or sea. For a Scottish terrestrial site, where the soil will be nutrient poor, the impact of long term nitrogen deposition would therefore be very likely to result in habitat and species change over time. ██████ is also leading all habitat and botanical work to inform the EIA for the Heathrow Expansion Project.

Our regional terrestrial ecology team, led by ██████, has a practical working understanding of the Highlands and Islands area surrounding the Sutherland spaceport site, having delivered ecological assessments for sites across Scotland. For example, ██████ delivered ecological assessments and advised on mitigation for new and upgraded assets for Scottish Water, planning applications for wind farms, new and retrofit hydro schemes, and new power lines, including in the Highlands and Islands region. As a result, ██████ has developed good relationships with key stakeholders such as Scottish Natural Heritage and the Scottish Environmental Protection Agency which would be useful in gathering data, and in understanding the interests of stakeholders to appropriately present the study findings.

Knowledge Relevant to Policy / Programme Area

The UK's National Space Policy (published 2015) set the stage for the UK to become a European hub for commercial spaceflight to be part of the world's growing space market. The Space Industry Act 2018 builds on this to identify key legislative requirements and licensing to enable spaceport development and operation. In order to have market share, the UK needs to have spaceport capability before its competitors and the broad aim is to achieve this by the early 2020s. This study supports the UK's programme by providing an understanding of the key possible environmental effects to enable early dialogue with key UK and international parties and UK guidance preparation, smoothing the way for future the consenting / licensing approvals process when the detailed assessments are available.

We prepared a briefing note for the UKSA on the marine legislation applicable to the UK (Scotland) and neighbouring states alongside the 2018 Study. The note collated information on applicable marine environmental legislation, licensing and treaties current at the time that may be relevant for space vehicle launches, for countries that border or are close to UK Scottish waters, namely: Norway, Iceland, the Danish Territories of Greenland and the Faroe Islands. We obtained information on Conventions likely to apply to space launches from the International Maritime Organization website and summarised the likely relevance to space vehicle launches. We also reviewed information on EU legislation and how it has been implemented in Scotland, and then summarised the key pieces of environmental and marine legislation for each identified country or territory.

We therefore have a good understanding of the policy background which relates to possible impacts of space vehicle launches on the marine environment, an increased understanding of the international regulatory and policy regime for key neighbouring states and understand this has informed the UKSA's ongoing discussions with neighbouring states.

This international legislation knowledge would allow us to identify any impacts that fall outside of the areas considered previously and may require review of additional policy areas.

Our experience working on EIAs, design and construction projects enables us to review the proposed approach to assessing environmental effects from space launches supported by

an understanding of the likely environmental effects. This expertise, along with our space sector knowledge, will contribute to the successful delivery of this more detailed study.

Of possible application to this study is our sustainability work for the aviation sector. We provided sustainability advice for major aviation development projects, including the Heathrow Expansion Project and Hong Kong airport, to ensure these developments consider sustainability at every stage of the design. We would be keen to include an early aspect of this within this study, to lay the foundations for inclusion at later stages.

██████ has also been driving best practice in the area of marine plastics, for example working with the water industry to develop innovations to remove microplastics from waste water streams and also stimulating debate and action by organising and hosting a marine plastics conference in 2018. Our understanding of the increasing sensitivities around ocean pollution was incorporated into the 2018 Study and would be continued for the new work.

Knowledge of Data Sources

We have a full understanding of the key elements of the data, and have reviewed, assessed and used the information from these references previously, including the published New Zealand reports on Electron Impact assessment (MacDiarmid et al) and ecological risk assessment (Lamarche et al) and others. We are already aware that there are no applicable studies for the UK besides the 2018 Marine Impact of Launches Study, and that relevant impacts, methods and experience will need to be gathered from international studies and applied to the UK setting. We are also interested in whether we would be able to utilise applicable cross-over knowledge from other sectors like aviation.

We previously considered the study by Lamarche et al (2017), which identified seven potential threats (aspects) of launches causing impacts on the marine environment), and determined that these aspects would be applicable to the hypothetical launch scenario for the UK as New Zealand has similar marine environment characteristics to those found in the temperate waters found off of the Scottish and UK coastline. In our appraisal, we added light pollution as an additional aspect that wasn't considered in the New Zealand study, based on assessments undertaken in other reports.

Our ecology teams have significant experience of identifying appropriate data and gathering it from a wide range of Scottish, UK and international sources. This expertise is supported by our GIS team, who assist with data collation and presentation, and who will be working alongside the technical specialists to provide data management and graphic representations.

