



Department
for Environment
Food & Rural Affairs

www.gov.uk/defra

Contract for the Provision of Comparative Environmental Life Cycle Assessment of Cattle Production Systems

Contract Reference 29459 (SCF0222)

October 2020

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SECTION 1

FORM OF CONTRACT

PARTIES:

- (1) THE SECRETARY OF STATE FOR ENVIRONMENT, FOOD AND RURAL AFFAIRS of [REDACTED]
[REDACTED] (the “**Authority**”);

AND

- (2) Cranfield University, at [REDACTED] (registered in England and Wales under number (RC000151) whose registered office is as above. (the “**Contractor**”)

NOW IT IS HEREBY AGREED as follows:

1. TERMS OF CONTRACT

- 1.1 The “**Contract**” comprises the following:

Section 1:	Form of Contract
Section 2:	Terms and Conditions
Schedule 1:	Specification
Schedule 2:	Prices
Schedule 3:	Change Control
Schedule 4:	Commercially Sensitive Information
Schedule 5:	Processing, Personal Data and Data Subjects
Schedule 6:	Non-Disclosure Agreement
Schedule 7:	Contractor and Third Party Software

- 1.2 Execution of the Contract is carried out in accordance with EU Directive 99/93 (Community framework for electronic signatures) and the Electronic Communications Act 2000. The Contract is formed on the date on which both Parties communicate acceptance of its terms on the Authority’s electronic contract management system (“**Bravo**”).
- 1.3 The Contract starts on **1ST October 2020** (the “**Commencement Date**”) and ends on **31st May 2021** (the “**End Date**”) unless it is terminated early or extended in accordance with the Contract.
- 1.4 The Authority may extend the term of the Contract until **30th November 2021** (“**Extension**”). The terms of the Contract will apply throughout the period of any Extension.

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TERMS AND CONDITIONS

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A GENERAL PROVISIONS

A1 Definitions and Interpretation

Unless the context otherwise requires the following terms shall have the meanings given to them below:

“Affected Party” means the Party seeking to claim relief in respect of a Force Majeure Event.

“Affiliate” means in relation to a body corporate, any other entity which directly or indirectly Controls is Controlled by, or is under direct or indirect common Control with, that body corporate from time to time.

“Approval” and **“Approved”** means the prior written consent of the Authority.

“Authorised Representative” means the Authority representative named in the CCN as authorised to approve agreed Variations.

“Authority Data” means:

- (a) the data, text, drawings, diagrams, images or sounds (together with any database made up of any of these) which are embodied in any electronic, magnetic, optical or tangible media, and which are: (i) supplied to the Contractor by or on behalf of the Authority; or (ii) which the Contractor is required to generate, process, store or transmit pursuant to the Contract; or
- (b) any Personal Data for which the Authority is the Controller.

“Authority Premises” means any premises owned, occupied or controlled by the Authority or any other Crown Body which are made available for use by the Contractor or its Sub-Contractors for provision of the Services.

“Authority Software” means software which is owned by or licensed to the Authority (other than under or pursuant to the Contract) and which is or will be used by the Contractor for the purposes of providing the Services.

“Authority System” means the Authority’s computing environment (consisting of hardware, software and/or telecommunications networks or equipment) used by the Authority or the Contractor in connection with the Contract which is owned by or licensed to the Authority by a third party and which interfaces with the Contractor System or which is necessary for the Authority to receive the Services.

“BPSS” means the HMG Baseline Personnel Security Standard for Government employees.

“Bravo” has the meaning given in paragraph 1.2 of the Form of Contract.

“**CCN**” means a change control notice in the form set out in Schedule 3.

“**Commencement Date**” means the date set out in paragraph 1.3 of the Form of Contract.

“**Commercially Sensitive Information**” means the information listed in Schedule 4 comprising the information of a commercially sensitive nature relating to:

- (a) the Price;
- (b) details of the Contractor’s Intellectual Property Rights; and
- (c) the Contractor’s business and investment plans

which the Contractor has indicated to the Authority that, if disclosed by the Authority, would cause the Contractor significant commercial disadvantage or material financial loss.

“**Confidential Information**” means any information which has been designated as confidential by either Party in writing or that ought to be considered as confidential (however it is conveyed or on whatever media it is stored) including information the disclosure of which would, or would be likely to, prejudice the commercial interests of any person or trade secrets or Intellectual Property Rights of either Party and all Personal Data. Confidential Information shall not include information which:

- (a) was public knowledge at the time of disclosure otherwise than by breach of clause E4;
- (b) was in the possession of the receiving Party, without restriction as to its disclosure, before receiving it from the disclosing Party;
- (c) is received from a third party (who lawfully acquired it) without restriction as to its disclosure; or
- (d) is independently developed without access to the Confidential Information.

“**Contract**” has the meaning given in paragraph 1.1 of the Form of Contract.

“**Contract Period**” means the period from the Commencement Date to:

- (a) the End Date; or
- (b) following an Extension, the end date of the Extension

or such earlier date of termination or partial termination of the Contract in accordance with the Law or the Contract.

“**Contracting Authority**” means any contracting authority (other than the Authority) as defined in regulation 3 of the Regulations.

“**Contractor Software**” means software which is proprietary to the Contractor, including software which is or will be used by the Contractor for the purposes of providing the Services and which is set out in Schedule 7.

“**Contractor System**” means the information and communications technology system used by the Contractor in performing the Services including the Software, the Contractor Equipment and related cabling (but excluding the Authority System).

“**Control**” means that a person possesses, directly or indirectly, the power to direct or cause the direction of the management and policies of the other person (whether through the ownership of voting shares, by contract or otherwise) and “**Controls**” and “**Controlled**” shall be interpreted accordingly.

“**Controller**” has the meaning given in the GDPR.

“Copyright” means as it is defined in s.1 of Part 1 Chapter 1 of the Copyright, Designs and Patents Act 1988.

“Crown” means the government of the United Kingdom (including the Northern Ireland Executive Committee and Northern Ireland Departments, the Scottish Executive and the National Assembly for Wales), including, but not limited to, government ministers, government departments, government offices and government agencies and **“Crown Body”** is an emanation of the foregoing.

“Data Loss Event” means any event that results, or may result, in unauthorised access to Personal Data held by the Contractor under this Contract, and/or actual or potential loss and/or destruction of Personal Data in breach of this Contract, including any Personal Data Breach.

“Data Protection Impact Assessment” means an assessment by the Controller of the impact of the envisaged processing on the protection of Personal Data.

“Data Protection Legislation” means (i) the GDPR, the LED and any applicable national implementing Laws as amended from time to time (ii) the DPA 2018 to the extent that it relates to processing of personal data and privacy; and (iii) all applicable Law about the processing of personal data and privacy.

“Data Protection Officer” has the meaning given in the GDPR.

“Data Subject” has the meaning given in the GDPR.

“Data Subject Request” means a request made by, or on behalf of, a Data Subject in accordance with rights granted pursuant to the Data Protection Legislation to access their Personal Data.

“Database Rights” means as rights in databases are defined in s.3A of Part 1 Chapter 1 of the Copyright, Designs and Patents Act 1988.

“Default” means any breach of the obligations of the relevant Party (including abandonment of the Contract in breach of its terms, repudiatory breach or breach of a fundamental term) or any other default, act, omission, negligence or statement of the relevant Party or the Staff in connection with the subject-matter of the Contract and in respect of which such Party is liable to the other.

“DOTAS” means the Disclosure of Tax Avoidance Schemes rules which require a promotor of tax schemes to tell HMRC of any specified notifiable arrangements or proposals and to provide prescribed information on those arrangements or proposals within set time limits as contained in Part 7 of the Finance Act 2004 and in secondary legislation made under vires contained in Part 7 of the Finance Act and as extended to NICs by the National Insurance (Application of Part 7 of the Finance Act 2004) regulations 2012, SI 2012/1868 made under section 132A of the Social Security Administration Act 1992.

“DPA 2018” means the Data Protection Act 2018.

“EIR” means the Environmental Information Regulations 2004 (SI 2004/3391) and any guidance and/or codes of practice issued by the Information Commissioner or relevant government department in relation to such regulations.

“End Date” means the date set out in paragraph 1.3 of the Form of Contract.

“Equipment” means the Contractor’s equipment, consumables, plant, materials and such other items supplied and used by the Contractor in the delivery of the Services.

“Extension” has the meaning given in paragraph 1.4 of the Form of Contract.

“FOIA” means the Freedom of Information Act 2000 and any subordinate legislation made under that 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.

“Force Majeure Event” means any event outside the reasonable control of either Party affecting its performance of its obligations under the Contract arising from acts, events, omissions, happenings or non-happenings beyond its reasonable control and which are not attributable to any wilful act, neglect or failure to

take reasonable preventative action by that Party, including acts of God, riots, war or armed conflict, acts of terrorism, acts of government, local government or regulatory bodies, for flood, storm or earthquake, or disaster but excluding any industrial dispute relating to the Contractor or the Staff or any other failure in the Contractor's supply chain.

"Form of Contract" means Section 1 of the Contract.

"GDPR" means the General Data Protection Regulation (Regulation (EU) 2016/679).

"General Anti-Abuse Rule" means:

- (a) the legislation in Part 5 of the Finance Act 2013; and
- (b) any future legislation introduced into parliament to counteract tax advantages arising from abusive arrangements to avoid NICs;

"Good Industry Practice" means standards, practices, methods and procedures conforming to the Law and the degree of skill and care, diligence, prudence and foresight which would reasonably and ordinarily be expected from a skilled and experienced person or body engaged in a similar type of undertaking under the same or similar circumstances.

"Halifax Abuse Principle" means the principle explained in the CJEU Case C-255/02 Halifax and others.

"HMRC" means HM Revenue & Customs.

"ICT Environment" means the Authority System and the Contractor System.

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

"Initial Contract Period" means the period from the Commencement Date to the End Date.

"Intellectual Property Rights" means patents, utility models, inventions, trademarks, service marks, logos, design rights (whether registrable or otherwise), applications for any of the foregoing, copyright, database rights, domain names, plant variety rights, Know-How, trade or business names, moral rights and other similar rights or obligations whether registrable or not in any country (including but not limited to the United Kingdom) and the right to sue for passing off.

"ITEPA" means the Income Tax (Earnings and Pensions) Act 2003.

"Key Personnel" mean those persons named in the Specification as key personnel.

"Know-How" means all information not in the public domain held in any form (including without limitation that comprised in or derived from drawings, data formulae, patterns, specifications, notes, samples, chemical compounds, biological materials, computer software, component lists, instructions, manuals, brochures, catalogues and process descriptions and scientific approaches and methods).

"Law" means any law, statute, subordinate legislation within the meaning of section 21(1) of the Interpretation Act 1978, bye-law, enforceable right within the meaning of section 2 of the European Communities Act 1972, regulation, order, regulatory policy, mandatory guidance or code of practice, judgment of a relevant court of law, or directives or requirements of any Regulatory Body with which the relevant Party is bound to comply.

"LED" means Law Enforcement Directive (Directive (EU) 2016/680).

"Malicious Software" means any software program or code intended to destroy, interfere with, corrupt, or cause undesired effects on program files, data or other information, executable code or application software macros, whether or not its operation is immediate or delayed, and whether the malicious software is introduced wilfully, negligently or without knowledge of its existence.

“Material Breach” means a breach (including an anticipatory breach) that is serious in the widest sense of having a serious effect on the benefit which the Authority would otherwise derive from:

- (a) a substantial portion of the Contract; or
- (b) any of the obligations set out in clauses A6, D1, E1, E2, E3, E4, E7, E8 or E10.

“Month” means calendar month.

“NICs” means National Insurance Contributions.

“Occasion of Tax Non-Compliance” means:

- (a) any tax return of the Contractor submitted to a Relevant Tax Authority on or after 1 October 2012 which is found on or after 1 April 2013 to be incorrect as a result of:
 - i) a Relevant Tax Authority successfully challenging the Contractor under the General Anti-Abuse Rule or the Halifax Abuse principle or under any tax rules or legislation that have an effect equivalent or similar to the General Anti-Abuse Rule or the Halifax Abuse Principle;
 - ii) the failure of an avoidance scheme which the Contractor was involved in, and which was, or should have been, notified to the Relevant Tax Authority under the DOTAS or any equivalent or similar regime; and/or
- (b) any tax return of the Contractor submitted to a Relevant Tax Authority on or after 1 October 2012 gives rise on or after 1 April 2013 to a criminal conviction in any jurisdiction for tax related offences which is not spent at the Commencement Date or to a civil penalty for fraud or evasion.

“Personal Data” has the meaning given in the GDPR.

“Personal Data Breach” has the meaning given in the GDPR.

“Premises” means the location where the Services are to be supplied as set out in the Specification.

“Price” means the price (excluding any applicable VAT) payable to the Contractor by the Authority under the Contract, as set out in Schedule 2 for the full and proper performance by the Contractor of its obligations under the Contract.

“Processor” has the meaning given in the GDPR.

“Prohibited Act” means:

- (a) to directly or indirectly offer, promise or give any person working for or engaged by the Authority a financial or other advantage to:
 - i) induce that person to perform improperly a relevant function or activity; or
 - ii) reward that person for improper performance of a relevant function or activity;
- (b) to directly or indirectly request, agree to receive or accept any financial or other advantage as an inducement or a reward for improper performance of a relevant function or activity in connection with the Contract;
- (c) an offence:
 - i) under the Bribery Act 2010 (or any legislation repealed or revoked by such Act);
 - ii) under legislation or common law concerning fraudulent acts; or

- iii) the defrauding, attempting to defraud or conspiring to defraud the Authority;
- (d) any activity, practice or conduct which would constitute one of the offences listed under (c) above if such activity, practice or conduct has been carried out in the UK.

“Protective Measures” means appropriate technical and organisational measures which may include: pseudonymising and encrypting Personal Data, ensuring confidentiality, integrity, availability and resilience of systems and services, ensuring that availability of and access to Personal Data can be restored in a timely manner after an incident, and regularly assessing and evaluating the effectiveness of the such measures adopted by the Contractor

“Property” means the property, other than real property, issued or made available to the Contractor by the Authority in connection with the Contract.

“Purchase Order” means the document in which the Authority specifies the Services which are to be supplied by the Contractor under the Contract.

“Quality Standards” means the quality standards published by BSI British Standards, the National Standards Body of the United Kingdom, the International Organisation for Standardization or other reputable or equivalent body (and their successor bodies) that a skilled and experienced operator in the same type of industry or business sector as the Contractor would reasonably and ordinarily be expected to comply with, and as may be further detailed in Schedule 1.

“Receipt” means the physical or electronic arrival of the invoice at the address specified in clause A4.4 or at any other address given by the Authority to the Contractor for the submission of invoices from time to time.

“Regulations” means the Public Contract Regulations 2015 (SI 2015/102).

“Regulatory Body” means a government department and regulatory, statutory and other entities, committees, ombudsmen and bodies which, whether under statute, rules, regulations, codes of practice or otherwise, are entitled to regulate, investigate, or influence the matters dealt with in the Contract or any other affairs of the Authority.

“Relevant Conviction” means a conviction that is relevant to the nature of the Services or as listed by the Authority and/or relevant to the work of the Authority.

“Relevant Requirements” means all applicable Law relating to bribery, corruption and fraud, including the Bribery Act 2010 and any guidance issued by the Secretary of State for Justice pursuant to section 9 of the Bribery Act 2010.

“Relevant Tax Authority” means HMRC or, if applicable, a tax authority in the jurisdiction in which the Contractor is established.

“Replacement Contractor” means any third party supplier appointed by the Authority to supply any services which are substantially similar to any of the Services in substitution for any of the Services following the expiry, termination or partial termination of the Contract.

“Request for Information” means a request for information under the FOIA or the EIR.

“Results” means any guidance, specifications, reports, studies, instructions, toolkits, plans, data, drawings, databases, patents, patterns, models, designs or other material which is:

- a) prepared by or for the Contractor for use in relation to the performance of its obligations under the Contract; or
- b) the result of any work done by the Contractor, the Staff or any Sub-Contractor in relation to the provision of the Services.

“Returning Employees” means those persons agreed by the Parties to be employed by the Contractor (and/or any Sub-Contractor) wholly or mainly in the supply of the Services immediately before the end of the Contract Period.

“Security Policy Framework” means the HMG Security Policy Framework (available from the Cabinet Office's Government Security Secretariat) as updated from time to time.

“Services” means the services set out in Schedule 1 including any modified or alternative services.

“Specification” means the description of the Services to be supplied under the Contract as set out in Schedule 1 including, where appropriate, the Key Personnel, the Premises and the Quality Standards.

“SSCBA” means the Social Security Contributions and Benefits Act 1992.

“Staff” means all persons employed by the Contractor to perform its obligations under the Contract together with the Contractor's servants, agents, suppliers and Sub-Contractors used in the performance of its obligations under the Contract.

“Sub-Contract” means a contract between 2 or more suppliers, at any stage of remoteness from the Authority in a sub-contracting chain, made wholly or substantially for the purpose of performing (or contributing to the performance of) the whole or any part of the Contract and **“Sub-Contractor”** shall be construed accordingly.

“Sub-processor” means any third party appointed to process Personal Data on behalf of the Contractor related to this Contract.

“Tender” means the document submitted by the Contractor to the Authority in response to the Authority's invitation to suppliers for formal offers to supply the Services.

“TFEU” means the Treaty on the Functioning of the European Union.

“Third Party IP Claim” has the meaning given to it in clause E8.7 (Intellectual Property Rights).

“Third Party Software” means software which is proprietary to any third party which is or will be used by the Contractor to provide the Services including the software and which is specified as such in Schedule 7.

“Treaties” means the Treaty on European Union and the TFEU.

“TUPE” means the Transfer of Undertakings (Protection of Employment) Regulations 2006.

“TUPE Information” means the information set out in clause B17.1.

“Valid Invoice” means an invoice containing the information set out in clause C2.5.

“Variation” means a variation to the Specification, the Price or any of the terms or conditions of the Contract.

“VAT” means value added tax charged or regulated in accordance with the provisions of the Value Added Tax Act 1994.

“Working Day” means a day (other than a Saturday or Sunday) on which banks are open for general business in the City of London.

In the Contract, unless the context implies otherwise:

- (a) the singular includes the plural and vice versa;
- (b) words importing the masculine include the feminine and the neuter;
- (c) reference to a clause is a reference to the whole of that clause unless stated otherwise;

- (d) references to a person include an individual, company, body corporate, corporation, unincorporated association, firm, partnership or other legal entity or central Government body;
- (e) the words “other”, “in particular”, “for example”, “including” and similar words shall not limit the generality of the preceding words and shall be construed as if they were immediately followed by the words “without limitation”;
- (f) headings are included for ease of reference only and shall not affect the interpretation or construction of the Contract;
- (g) a reference to any Law includes a reference to that Law as amended, extended, consolidated or re-enacted from time to time; and
- (h) references to the Contract are references to the Contract as amended from time to time.

A2 The Authority’s Obligations

- A2.1 Save as otherwise expressly provided, the obligations of the Authority under the Contract are obligations of the Authority in its capacity as a contracting counterparty and nothing in the Contract shall operate as an obligation upon, or in any other way fetter or constrain the Authority in any other capacity, and the exercise by the Authority of its duties and powers in any other capacity shall not lead to any liability (howsoever arising) on the part of the Authority to the Contractor.

A3 Contractor’s Status

- A3.1 The Contractor shall be an independent contractor and nothing in the Contract shall create a contract of employment, a relationship of agency or partnership or a joint venture between the Parties and accordingly neither Party shall be authorised to act in the name of, or on behalf of, or otherwise bind the other Party save as expressly permitted by the terms of the Contract.
- A3.2 The Contractor shall not (and shall ensure that any other person engaged in relation to the Contract shall not) say or do anything that might lead any other person to believe that the Contractor is acting as the agent or employee of the Authority.

A4 Notices and Communications

- A4.1 Subject to clause A4.3, where the Contract states that a notice or communication between the Parties must be “written” or “in writing” it is not valid unless it is made by letter (sent by hand, first class post, recorded delivery or special delivery) or by email or by communication via Bravo.
- A4.2 If it is not returned as undelivered a notice served:
 - (a) in a letter is deemed to have been received 2 Working Days after the day it was sent; and
 - (b) in an email is deemed to have been received 4 hours after the time it was sent provided it was sent on a Working Day
 or when the other Party acknowledges receipt, whichever is the earlier.
- A4.3 Notices pursuant to clauses G3 (Force Majeure), I2 (Dispute Resolution) or to terminate the Contract or any part of the Services are valid only if served in a letter by hand, recorded delivery or special delivery.

A4.4 Notices shall be sent to the addresses set out below or at such other address as the relevant Party may give notice to the other Party for the purpose of service of notices under the Contract:

(a) For the Authority:

Contact Name: [REDACTED]

Address: [REDACTED]

Email: [REDACTED]

(b) For the Contractor:

Contact Name: [REDACTED]

Address: [REDACTED]

Email: [REDACTED]

With a copy to: [REDACTED]

Address: [REDACTED]

Email: [REDACTED]

A5 Mistakes in Information

A5.1 The Contractor is responsible for the accuracy of all drawings, documentation and information supplied to the Authority by the Contractor in connection with the Services and shall pay the Authority any extra costs occasioned by any discrepancies, errors or omissions therein.

A6 Conflicts of Interest

A6.1 The Contractor shall take appropriate steps to ensure that neither the Contractor nor any Staff is placed in a position where, in the reasonable opinion of the Authority, there is or may be an actual conflict, or a potential conflict, between the pecuniary or personal interests of the Contractor and the duties owed to the Authority under the provisions of the Contract. The Contractor will notify the Authority without delay giving full particulars of any such conflict of interest which may arise.

A6.2 The Authority may terminate the Contract immediately by notice and/or take or require the Contractor to take such other steps it deems necessary if, in the Authority's reasonable opinion, there is or may be an actual conflict, or a potential conflict, between the pecuniary or personal interests of the Contractor and the duties owed to the Authority under the provisions of the Contract. The actions of the Authority pursuant to this clause A6 shall not prejudice or affect any right of action or remedy which shall have accrued or shall thereafter accrue to the Authority.