Ensuring Successful Delivery

Our response has confirmed that we have the right people with the right knowledge and skills to successfully deliver the research outcomes and meet the UKSA objectives for this study. Our delivery team is supported by and can 'reach back' to the significant wealth of skills and expertise within the company, whether this is from chemists and contamination experts or GIS and data scientists. We offer a fully assembled and experienced team ready to deliver this project.

PROJ1.4 Project Plan and Timescales

Our project plan demonstrates how we will control the project and successfully deliver the project to the appropriate quality and within the agreed budgets and programme. The project plan encompasses our internal governance processes, commercial and risk management, resource planning and checking and approval assurance procedures. Our delivery

programme shows how we will deliver to the required timeframes from the ITQ, finishing by the 31st of March 2019.

Our Project Plan of Work (PPW)

On appointment, the PPW will be set up in accordance with our Group Business Management System standards. These meet the ITQ requirements in the following ways:

- Roles and responsibilities are assigned for the Project Principal, Project Manager (PM), quality checker and approver, project sustainability co-ordinator and safety advisor. The roles of the technical specialists are also identified. Our strict competency governance processes ensures that our staff have the right skills and experience to deliver your project.
- Commercial and risk management is agreed. This includes the e-Invoicing procedures and contract agreement (two minor amendments are proposed). These agreements assure and insure your project going forward.
- Project delivery is confirmed through the description of the scope of work including the methodology, any assumptions and project specific requirements.
- The 'communication plan' will identify any sensitivities relating to contacting external stakeholders and will set out the main lines of communication. We intend to establish open dialogue with the UK Space Agency (UKSA) team, through regular communication via email and by telephone: similar to our approach for the 2018 Study. This helps to agree scenarios and assumptions as the project progresses, making the review stage easier as key decisions will have already been made and agreed.
- The 'technology delivery plan' details what technology will be used and how, e.g. data management, GIS or map licensing requirements, modelling software, etc. This enables data management compliance and delivers project efficiencies.

The PPW contains information on project risks, health, safety and security risks. The Project Manager completes the PPW and a copy is uploaded to the project 'SharePoint' site so it is visible to the delivery team, and it is then reviewed monthly during project delivery.

Our assumptions for project delivery are:

1. The review stage includes for a single set of comments, prior to report publication. Additional or extended reviews may be charged in accordance with our rates.
2. Our programme allows one week at draft report stage for the UKSA to undertake their review and providing comments. A slightly longer review stage is allowed at final report stage to take account of the submission of multiple deliverables.
3. We have allowed for attendance at the following meetings, which are assumed to be held in or close to London (e.g. Swindon, Reading or Harwell):
 - a. Kick-off: in person, attended by the PM and up to 2 specialists;
 - b. Mid-term: by telephone / skype, attended by relevant team members;
 - c. Close-out / Presentation: In person, attended by the PM and up to 2 specialists.
4. An allowance has been made for reasonable travel expenses.

5. We have allowed for a single presentation, attended in person at the close out meeting.

6. Attendance at other meetings, if required, will be charged in accordance with our hourly rates and expenses. We have assumed that meetings with Spaceport or Launch Vehicle providers will not be required, and any relevant information provided via the UKSA.

7. All activities will be completed prior to 31 March 2019 to allow full payment before this date, and any work after this date would be subject to a separate quotation and a review of rates for nominated staff.

Our Delivery Programme

Our proposed programme shows the activities and key milestones for the project. The programme delivers our project methodology and ensures completion by the 31 March 2019.

Week no.	1	2	3	4	5	6	7	8	9	10	11
Date (week beginning)	14/1	21/1	28/1	4/2	11/2	18/2	25/2	4/3	11/3	18/3	25/3
Contract Start Date	18/1										
Kick off Meeting and agree Study scope ¹	18/1										
Desk study, data and literature review											
Mid-term review meeting ² and Issue Draft Report					✓						
UKSA Review (draft)											
Review UKSA comments											
Assess environmental impacts (Analysis)											
Preparation of Non-Technical Note											
Review proposed AEE document											
Issue all Deliverables for Review ³									✓		
UKSA Review (final) ⁴											
Presentation Meeting											✓
Contract Completion 31/3											✓

Notes on the Programme:

1. Study scope Includes the ITQ requirements (list of countries, spaceport details, launch vehicles) and other aspects noted in our Methodology (PROJ1.1).
2. Mid-term review meeting includes UKSA early view on competitors, and discussion of possible challenges or likely gaps in evidence.
3. Deliverables comprise: final study report and executive summary, short non-technical note, scoring summary with graphics, and AEE review note.
4. Includes infographic/map/summary table.

✓ Key milestones