B. THE SERVICES

B1 Specification

- B1.1 In consideration of the Contractor supplying the Services the Contractor shall be paid the Price.

B2 Provision and Removal of Equipment

- B2.1 The Contractor shall provide all the Equipment and resource necessary for the supply of the Services.
- B2.2 The Contractor shall not deliver any Equipment to nor begin any work on the Premises without obtaining Approval.
- B2.3 All Equipment brought onto the Premises shall be at the Contractor's own risk and the Authority shall have no liability for any loss of or damage to any Equipment unless the Contractor is able to demonstrate that such loss or damage was caused or contributed to by the Authority's Default. The Contractor shall provide for the haulage or carriage thereof to the Premises and the removal of Equipment when no longer required at its sole cost.
- B2.4 Unless otherwise agreed, Equipment brought onto the Premises will remain the property of the Contractor.
- B2.5 If the cost of any Equipment is reimbursed to the Contractor such Equipment shall be the property of the Authority and shall on request be delivered to the Authority as directed by the Authority. The Contractor will keep a full and accurate inventory of such Equipment and will deliver that inventory to the Authority on request and on completion of the Services.
- B2.6 The Contractor shall maintain all Equipment in a safe, serviceable and clean condition.
- B2.7 The Contractor shall, at the Authority's written request, at its own expense and as soon as reasonably practicable:
- (a) remove immediately from the Premises Equipment which is, in the Authority's opinion, hazardous, noxious or not supplied in accordance with the Contract; and
 - (b) replace such item with a suitable substitute item of Equipment.
- B2.8 Within 20 Working Days following the end of the Contract Period, the Contractor shall remove the Equipment together with any other materials used by the Contractor to supply the Services and shall leave the Premises in a clean, safe and tidy condition. The Contractor shall make good any damage to those Premises and any fixtures and fitting in the Premises which is caused by the Contractor or Staff.

B3 Delivery

- B3.1 The Contractor shall at all times comply with the Quality Standards and, where applicable, shall maintain accreditation with the relevant Quality Standards authorisation body. To the extent that the standard of the Service has not been specified in the Contract, the Contractor shall agree the relevant standard of the Services with the Authority prior to the supply of the Services and, in any event, the Contractor shall perform its obligations under the Contract in accordance with the Law and Good Industry Practice.

- B3.2 The Contractor shall ensure that all Staff supplying the Services do so with all due skill, care and diligence and shall possess such qualifications, skills and experience as are necessary for the proper supply of the Services. The Contractor shall ensure that those Staff are properly managed and supervised.
- B3.3 If the Specification includes installation of equipment the Contractor shall notify the Authority in writing when it has completed installation. Following receipt of such notice, the Authority shall inspect the installation and shall, by giving notice to the Contractor:
- (a) accept the installation; or
 - (b) reject the installation and inform the Contractor why, in the Authority's reasonable opinion, the installation does not satisfy the Specification.
- B3.4 If the Authority rejects the installation pursuant to clause B10.3(b), the Contractor shall immediately rectify or remedy any defects and if, in the Authority's reasonable opinion, the installation does not, within 2 Working Days or such other period agreed by the Parties, satisfy the Specification, the Authority may terminate the Contract with immediate effect by notice.
- B3.5 The installation shall be complete when the Contractor receives a notice issued by the Authority in accordance with clause B10.3(a). Notwithstanding acceptance of any installation in accordance with clause B10.3(a), the Contractor shall remain solely responsible for ensuring that the Services and the installation conform to the Specification. No rights of estoppel or waiver shall arise as a result of the acceptance by the Authority of the installation.
- B3.6 During the Contract Period, the Contractor shall:
- (a) at all times have all licences, approvals and consents necessary to enable the Contractor and Staff to carry out the installation;
 - (b) provide all tools and equipment (or procure the provision of all tools and equipment) necessary for completion of the installation; and
 - (c) not, in delivering the Services, in any manner endanger the safety or convenience of the public.

B4 Key Personnel

- B4.1 The Contractor acknowledges that the Key Personnel are essential to the proper provision of the Services.
- B4.2 The Key Personnel shall not be released from supplying the Services without the agreement of the Authority, except by reason of long-term sickness, maternity leave, paternity leave or termination of employment or other similar extenuating circumstances.
- B4.3 Any replacements to the Key Personnel shall be subject to Approval. Such replacements shall be of at least equal status, experience and skills to the Key Personnel being replaced and be suitable for the responsibilities of that person in relation to the Services.
- B4.4 The Authority shall not unreasonably withhold its agreement under clauses B11.2 or B11.3. Such agreement shall be conditional on appropriate arrangements being made by the Contractor to minimise any adverse effect on the Services which could be caused by a change in Key Personnel.
- B4.5 The Authority may, by notice to the Contractor, ask it to remove any Staff whose presence is, in the Authority's reasonable opinion, undesirable. The Contractor shall comply with any such request immediately.

B5 Contractor's Staff

- B5.1 The Authority may, by notice to the Contractor, refuse to admit onto, or withdraw permission to

remain on, the Authority's Premises:

- (a) any member of the Staff; or
- (b) any person employed or engaged by any member of the Staff,

whose admission or continued presence would, in the Authority's reasonable opinion, be undesirable.

- B5.2 At the Authority's written request, the Contractor shall provide a list of the names and addresses of all persons who may require admission in to the Authority's Premises, specifying the capacities in which they are concerned with the Contract and giving such other particulars as the Authority may reasonably request.
- B5.3 The decision of the Authority as to whether any person is to be refused access to the Authority's Premises and as to whether the Contractor has failed to comply with clause B5.2 shall be final.
- B5.4 The Contractor shall ensure that all Staff who have access to the Authority's Premises, the Authority System or the Authority Data have been cleared in accordance with the BPSS.

B6 Inspection of Premises

- B6.1 Save as the Authority may otherwise direct, the Contractor is deemed to have inspected the Premises before submitting its Tender and to have complete due diligence in relation to all matters connected with the performance of its obligations under the Contract.

B7 Licence to Occupy Premises

- B7.1 Any land or Premises made available from time to time to the Contractor by the Authority in connection with the Contract shall be on a non-exclusive licence basis free of charge and shall be used by the Contractor solely for the purpose of performing its obligations under the Contract. The Contractor shall have the use of such land or Premises as licensee and shall vacate the same on termination of the Contract.
- B7.2 The Contractor shall limit access to the land or Premises to such Staff as is necessary for it to perform its obligations under the Contract and the Contractor shall co-operate (and ensure that its Staff co-operate) with such other persons working concurrently on such land or Premises as the Authority may reasonably request.
- B7.3 Should the Contractor require modifications to the Authority's Premises, such modifications shall be subject to Approval and shall be carried out by the Authority at the Contractor's expense. The Authority shall undertake approved modification work without undue delay.
- B7.4 The Contractor shall (and shall ensure that any Staff on the Authority's Premises shall) observe and comply with such rules, regulations and requirements (including those relating to security arrangements) as may be in force from time to time for the conduct of personnel when on the Authority's Premises as determined by the Authority.
- B7.5 The Contract does not create a tenancy of any nature whatsoever in favour of the Contractor or its Staff and no such tenancy has or shall come into being and, notwithstanding any rights granted pursuant to the Contract, the Authority retains the right at any time to use the Premises owned or occupied by it in any manner it sees fit.

B8 Property

- B8.1 All Property is and shall remain the property of the Authority and the Contractor irrevocably licenses the Authority and its agents to enter any Premises of the Contractor during normal business hours on reasonable notice to recover any such Property. The Contractor shall not in any circumstances have a lien or any other interest on the Property and the Contractor shall at all times

possess the Property as fiduciary agent and bailee of the Authority. The Contractor shall take all reasonable steps to ensure that the title of the Authority to the Property and the exclusion of any such lien or other interest are brought to the notice of all Sub-Contractors and other appropriate persons and shall, at the Authority's request, store the Property separately and ensure that it is clearly identifiable as belonging to the Authority.

- B8.2 The Property shall be deemed to be in good condition when received by or on behalf of the Contractor unless the Contractor notifies the Authority otherwise within 5 Working Days of receipt.
- B8.3 The Contractor shall maintain the Property in good order and condition (excluding fair wear and tear), and shall use the Property solely in connection with the Contract and for no other purpose without Approval.
- B8.4 The Contractor shall ensure the security of all the Property whilst in its possession, either on the Premises or elsewhere during the supply of the Services, in accordance with the Authority's reasonable security requirements as required from time to time.
- B8.5 The Contractor shall be liable for all loss of or damage to the Property, unless such loss or damage was caused by the Authority's negligence. The Contractor shall inform the Authority immediately of becoming aware of any defects appearing in, or losses or damage occurring to, the Property.

C PAYMENT

C1 Price

- C1.1 In consideration of the Contractor's performance of its obligations under the Contract, the Authority shall pay the Price in accordance with clause C2.

C2 Payment and VAT

- C2.1 The Contractor shall submit invoices to the Authority on the dates set out in Schedule 2.
- C2.2 The Authority shall, in addition to the Price and following Receipt of a Valid Invoice, pay the Contractor a sum equal to the VAT chargeable on the value of the Services supplied in accordance with the Contract.
- C2.3 The Contractor shall add VAT to the Price at the prevailing rate as applicable and shall show the amount of VAT payable separately on all invoices as an extra charge. If the Contractor fails to show VAT on an invoice, the Authority will not, at any later date, be liable to pay the Contractor any additional VAT.
- C2.4 All Contractor invoices shall be expressed in sterling or such other currency as shall be permitted by the Authority in writing.
- C2.5 Valid Invoices shall include:
 - (a) the Contractor's full name, address and title of the Contract;
 - (b) the Purchase Order number

and, if requested by the Authority:

 - (c) timesheets for Staff engaged in providing the Services signed and dated by the Authority's representative on the Premises on the day;

- (d) the name of the individuals to whom the timesheet relates and hourly rates for each;
 - (e) identification of which individuals are Contractor's staff and which are Sub-Contractors;
 - (f) the address of the Premises and the date on which work was undertaken;
 - (g) the time spent working on the Premises by the individuals concerned;
 - (h) details of the type of work undertaken by the individuals concerned;
 - (i) details of plant or materials operated and on standby;
 - (j) separate identification of time spent travelling and/or meal or rest breaks; and
 - (k) where appropriate, details of journeys made and distances travelled.
- C2.6 The Authority shall not pay Contractor time spent on meal or rest breaks and the Contractor shall ensure that all workers take adequate meal or rest breaks.
- C2.7 The Authority shall not pay for plant which is not in use during a meal or rest break.
- C2.8 Meal and rest breaks will include breaks both in or outside an individual's workplace along with any time taken in travelling to or from the break location and/or any facilities for cleaning/changing/washing in preparation for or return from a meal or rest break.
- C2.9 Timesheets must include a minimum of 30 minutes break for each shift of 8 hours, a minimum of 45 minutes break in a shift of between 8 and 12 hours and a minimum of one hour break will be taken within a shift in excess of 12 hours and the Contractor's rates and Contract Price must include such breaks.
- C2.10 The Authority shall not pay the Contractor's overhead costs unless specifically agreed in writing by the Authority and overhead costs shall include, without limitation; facilities, utilities, insurance, tax, head office overheads, indirect staff costs and other costs not specifically and directly ascribable solely to the provision of the Services.
- C2.11 If Schedule 2 expressly provides that the Authority may be charged for plant which is on standby then in circumstances where plant was waiting to be transferred between Premises or where the Authority has instructed that the plant is retained on the Premises then a standby charge of 60% of agreed rates may be made in respect of such relevant periods if supported by timesheets.
- C2.12 The Authority shall pay only for the time spent by Staff working on the Premises.
- C2.13 The Authority shall not pay a stand-by rate if plant is on standby because no work was being carried out on the Premises at that time or no operator or other relevant staff were available (unless the standby is because the Contractor is awaiting licensing of the Premises on the Authority's instructions).
- C2.14 The Authority shall not pay for plant or equipment which is stood down during any notice period pursuant to clauses H1, H2 and/or H3 and the Contractor shall mitigate such costs as far as is reasonably possible, for example, by reutilising Staff, plant, materials and services on other contracts.
- C2.15 The Contractor may claim expenses only if they are clearly identified, supported by original receipts and Approved.
- C2.16 If the Authority pays the Contractor prior to the submission of a Valid Invoice this payment shall be on account of and deductible from the next payment to be made.

- C2.17 If any overpayment has been made or the payment or any part is not supported by a Valid Invoice the Authority may recover this payment against future invoices raised or directly from the Contractor. All payments made by the Authority to the Contractor shall be on an interim basis pending final resolution of an account with the Contractor in accordance with the terms of this clause C2.
- C2.18 The Authority shall pay all sums due to the Contractor within 30 days of Receipt of a Valid Invoice. Valid Invoices should be submitted for payment to the following address:
- [REDACTED ADDRESS]
- C2.19 If a payment of an undisputed amount is not made by the Authority by the due date, then the Authority shall pay the Contractor interest at the interest rate specified in the Late Payment of Commercial Debts (Interest) Act 1998.
- C2.20 The Contractor shall ensure that a provision is included in all Sub-Contracts which requires payment to be made of all sums due to Sub-Contractors within 30 days from the receipt of a valid invoice.
- C2.21 The Contractor shall indemnify the Authority on a continuing basis against any liability, including any interest, penalties or costs incurred, which is levied, demanded or assessed on the Authority at any time in respect of the Contractor's failure to account for or to pay any VAT relating to payments made to the Contractor under the Contract. Any amounts due under this clause C2.21 shall be paid by the Contractor to the Authority not less than 5 Working Days before the date upon which the tax or other liability is payable by the Authority.
- C2.22 The Contractor shall not suspend the Services unless the Contractor is entitled to terminate the Contract under clause H2.3 for failure to pay undisputed sums of money.
- C2.23 The Authority shall not pay an invoice which is not Valid Invoice.

C3 Recovery of Sums Due

- C3.1 If under the Contract any sum of money is recoverable from or payable by the Contractor to the Authority (including any sum which the Contractor is liable to pay to the Authority in respect of any breach of the Contract), the Authority may unilaterally deduct that sum from any sum then due, or which at any later time may become due to the Contractor from the Authority under the Contract or under any other agreement with the Authority or the Crown.
- C3.2 Any overpayment by either Party, whether of the Price or of VAT or otherwise, shall be a sum of money recoverable by the Party who made the overpayment from the Party in receipt of the overpayment.
- C3.3 The Contractor shall make all payments due to the Authority without any deduction whether by way of set-off, counterclaim, discount, abatement or otherwise unless the Contractor has a valid court order requiring an amount equal to such deduction to be paid by the Authority to the Contractor.
- C3.4 All payments due shall be made within a reasonable time unless otherwise specified in the Contract, in cleared funds, to such bank or building society account as the recipient Party may from time to time direct.

C4 Price during Extension

- C4.1 Subject to Schedule 2 and clause F6, the Price shall apply for the Initial Contract Period and until the end date of any Extension or such earlier date of termination or partial termination of the Contract in accordance with the Law or the Contract.

D. STATUTORY OBLIGATIONS

D1 Prevention of Fraud and Bribery

- D1.1 The Contractor represents and warrants that neither it, nor to the best of its knowledge any Staff, have at any time prior to the Commencement Date:
- (a) committed a Prohibited Act or been formally notified that it is subject to an investigation or prosecution which relates to an alleged Prohibited Act; and/or
 - (b) been listed by any government department or agency as being debarred, suspended, proposed for suspension or debarment, or otherwise ineligible for participation in government procurement programmes or contracts on the grounds of a Prohibited Act.
- D1.2 The Contractor shall not during the Contract Period:
- (a) commit a Prohibited Act; and/or
 - (b) do or suffer anything to be done which would cause the Authority or any of its employees, consultants, contractors, sub-contractors or agents to contravene any of the Relevant Requirements or otherwise incur any liability in relation to the Relevant Requirements.
- D1.3 The Contractor shall, during the Contract Period:
- (a) establish, maintain and enforce, and require that its Sub-Contractors establish, maintain and enforce, policies and procedures which are adequate to ensure compliance with the Relevant Requirements and prevent the occurrence of a Prohibited Act; and
 - (b) keep appropriate records of its compliance with its obligations under clause D1.3(a) and make such records available to the Authority on request.
- D1.4 The Contractor shall immediately notify the Authority in writing if it becomes aware of any breach of clauses D1.1 and/or D1.2, or has reason to believe that it has or any of the Staff have:
- (a) been subject to an investigation or prosecution which relates to an alleged Prohibited Act;
 - (b) been listed by any government department or agency as being debarred, suspended, proposed for suspension or debarment, or otherwise ineligible for participation in government procurement programmes or contracts on the grounds of a Prohibited Act; and/or
 - (c) received a request or demand for any undue financial or other advantage of any kind in connection with the performance of the Contract or otherwise suspects that any person directly or indirectly connected with the Contract has committed or attempted to commit a Prohibited Act.
- D1.5 If the Contractor notifies the Authority pursuant to clause D1.4, the Contractor shall respond promptly to the Authority's enquiries, co-operate with any investigation, and allow the Authority to audit any books, records and/or any other relevant documentation.
- D1.6 If the Contractor is in Default under clauses D1.1 and/or D1.2, the Authority may by notice:
- (a) require the Contractor to remove from performance of the Contract any Staff whose acts or omissions have caused the Default; or
 - (b) immediately terminate the Contract.

- D1.7 Any notice served by the Authority under clause D1.6 shall specify the nature of the Prohibited Act, the identity of the party who the Authority believes has committed the Prohibited Act and the action that the Authority has taken (including, where relevant, the date on which the Contract shall terminate).

D2 Discrimination

- D2.1 The Contractor shall:
- (a) perform its obligations under the Contract in accordance with:
 - i) all applicable equality Law (whether in relation to race, sex, gender reassignment, age, disability, sexual orientation, religion or belief, pregnancy maternity or otherwise);
 - ii) the Authority's equality and diversity policy as given to the Contractor from time to time;
 - iii) any other requirements and instructions which the Authority reasonably imposes in connection with any equality obligations imposed on the Authority at any time under applicable equality Law; and
 - (b) take all necessary steps and inform the Authority of the steps taken to prevent unlawful discrimination designated as such by any court or tribunal, or the Equality and Human Rights Commission (or any successor organisation).

D3 Rights of Third Parties

- D3.1 The provisions of clauses B10.5 and E8.3 confer benefits on persons named in such provisions (together "**Third Party Provisions**") other than the Parties (each person a "**Third Party Beneficiary**") and are intended to be enforceable by Third Party Beneficiaries by virtue of the Contracts (Rights of Third Parties) Act 1999 ("**CRTPA**").
- D3.2 Subject to clause D3.1, a person who is not a Party has no right under the CRTPA to enforce any provisions of the Contract but this does not affect any right or remedy of any person which exists or is available otherwise than pursuant to the CRTPA and does not apply to the Crown.
- D3.3 No Third Party Beneficiary may enforce or take steps to enforce any Third Party Provision without Approval.
- D3.4 Any amendments to the Contract may be made by the Parties without the consent of any Third Party Beneficiary.

D4 Health and Safety

- D4.1 The Contractor shall perform its obligations under the Contract in accordance with:
- (a) all applicable Law regarding health and safety; and
 - (b) the Authority's health and safety policy while at the Authority's Premises.
- D4.2 Each Party shall notify the other as soon as practicable of any health and safety incidents or material health and safety hazards at the Authority's Premises of which it becomes aware and which relate to or arise in connection with the performance of the Contract. The Contractor shall instruct Staff to adopt any necessary associated safety measures in order to manage any such material health and safety hazards.

D5 Environmental Requirements

- D5.1 The Contractor shall in the performance of the Contract have due regard to the Authority's environmental, sustainable and ethical procurement policies ("**Environmental Policies**") which require the Authority through its procurement and management of suppliers:
- (a) conserve energy, water, wood, paper and other resources and reduce waste;
 - (b) phase out the use of ozone depleting substances;
 - (c) minimise the release of greenhouse gases, volatile organic compounds and other substances damaging to health and the environment;
 - (d) minimise the use of products harmful to health and the environment such as hazardous substances and solvents, replacing them with more benign substances where feasible and, where such substances are necessary, to ensure that they are stored in properly labelled containers, used and disposed of in compliance with legal and regulatory requirements and any instructions from the Authority;
 - (e) reduce fuel emissions wherever possible;
 - (f) maximise the use of recovered materials and, if recycled materials are not suitable or not readily available, to maximise the use of materials taken from renewable sources; and
 - (g) promote the design of products that are capable of reuse or remanufacture or easily separable into recyclable parts consisting of one material (e.g. steel, plastic, textile).
- D5.2 The Contractor shall ensure that any equipment and materials used in the provision of the Services do not contain:
- (a) ozone depleting substances such as hydrochlorofluorocarbons (HCFCs), halons, carbon tetrachloride, 111 trichloroethane, bromochloromethane or any other damaging substances; and/or
 - (b) HFCs and other gaseous and non-gaseous substances with a high global warming potential;
- unless given written permission by the Authority to do so.
- D5.3 The Contractor shall conserve energy and water; reduce carbon emissions and other greenhouse gases; minimise the use of substances damaging or hazardous to health and the environment and reduce waste by, for example, using resources more efficiently and reusing, recycling and composting and respecting biodiversity.
- D5.4 If required by the Authority the Contractor shall provide the Authority with information about its compliance with its obligations under clause D5.3.
- D5.5 The Contractor shall ensure that its Staff are aware of the Authority's Environmental Policies.
- D5.6 The Contractor shall:
- (a) identify any risks arising from climate change and variable weather such as higher temperatures, droughts, flooding, sea and river level rises, coastal and riparian erosion, water scarcity, and loss of water quality which may disrupt and/or affect the supply of the Services; and
 - (b) if such risks have been identified, enhance the resilience of its organisation to enable it to adapt and deal with the effects of such extreme events, including by having the necessary

awareness-raising, evaluation, preventive, preparatory, recovery measures and support systems in place in order to minimise any disruption to the supply of the Services.

E PROTECTION OF INFORMATION

E1 Authority Data

- E1.1 The Contractor shall not delete or remove any proprietary notices contained within or relating to the Authority Data.
- E1.2 The Contractor shall not store, copy, disclose, or use the Authority Data except as necessary for the performance by the Contractor of its obligations under this Contract or as otherwise expressly authorised in writing by the Authority.
- E1.3 To the extent that Authority Data is held and/or processed by the Contractor, the Contractor shall supply Authority Data to the Authority as requested by the Authority in the format specified in the Specification.
- E1.4 The Contractor shall preserve the integrity of Authority Data and prevent the corruption or loss of Authority Data.
- E1.5 The Contractor shall perform secure back-ups of all Authority Data and shall ensure that up-to-date back-ups are stored securely off-site. The Contractor shall ensure that such back-ups are made available to the Authority immediately upon request.
- E1.6 The Contractor shall ensure that any system on which the Contractor holds any Authority Data, including back-up data, is a secure system that complies with the Security Policy Framework.
- E1.7 If Authority Data is corrupted, lost or sufficiently degraded as a result of the Contractor's Default so as to be unusable, the Authority may:
 - (a) require the Contractor (at the Contractor's expense) to restore or procure the restoration of Authority Data and the Contractor shall do so promptly; and/or
 - (b) itself restore or procure the restoration of Authority Data, and shall be repaid by the Contractor any reasonable expenses incurred in doing so.
- E1.8 If at any time the Contractor suspects or has reason to believe that Authority Data has or may become corrupted, lost or sufficiently degraded in any way for any reason, then the Contractor shall notify the Authority immediately and inform the Authority of the remedial action the Contractor proposes to take.

E2 Data Protection

- E2.1 The Parties acknowledge that for the purposes of the Data Protection Legislation, the Authority is the Controller and the Contractor is the Processor unless otherwise specified in Schedule 5. The only processing that the Contractor is authorised to do is listed in Schedule 5 by the Authority and may not be determined by the Contractor.
- E2.2 The Contractor shall notify the Authority immediately if it considers that any of the Authority's instructions infringe the Data Protection Legislation.
- E2.3 The Contractor shall provide all reasonable assistance to the Authority in the preparation of any Data Protection Impact Assessment prior to commencing any processing. Such assistance may, at the discretion of the Authority, include:
 - (a) a systematic description of the envisaged processing operations and the purpose of the

processing;

- (b) an assessment of the necessity and proportionality of the processing operations in relation to the Services;
- (c) an assessment of the risks to the rights and freedoms of Data Subjects; and
- (d) the measures envisaged to address the risks, including safeguards, security measures and mechanisms to ensure the protection of Personal Data.

E2.4 The Contractor shall, in relation to any Personal Data processed in connection with its obligations under this Contract:

- (a) process that Personal Data only in accordance with Schedule 5 unless the Contractor is required to do otherwise by Law. If it is so required the Contractor shall promptly notify the Authority before processing the Personal Data unless prohibited by Law;
- (b) ensure that it has in place Protective Measures which are appropriate to protect against a Data Loss Event, which the Authority may reasonably reject (but failure to reject shall not amount to approval by the Authority of the adequacy of the Protective Measures), having taken account of the:
 - (i) nature of the data to be protected;
 - (ii) harm that might result from a Data Loss Event;
 - (iii) state of technological development; and
 - (iv) cost of implementing any measures;
- (c) ensure that :
 - (i) the Staff do not process Personal Data except in accordance with this Contract (and in particular Schedule 5);
 - (ii) it takes all reasonable steps to ensure the reliability and integrity of any Staff who have access to the Personal Data and ensure that they:
 - (A) are aware of and comply with the Contractor's duties under this clause;
 - (B) are subject to appropriate confidentiality undertakings with the Contractor or any Sub-processor;
 - (C) are informed of the confidential nature of the Personal Data and do not publish, disclose or divulge any of the Personal Data to any third party unless directed in writing to do so by the Authority or as otherwise permitted by this Contract; and
 - (D) have undergone adequate training in the use, care, protection and handling of Personal Data; and
- (d) not transfer Personal Data outside of the European Union unless the prior written consent of the Authority has been obtained and the following conditions are fulfilled:
 - (i) the Authority or the Contractor has provided appropriate safeguards in relation to the transfer (whether in accordance with the GDPR Article 46 or LED Article 37) as determined by the Authority;

- (ii) the Data Subject has enforceable rights and effective legal remedies;
- (iii) the Contractor complies with its obligations under the Data Protection Legislation by providing an adequate level of protection to any Personal Data that is transferred (or, if it is not so bound, uses its best endeavours to assist the Authority in meeting its obligations); and
- (iv) the Contractor complies with any reasonable instructions notified to it in advance by the Authority with respect to the processing of the Personal Data;
- (e) at the written direction of the Authority, delete or return Personal Data (and any copies of it) to the Authority on termination of the Contract unless the Contractor is required by Law to retain the Personal Data.

E2.5 Subject to clause E2.6 the Contractor shall notify the Authority immediately if, in relation to any Personal Data processed in connection with its obligations under this Contract, it:

- (a) receives a Data Subject Request (or purported Data Subject Request);
- (b) receives a request to rectify, block or erase any Personal Data;
- (c) receives any other request, complaint or communication relating to either Party's obligations under the Data Protection Legislation;
- (d) receives any communication from the Information Commissioner or any other regulatory authority;
- (e) receives a request from any third party for disclosure of Personal Data where compliance with such request is required or purported to be required by Law; or
- (f) becomes aware of a Data Loss Event.

E2.6 The Contractor's obligation to notify under clause E2.5 shall include the provision of further information to the Authority in phases, as details become available.

E2.7 Taking into account the nature of the processing, the Contractor shall provide the Authority with full assistance in relation to either Party's obligations under Data Protection Legislation in relation to any Personal Data processed in connection with its obligations under this Contract and any complaint, communication or request made under Clause E2.5 (and insofar as possible within the timescales reasonably required by the Authority) including by promptly providing:

- (a) the Authority with full details and copies of the complaint, communication or request;
- (b) such assistance as is reasonably requested by the Authority to enable the Authority to comply with a Data Subject Request within the relevant timescales set out in the Data Protection Legislation;
- (c) the Authority, at its request, with any Personal Data it holds in relation to a Data Subject;
- (d) assistance as requested by the Authority following any Data Loss Event;
- (e) assistance as requested by the Authority with respect to any request from the Information Commissioner's Office, or any consultation by the Authority with the Information Commissioner's Office.

E2.8 The Contractor shall maintain complete and accurate records and information to demonstrate its

compliance with this clause. This requirement does not apply where the Contractor employs fewer than 250 staff, unless:

- (a) the Authority determines that the processing is not occasional;
- (b) the Authority determines the processing includes special categories of data as referred to in Article 9(1) of the GDPR or Personal Data relating to criminal convictions and offences referred to in Article 10 of the GDPR; or
- (c) the Authority determines that the processing is likely to result in a risk to the rights and freedoms of Data Subjects.

E2.9 The Contractor shall allow for audits of its Personal Data processing activity by the Authority or the Authority's designated auditor.

E2.10 Each Party shall designate its own Data Protection Officer if required by the Data Protection Legislation.

E2.11 Before allowing any Sub-processor to process any Personal Data related to this Contract, the Contractor must:

- (a) notify the Authority in writing of the intended Sub-processor and processing;
- (b) obtain the written consent of the Authority;
- (c) enter into a written agreement with the Sub-processor which give effect to the terms set out in this clause E2 such that they apply to the Sub-processor; and
- (d) provide the Authority with such information regarding the Sub-processor as the Authority may reasonably require.

E2.12 The Contractor shall remain fully liable for all acts or omissions of any of its Sub-processors.

E2.13 The Authority may, at any time on not less than 30 Working Days' notice, revise this clause by replacing it with any applicable controller to processor standard clauses or similar terms forming part of an applicable certification scheme (which shall apply when incorporated by attachment to this Contract).

E2.14 The Parties agree to take account of any non-mandatory guidance issued by the Information Commissioner's Office. The Authority may on not less than 30 Working Days' notice to the Contractor amend this Contract to ensure that it complies with any guidance issued by the Information Commissioner's Officer.

E2.15 This clause E2 shall apply during the Contract Period and indefinitely after its expiry.

E3 Official Secrets Acts and Finance Act

E3.1 The Contractor shall comply with the provisions of:

- (a) the Official Secrets Acts 1911 to 1989; and
- (b) section 182 of the Finance Act 1989.

E4 Confidential Information

E4.1 Except to the extent set out in this clause E4 or if disclosure or publication is expressly permitted elsewhere in the Contract each Party shall treat all Confidential Information belonging to the other

Party as confidential and shall not disclose any Confidential Information belonging to the other Party to any other person without the other party's consent, except to such persons and to such extent as may be necessary for the performance of the Party's obligations under the Contract.

- E4.2 The Contractor hereby gives its consent for the Authority to publish the whole Contract (but with any information which is Confidential Information belonging to the Authority redacted) including from time to time agreed changes to the Contract, to the general public.
- E4.3 If required by the Authority, the Contractor shall ensure that Staff, professional advisors and consultants sign a non-disclosure agreement prior to commencing any work in connection with the Contract in substantially the form attached in Schedule 6 and, if applicable, incorporating the requirements of clause E2.11. The Contractor shall maintain a list of the non-disclosure agreements completed in accordance with this clause E4.3.
- E4.4 If requested by the Authority, the Contractor shall give the Authority a copy of the list and, subsequently upon request by the Authority, copies of such of the listed non-disclosure agreements as required by the Authority. The Contractor shall ensure that its Staff, professional advisors and consultants are aware of the Contractor's confidentiality obligations under the Contract.
- E4.5 The Contractor may only disclose the Authority's Confidential Information to the Staff who are directly involved in the provision of the Services and who need to know the information, and shall ensure that such Staff are aware of and shall comply with these obligations as to confidentiality.
- E4.6 The Contractor shall not, and shall procure that the Staff do not, use any of the Authority's Confidential Information received otherwise than for the purposes of this Contract.
- E4.7 Clause E4.1 shall not apply to the extent that:
- (a) such disclosure is a requirement of Law placed upon the Party making the disclosure, including any requirements for disclosure under the FOIA or the EIR;
 - (b) such information was in the possession of the Party making the disclosure without obligation of confidentiality prior to its disclosure by the information owner;
 - (c) such information was obtained from a third party without obligation of confidentiality;
 - (d) such information was already in the public domain at the time of disclosure otherwise than by a breach of the Contract; or
 - (e) it is independently developed without access to the other Party's Confidential Information.
- E4.8 Nothing in clause E4.1 shall prevent the Authority disclosing any Confidential Information obtained from the Contractor:
- (a) for the purpose of the examination and certification of the Authority's accounts;
 - (b) for the purpose of any examination pursuant to section 6(1) of the National Audit Act 1983 of the economy, efficiency and effectiveness with which the Authority has used its resources;
 - (c) to any Crown Body or any Contracting Authority and the Contractor hereby acknowledges that all government departments or Contracting Authorities receiving such Confidential Information may further disclose the Confidential Information to other government departments or other Contracting Authorities on the basis that the information is confidential and is not to be disclosed to a third party which is not part of any government department or any Contracting Authority;
 - (d) to any consultant, contractor or other person engaged by the Authority

provided that in disclosing information under clauses E4.8 (c) and (d) the Authority discloses only the information which is necessary for the purpose concerned and requests that the information is treated in confidence and that a confidentiality undertaking is given where appropriate.

- E4.9 Nothing in clauses E4.1 to E4.6 shall prevent either Party from using any techniques, ideas or Know-How gained during the performance of its obligations under the Contract in the course of its normal business, to the extent that this does not result in a disclosure of the other Party's Confidential Information or an infringement of the other Party's Intellectual Property Rights.
- E4.10 The Authority shall use all reasonable endeavours to ensure that any government department, Contracting Authority, employee, third party or Sub-Contractor to whom the Contractor's Confidential Information is disclosed pursuant to clause E4.6 is made aware of the Authority's obligations of confidentiality.
- E4.11 If the Contractor does not comply with clauses E4.1 to E4.6 the Authority may terminate the Contract immediately on written notice to the Contractor.
- E4.12 In order to ensure that no unauthorised person gains access to any Confidential Information or any data obtained in the supply of the Services, the Contractor shall maintain adequate security arrangements that meet the requirements of professional standards and best practice.
- E4.13 The Contractor will immediately notify the Authority of any breach of security in relation to Confidential Information and all data obtained in the supply of the Services and will keep a record of such breaches. The Contractor will use its best endeavours to recover such Confidential Information or data however it may be recorded. The Contractor will co-operate with the Authority in any investigation as a result of any breach of security in relation to Confidential Information or data.
- E4.14 The Contractor shall, at its own expense, alter any security systems at any time during the Contract Period at the Authority's request if the Authority reasonably believes the Contractor has failed to comply with clause E4.12.

E5 Freedom of Information

- E5.1 The Contractor acknowledges that the Authority is subject to the requirements of the FOIA and the EIR.
- E5.2 The Contractor shall transfer to the Authority all Requests for Information that it receives as soon as practicable and in any event within 2 Working Days of receipt:
 - (a) give the Authority a copy of all Information in connection with the Contract in its possession or control in the form that the Authority requires within 5 Working Days (or such other period as the Authority may specify) of the Authority's request;
 - (b) provide all necessary assistance as reasonably requested by the Authority to enable the Authority to comply with its obligations under the FOIA and EIR;
 - (c) not respond to directly to a Request for Information unless authorised to do so in writing by the Authority.
- E5.3 The Authority shall determine in its absolute discretion and notwithstanding any other provision in the Contract or any other agreement whether the Commercially Sensitive Information and any other Information is exempt from disclosure in accordance with the provisions of the FOIA and/or the EIR.

E6 Publicity, Media and Official Enquiries

- E6.1 Without prejudice to the Authority's obligations under the FOIA, the EIR or any obligations under the Regulations, or any policy requirements as to transparency, neither Party shall make any press announcement or publicise the Contract or any part thereof in any way, except with the written consent of the other Party.

- E6.2 The Contractor shall use its reasonable endeavours to ensure that its Staff, professional advisors and consultants comply with clause E6.1.
- E6.3 Notwithstanding clause E6.1 but subject to clause E4 (Confidential Information) and Schedule 4, the Contractor shall endeavour to make the Results generally available (including in scientific journals where reasonably appropriate) and shall acknowledge in any public statement the financial support of the Authority and the Co-funders. The Contractor shall send details of any proposed publication to the Authority at least 2 weeks prior to the proposed publication and shall notify the Authority immediately if approached by the media about the Services.
- E6.4 Subject to clause E4 (Confidential Information) and Schedule 4 the Authority may disclose, copy and otherwise distribute to the public or use in any way any information arising out of the Services or comprised in any work relating to the Services.
- E6.5 Nothing in the Contract shall permit or require the Contractor or the Co-funders to make any disclosure of information which would jeopardise any commercial exploitation of the Results.

E7 Security

- E7.1 The Authority shall be responsible for maintaining the security of the Authority's Premises in accordance with its standard security requirements. The Contractor shall comply with all security requirements of the Authority while on the Authority's Premises, and shall ensure that all Staff comply with such requirements.
- E7.2 The Authority shall give the Contractor upon request copies of its written security procedures.
- E7.3 The Contractor shall, as an enduring obligation during the Contract Period, use the latest versions of anti-virus definitions available from an industry accepted anti-virus software vendor to check for and delete Malicious Software from the ICT Environment.
- E7.4 Notwithstanding clause E7.3, if Malicious Software is found, the Parties shall co-operate to reduce the effect of the Malicious Software and, particularly if Malicious Software causes loss of operational efficiency or loss or corruption of the Authority Data, assist each other to mitigate any losses and to restore the provision of Services to their desired operating efficiency.
- E7.5 Any cost arising out of the actions of the Parties taken in compliance with clause E7.4 shall be borne by the Parties as follows:
- (a) by the Contractor where the Malicious Software originates from the Contractor Software, the Third Party Software or the Authority Data (whilst the Authority Data was under the control of the Contractor); and
 - (b) by the Authority if the Malicious Software originates from the Authority Software or Authority Data (whilst the Authority Data was under the control of the Authority).

E8 Intellectual Property Rights

- E8.1 All Intellectual Property Rights in:
- (a) the Results; or

- (b) any guidance, specifications, reports, studies, instructions, toolkits, plans, data, drawings, databases, patents, patterns, models, designs or other material which is furnished to or made available to the Contractor by or on behalf of the Authority (together with the Results, the "**IP Materials**")

shall vest in the Authority (save for Copyright and Database Rights which shall vest in Her Majesty the Queen) and the Contractor shall not, and shall ensure that the Staff shall not, use or disclose any IP Materials without Approval save to the extent necessary for performance by the Contractor of its obligations under the Contract.

E8.2 The Contractor hereby assigns:

- (a) to the Authority, with full title guarantee, all Intellectual Property Rights (save for Copyright and Database Rights) which may subsist in the IP Materials prepared in accordance with clauses E8.1(a) and (b). This assignment shall take effect on the date of the Contract or (in the case of rights arising after the date of the Contract) as a present assignment of future rights that will take effect immediately on the coming into existence of the Intellectual Property Rights produced by the Contractor; and
- (b) to Her Majesty the Queen, with full title guarantee, all Copyright and Database Rights which may subsist in the IP Materials prepared in accordance with clauses E8.1 (a) and (b),

and shall execute all documents and do all acts as are necessary to execute these assignments.

E8.3 The Contractor shall:

- (a) waive or procure a waiver of any moral rights held by it or any third party in copyright material arising as a result of the Contract or the performance of its obligations under the Contract;
- (b) ensure that the third party owner of any Intellectual Property Rights that are or which may be used to perform the Services grants to the Authority a non-exclusive licence or, if itself a licensee of those rights, shall grant to the Authority an authorised sub-licence, to use, reproduce, modify, develop and maintain the Intellectual Property Rights in the same. Such licence or sub-licence shall be non-exclusive, perpetual, royalty-free, worldwide and irrevocable and shall include the right for the Authority to sub-license, transfer, novate or assign to other Contracting Authorities, the Crown, the Replacement Contractor or to any other third party supplying goods and/or services to the Authority ("**Indemnified Persons**");
- (c) not infringe any Intellectual Property Rights of any third party in supplying the Services; and
- (d) during and after the Contract Period, indemnify and keep indemnified the Authority and the Indemnified Persons from and against all actions, suits, claims, demands, losses, charges, damages, costs and expenses and other liabilities which the Authority or Indemnified Persons may suffer or incur as a result of or in connection with any breach of this clause E8.3, except to the extent that any such claim results directly from:
 - i) items or materials based upon designs supplied by the Authority; or
 - ii) the use of data supplied by the Authority which is not required to be verified by the Contractor under any provision of the Contract.

E8.4 The Authority shall notify the Contractor in writing of any claim or demand brought against the Authority for infringement or alleged infringement of any Intellectual Property Right in materials supplied and/or licensed by the Contractor to the Authority.

E8.5 The Contractor shall at its own expense conduct all negotiations and any litigation arising in connection with any claim, demand or action by any third party for infringement or alleged infringement of any third party Intellectual Property Rights (whether by the Authority, the Contractor

or Indemnified Person) arising from the performance of the Contractor's obligations under the Contract ("**Third Party IP Claim**"), provided that the Contractor shall at all times:

- (a) consult the Authority on all material issues which arise during the conduct of such litigation and negotiations;
- (b) take due and proper account of the interests of the Authority; and
- (c) not settle or compromise any claim without Approval (not to be unreasonably withheld or delayed).

E8.6 The Authority shall at the request of the Contractor afford to the Contractor all reasonable assistance for the purpose of contesting any Third Party IP Claim and the Contractor shall indemnify the Authority for all costs and expenses (including, but not limited to, legal costs and disbursements) incurred in doing so. The Contractor shall not be required to indemnify the Authority under this clause E8.6 in relation to any costs and expenses to the extent that such arise directly from the matters referred to in clauses E8.3(d) i) and ii).

E8.7 The Authority shall not, without the Contractor's consent, make any admissions which may be prejudicial to the defence or settlement of any Third Party IP Claim.

E8.8 If any Third Party IP Claim is made or in the reasonable opinion of the Contractor is likely to be made, the Contractor shall notify the Authority and any relevant Indemnified Person, at its own expense and subject to Approval (not to be unreasonably withheld or delayed), shall (without prejudice to the rights of the Authority under clauses E8.3(b) and G2.1(g)) use its best endeavours to:

- (a) modify any or all of the Services without reducing the performance or functionality of the same, or substitute alternative services of equivalent performance and functionality, so as to avoid the infringement or the alleged infringement; or
- (b) procure a licence to use the Intellectual Property Rights and supply the Services which are the subject of the alleged infringement, on terms which are acceptable to the Authority

and if the Contractor is unable to comply with clauses E8.8(a) or (b) within 20 Working Days of receipt by the Authority of the Contractor's notification the Authority may terminate the Contract immediately by notice to the Contractor.

E8.9 The Contractor grants to the Authority and, if requested by the Authority, to a Replacement Contractor, a royalty-free, irrevocable, worldwide, non-exclusive licence (with a right to sub-license) to use any Intellectual Property Rights that the Contractor owned or developed prior to the Commencement Date and which the Authority (or the Replacement Contractor) reasonably requires in order for the Authority to exercise its rights under, and receive the benefit of, the Contract (including, without limitation, the Services).

E8.10 The Authority hereby grants the Contractor a revocable, non-transferable, royalty-free, right (with right to sublicense) to use the Results for academic and research purposes including research involving projects funded by third parties provided that those parties gain or claim no rights to such Results.

E9 Audit

E9.1 The Contractor shall keep and maintain until 6 years after the end of the Contract Period, or as long a period as may be agreed between the Parties, full and accurate records of the Contract including the Services supplied under it, all expenditure reimbursed by the Authority, and all payments made by the Authority. The Contractor shall on request afford the Authority or the Authority's representatives such access to those records and processes as may be requested by the Authority in connection with the Contract.

- E9.2 The Contractor agrees to make available to the Authority, free of charge, whenever requested, copies of audit reports obtained by the Contractor in relation to the Services.
- E9.3 The Contractor shall permit duly authorised representatives of the Authority and/or the National Audit Office to examine the Contractor's records and documents relating to the Contract and to provide such copies and oral or written explanations as may reasonably be required.
- E9.4 The Contractor (and its agents) shall permit the Comptroller and Auditor General (and his appointed representatives) access free of charge during normal business hours on reasonable notice to all such documents (including computerised documents and data) and other information as the Comptroller and Auditor General may reasonably require for the purposes of his financial audit of the Authority and for carrying out examinations into the economy, efficiency and effectiveness with which the Authority has used its resources. The Contractor shall provide such explanations as are reasonably required for these purposes.

E10 Tax Compliance

- E10.1 If, during the Contract Period, an Occasion of Tax Non-Compliance occurs, the Contractor shall:
- (a) notify the Authority in writing of such fact within 5 Working Days of its occurrence; and
 - (b) promptly give the Authority:
 - i) details of the steps it is taking to address the Occasion of Tax Non-Compliance and to prevent the same from recurring, together with any mitigating factors it considers relevant; and
 - ii) such other information in relation to the Occasion of Tax Non-Compliance as the Authority may reasonably require.
- E10.2 If the Contractor or any Staff are liable to be taxed in the UK or to pay NICs in respect of consideration received under the Contract, the Contractor shall:
- (a) at all times comply with ITEPA and all other statutes and regulations relating to income tax, and SSCBA and all other statutes and regulations relating to NICS, in respect of that consideration; and
 - (b) indemnify the Authority against any income tax, NICs and social security contributions and any other liability, deduction, contribution, assessment or claim arising from or made in connection with the provision of the Services by the Contractor or any Staff.

F. CONTROL OF THE CONTRACT

F1 Failure to meet Requirements

- F1.1 If the Authority informs the Contractor in writing that the Authority reasonably believes that any part of the Services do not meet the requirements of the Contract or differs in any way from those requirements, and this is not as a result of a default by the Authority, the Contractor shall at its own expense re-schedule and carry out the Services in accordance with the requirements of the Contract within such reasonable time as may be specified by the Authority.

F2 Monitoring of Contract Performance

- F2.1 The Contractor shall immediately inform the Authority if any of the Services are not being or are unable to be performed, the reasons for non-performance, any corrective action and the date by which that action will be completed.
- F2.2 At or around 6 Months from the Commencement Date and each anniversary of the Commencement Date thereafter (each being a "**Review Date**"), the Authority shall carry out a review of the performance of the Contractor ("**Checkpoint Review**"). Without prejudice to the generality of the foregoing, the Authority may in respect of the period under review consider such items as (but not

limited to): the Contractor's delivery of the Services; the Contractor's contribution to innovation in the Authority; whether the Services provide the Authority with best value for money; consideration of any changes which may need to be made to the Services; a review of future requirements in relation to the Services and progress against key milestones.

- F2.3 The Contractor shall provide at its own cost any assistance reasonably required by the Authority to perform such Checkpoint Review including the provision of data and information.
- F2.4 The Authority may produce a report (a "**Checkpoint Review Report**") of the results of each Checkpoint Review stating any areas of exceptional performance and areas for improvement in the provision of the Services and where there is any shortfall in any aspect of performance reviewed as against the Authority's expectations and the Contractor's obligations under this Contract.
- F2.5 The Authority shall give the Contractor a copy of the Checkpoint Review Report (if applicable). The Authority shall consider any Contractor comments and may produce a revised Checkpoint Review Report.
- F2.6 The Contractor shall, within 10 Working Days of receipt of the Checkpoint Review Report (revised as appropriate) provide the Authority with a plan to address resolution of any shortcomings and implementation of improvements identified by the Checkpoint Review Report.
- F2.7 Actions required to resolve shortcomings and implement improvements (either as a consequence of the Contractor's failure to meet its obligations under this Contract identified by the Checkpoint Review Report, or those which result from the Contractor's failure to meet the Authority's expectations notified to the Contractor or of which the Contractor ought reasonably to have been aware) shall be implemented at no extra charge to the Authority.

F3 Remedies for inadequate performance

- F3.1 If the Authority reasonably believes the Contractor has committed a Material Breach it may, without prejudice to its rights under clause H2 (Termination on Default), do any of the following:
- (a) without terminating the Contract, itself supply or procure the supply of all or part of the Services until such time as the Contractor has demonstrated to the Authority's reasonable satisfaction that the Contractor will be able to supply the Services in accordance with the Specification;
 - (b) without terminating the whole of the Contract, terminate the Contract in respect of part of the Services only (whereupon a corresponding reduction in the Price shall be made) and thereafter itself supply or procure a third party to supply such part of the Services;
 - (c) withhold or reduce payments to the Contractor in such amount as the Authority reasonably deems appropriate in each particular case; and/or
 - (a) terminate the Contract in accordance with clause H2.
- F3.2 Without prejudice to its right under clause C3 (Recovery of Sums Due), the Authority may charge the Contractor for any costs reasonably incurred and any reasonable administration costs in respect of the supply of any part of the Services by the Authority or a third party to the extent that such costs exceed the payment which would otherwise have been payable to the Contractor for such part of the Services.
- F3.3 If the Authority reasonably believes the Contractor has failed to supply all or any part of the Services in accordance with the Contract, professional or industry practice which could reasonably be expected of a competent and suitably qualified person, or any legislative or regulatory requirement, the Authority may give the Contractor notice specifying the way in which its performance falls short of the requirements of the Contract or is otherwise unsatisfactory.
- F3.4 If the Contractor has been notified of a failure in accordance with clause F3.3 the Authority may:

- (a) direct the Contractor to identify and remedy the failure within such time as may be specified by the Authority and to apply all such additional resources as are necessary to remedy that failure at no additional charge to the Authority within the specified timescale; and/or
- (b) withhold or reduce payments to the Contractor in such amount as the Authority deems appropriate in each particular case until such failure has been remedied to the satisfaction of the Authority.

F3.5 If the Contractor has been notified of a failure in accordance with clause F3.3, it shall:

- (a) use all reasonable endeavours to immediately minimise the impact of such failure to the Authority and to prevent such failure from recurring; and
- (b) immediately give the Authority such information as the Authority may request regarding what measures are being taken to comply with the obligations in this clause F3.5 and the progress of those measures until resolved to the satisfaction of the Authority.

F3.6 If, having been notified of any failure, the Contractor fails to remedy it in accordance with clause F3.5 within the time specified by the Authority, the Authority may treat the continuing failure as a Material Breach and may terminate the Contract immediately on notice to the Contractor.

F4 Transfer and Sub-Contracting

F4.1 Except where clauses F4.6 and F4.7 both apply, the Contractor shall not transfer, charge, assign, sub-contract or in any other way dispose of the Contract or any part of it without Approval. All such documents shall be evidenced in writing and shown to the Authority on request. Sub-contracting any part of the Contract shall not relieve the Contractor of any of its obligations or duties under the Contract.

F4.2 The Contractor shall be responsible for the acts and/or omissions of its Sub-Contractors as though they are its own. If it is appropriate, the Contractor shall provide each Sub-Contractor with a copy of the Contract and obtain written confirmation from them that they will provide the Services fully in accordance with the Contract.

F4.3 The Contractor shall ensure that its Sub-Contractors and suppliers retain all records relating to the Services for at least 6 years from the date of their creation and make them available to the Authority on request in accordance with the provisions of clause E9 (Audit). If any Sub-Contractor or supplier does not allow the Authority access to the records then the Authority shall have no obligation to pay any claim or invoice made by the Contractor on the basis of such documents or work carried out by the Sub-Contractor or supplier.

F4.4 If the Authority has consented to the award of a Sub-Contract, the Contractor shall ensure that:

- (a) the Sub-Contract contains a right for the Contractor to terminate the Sub-Contract if the relevant Sub-Contractor does not comply in the performance of its contract with legal obligations in environmental, social or labour law;
- (b) the Sub-Contractor includes a provision having the same effect as set out in clause F4.4 (a) in any Sub-Contract which it awards; and
- (c) copies of each Sub-Contract shall, at the request of the Authority, be sent by the Contractor to the Authority immediately.

F4.5 If the Authority believes there are:

- (a) compulsory grounds for excluding a Sub-Contractor pursuant to regulation 57 of the Regulations, the Contractor shall replace or not appoint the Sub-Contractor; or

- (b) non-compulsory grounds for excluding a Sub-Contractor pursuant to regulation 57 of the Regulations, the Authority may require the Contractor to replace or not appoint the Sub-Contractor and the Contractor shall comply with such requirement.
- F4.6 Notwithstanding clause F4.1, the Contractor may assign to a third party (the “**Assignee**”) the right to receive payment of the Price or any part thereof due to the Contractor (including any interest which the Authority incurs under clause C2 (Payment and VAT)). Any assignment under this clause F4.6 shall be subject to:
- (a) reduction of any sums in respect of which the Authority exercises its right of recovery under clause C3 (Recovery of Sums Due);
 - (b) all related rights of the Authority under the Contract in relation to the recovery of sums due but unpaid; and
 - (c) the Authority receiving notification under both clauses F4.7 and F4.8.
- F4.7 If the Contractor assigns the right to receive the Price under clause F4.6, the Contractor or the Assignee shall notify the Authority in writing of the assignment and the date upon which the assignment becomes effective.
- F4.8 The Contractor shall ensure that the Assignee notifies the Authority of the Assignee’s contact information and bank account details to which the Authority shall make payment.
- F4.9 The provisions of clause C2 shall continue to apply in all other respects after the assignment and shall not be amended without Approval.
- F4.10 Subject to clause F4.11, the Authority may assign, novate or otherwise dispose of its rights and obligations under the Contract or any part thereof to:
- (a) any Contracting Authority;
 - (b) any other body established or authorised by the Crown or under statute in order substantially to perform any of the functions that had previously been performed by the Authority; or
 - (c) any private sector body which substantially performs the functions of the Authority
- provided that any such assignment, novation or other disposal shall not increase the burden of the Contractor’s obligations under the Contract.
- F4.11 Any change in the legal status of the Authority such that it ceases to be a Contracting Authority shall not, subject to clause F4.12, affect the validity of the Contract and the Contract shall bind and inure to the benefit of any successor body to the Authority.
- F4.12 If the rights and obligations under the Contract are assigned, novated or otherwise disposed of pursuant to clause F4.10 to a body which is not a Contracting Authority or if there is a change in the legal status of the Authority such that it ceases to be a Contracting Authority (in the remainder of this clause both such bodies being referred to as the “**Transferee**”):
- (a) the rights of termination of the Authority in clauses H1 and H2 shall be available to the Contractor in respect of the Transferee; and
 - (b) the Transferee shall only be able to assign, novate or otherwise dispose of its rights and obligations under the Contract or any part thereof with the prior consent in writing of the Contractor.
- F4.13 The Authority may disclose to any Transferee any Confidential Information of the Contractor which relates to the performance of the Contractor’s obligations under the Contract. In such circumstances the Authority shall authorise the Transferee to use such Confidential Information only for purposes relating to the performance of the Contractor’s obligations under the Contract and for no other

purpose and shall take all reasonable steps to ensure that the Transferee gives a confidentiality undertaking in relation to such Confidential Information.

- F4.14 Each Party shall at its own cost and expense carry out, or use all reasonable endeavours to ensure the carrying out of, whatever further actions (including the execution of further documents) the other Party reasonably requires from time to time for the purpose of giving that other Party the full benefit of the provisions of the Contract.

F5 Waiver

- F5.1 The failure of either Party to insist upon strict performance of any provision of the Contract, or the failure of either Party to exercise, or any delay in exercising, any right or remedy shall not constitute a waiver of that right or remedy and shall not cause a diminution of the obligations established by the Contract.
- F5.2 No waiver shall be effective unless it is expressly stated to be a waiver and communicated to the other Party in writing in accordance with clause A4 (Notices and Communications).
- F5.3 A waiver of any right or remedy arising from a breach of the Contract shall not constitute a waiver of any right or remedy arising from any other or subsequent breach of the Contract.

F6 Variation

- F6.1 If, after the Commencement Date, the Authority's requirements change, the Authority may request a Variation subject to the terms of this clause 6.
- F6.2 The Authority may request a Variation by notifying the Contractor in writing of the Variation and giving the Contractor sufficient information to assess the extent of the Variation and consider whether any change to the Price is required in order to implement the Variation within a reasonable time limit specified by the Authority. If the Contractor accepts the Variation it shall confirm it in writing.
- F6.3 If the Contractor is unable to accept the Variation or where the Parties are unable to agree a change to the Price, the Authority may:
- (a) allow the Contractor to fulfil its obligations under the Contract without the Variation to the Specification; or
 - (b) terminate the Contract immediately except where the Contractor has already delivered all or part of the Services or where the Contractor can show evidence of substantial work being carried out to fulfil the requirements of the Specification; and in such case the Parties shall attempt to agree upon a resolution to the matter. If a resolution cannot be reached, the matter shall be dealt with under the Dispute Resolution procedure detailed in clause I2 (Dispute Resolution).
- F6.4 No Variation will take effect unless and until it is recorded in a validly executed CCN. Execution of a CCN is made via electronic signature as described in clause 1.2 of Section 1 of the Contract.
- F6.5 A CCN takes effect on the date on which both Parties communicate acceptance of the CCN via Bravo. On the date it communicates acceptance of the CCN in this way the Contractor is deemed to warrant and represent that the CCN has been executed by a duly authorised representative of the Contractor in addition to the warranties and representations set out in clause G2.
- F6.6 The provisions of clauses F6.4 and F6.5 may be varied in an emergency if it is not practicable to obtain the Authorised Representative's approval within the time necessary to make the Variation in order to address the emergency. In an emergency, Variations may be approved by a different representative of the Authority. However, the Authorised Representative shall have the right to review such a Variation and require a CCN to be entered into on a retrospective basis which may itself vary the emergency Variation.

F7 Severability

- F7.1 If any provision of the Contract which is not of a fundamental nature is held invalid, illegal or unenforceable for any reason by any court of competent jurisdiction, such provision shall be severed and the remainder of the provisions of the Contract shall continue in full force and effect as if the Contract had been executed with the invalid, illegal or unenforceable provision eliminated.

F8 Remedies Cumulative

- F8.1 Except as expressly provided in the Contract all remedies available to either Party for breach of the Contract are cumulative and may be exercised concurrently or separately, and the exercise of any one remedy shall not be deemed an election of such remedy to the exclusion of other remedies.

F9 Entire Agreement

- F9.1 The Contract constitutes the entire agreement between the Parties in respect of the matters dealt with therein. The Contract supersedes all prior negotiations between the Parties and all representations and undertakings made by one Party to the other, whether written or oral, except that this clause shall not exclude liability in respect of any fraudulent misrepresentation.

F10 Counterparts

- F10.1 The Contract may be executed in counterparts, each of which when executed and delivered shall constitute an original but all counterparts together shall constitute one and the same instrument.

G LIABILITIES

G1 Liability, Indemnity and Insurance

- G1.1 Neither Party limits its liability for:
- (a) death or personal injury caused by its negligence;
 - (b) fraud or fraudulent misrepresentation;
 - (c) any breach of any obligations implied by section 2 of the Supply of Goods and Services Act 1982;
 - (c) any breach of clauses D1, E1, E2 and E4; or
 - (d) any liability to the extent it cannot be limited or excluded by Law.
- G1.2 Subject to clauses G1.3 and G1.4, the Contractor shall indemnify the Authority and keep the Authority indemnified fully against all claims, proceedings, demands, charges, actions, damages, costs, breach of statutory duty, expenses and any other liabilities which may arise out of the supply, or the late or purported supply, of the Services or the performance or non-performance by the Contractor of its obligations under the Contract or the presence of the Contractor or any Staff on the Premises, including in respect of any death or personal injury, loss of or damage to property, financial loss arising from any advice given or omitted to be given by the Contractor, or any other loss which is caused directly by any act or omission of the Contractor.
- G1.3 Subject to clause G1.1 the Contractor's aggregate liability in respect of the Contract shall not exceed **£338,541**.

- G1.4 The Contractor shall not be responsible for any injury, loss, damage, cost or expense if and to the extent that it is caused by the negligence or wilful misconduct of the Authority or by breach by the Authority of its obligations under the Contract.
- G1.5 The Authority may recover from the Contractor the following losses incurred by the Authority to the extent they arise as a result of a Default by the Contractor:
- (a) any additional operational and/or administrative costs and expenses incurred by the Authority, including costs relating to time spent by or on behalf of the Authority in dealing with the consequences of the Default;
 - (b) any wasted expenditure or charges;
 - (c) the additional costs of procuring a Replacement Contractor for the remainder of the Contract Period and or replacement deliverables which shall include any incremental costs associated with the Replacement Contractor and/or replacement deliverables above those which would have been payable under the Contract;
 - (d) any compensation or interest paid to a third party by the Authority; and
 - (e) any fine or penalty incurred by the Authority pursuant to Law and any costs incurred by the Authority in defending any proceedings which result in such fine or penalty.
- G1.6 Subject to clauses G1.1 and G1.5, neither Party shall be liable to the other for any:
- (a) loss of profits, turnover, business opportunities or damage to goodwill (in each case whether direct or indirect); or
 - (b) indirect, special or consequential loss.
- G1.7 Unless otherwise specified by the Authority, the Contractor shall, with effect from the Commencement Date for such period as necessary to enable the Contractor to comply with its obligations herein, take out and maintain with a reputable insurance company a policy or policies of insurance providing an adequate level of cover in respect of all risks which may be incurred by the Contractor, arising out of the Contractor's performance of its obligations under the Contract, including death or personal injury, loss of or damage to property or any other loss. Such policies shall include cover in respect of any financial loss arising from any advice given or omitted to be given by the Contractor. Such insurance shall be maintained for the duration of the Contract Period and for a minimum of 6 years following the end of the Contract.
- G1.8 The Contractor shall hold employer's liability insurance in respect of Staff and such insurance shall be in accordance with any legal requirement from time to time in force.
- G1.9 The Contractor shall give the Authority, on request, copies of all insurance policies referred to in this clause or a broker's verification of insurance to demonstrate that the appropriate cover is in place, together with receipts or other evidence of payment of the latest premiums due under those policies.
- G1.10 If the Contractor does not give effect to and maintain the insurances required by the provisions of the Contract, the Authority may make alternative arrangements to protect its interests and may recover the costs of such arrangements from the Contractor.
- G1.11 The provisions of any insurance or the amount of cover shall not relieve the Contractor of any liabilities under the Contract.
- G1.12 The Contractor shall not take any action or fail to take any reasonable action, or (to the extent that it is reasonably within its power) permit anything to occur in relation to the Contractor, which would entitle any insurer to refuse to pay any claim under any insurance policy in which the Contractor is an insured, a co-insured or additional insured person.

G2 Warranties and Representations

G2.1 The Contractor warrants and represents on the Commencement Date and for the Contract Period that:

- (a) it has full capacity and authority and all necessary consents to enter into and perform the Contract and that the Contract is executed by a duly authorised representative of the Contractor;
- (b) in entering the Contract it has not committed any fraud;
- (c) as at the Commencement Date, all information contained in the Tender or other offer made by the Contractor to the Authority remains true, accurate and not misleading, save as may have been specifically disclosed in writing to the Authority prior to execution of the Contract and in addition, that it will advise the Authority of any fact, matter or circumstance of which it may become aware which would render such information to be false or misleading;
- (d) no claim is being asserted and no litigation, arbitration or administrative proceeding is presently in progress or, to the best of its knowledge and belief, pending or threatened against it or any of its assets which will or might have an adverse effect on its ability to perform its obligations under the Contract;
- (e) it is not subject to any contractual obligation, compliance with which is likely to have a material adverse effect on its ability to perform its obligations under the Contract;
- (f) no proceedings or other steps have been taken and not discharged (nor, to the best of its knowledge, are threatened) for the winding up of the Contractor or for its dissolution or for the appointment of a receiver, administrative receiver, liquidator, manager, administrator or similar officer in relation to any of the Contractor's assets or revenue;
- (g) it owns, or has obtained or is able to obtain valid licences for, all Intellectual Property Rights that are necessary for the performance of its obligations under the Contract;
- (h) any person engaged by the Contractor shall be engaged on terms which do not entitle them to any Intellectual Property Right in any IP Materials;
- (i) in the 3 years (or period of existence where the Contractor has not been in existence for 3 years) prior to the date of the Contract:
 - i) it has conducted all financial accounting and reporting activities in compliance in all material respects with the generally accepted accounting principles that apply to it in any country where it files accounts;
 - ii) it has been in full compliance with all applicable securities and tax laws and regulations in the jurisdiction in which it is established; and
 - iii) it has not done or omitted to do anything which could have a material adverse effect on its assets, financial condition or position as an ongoing business concern or its ability to fulfil its obligations under the Contract;
- (j) it has and will continue to hold all necessary (if any) regulatory approvals from the Regulatory Bodies necessary to perform its obligations under the Contract; and
- (k) it has notified the Authority in writing of any Occasions of Tax Non-Compliance and any litigation in which it is involved that is in connection with any Occasion of Tax Non-Compliance.

G3 Force Majeure

G3.1 Subject to the remaining provisions of this clause G3, a Party may claim relief under this clause G3 from liability for failure to meet its obligations under the Contract for as long as and only to the extent

that the performance of those obligations is directly affected by a Force Majeure Event. Any failure or delay by the Contractor in performing its obligations under the Contract which results from a failure or delay by an agent, Sub-Contractor or supplier shall be regarded as due to a Force Majeure Event only if that agent, Sub-Contractor or supplier is itself impeded by a Force Majeure Event from complying with an obligation to the Contractor.

- G3.2 The Affected Party shall as soon as reasonably practicable issue a Force Majeure Notice, which shall include details of the Force Majeure Event, its effect on the obligations of the Affected Party and any action the Affected Party proposes to take to mitigate its effect.
- G3.3 If the Contractor is the Affected Party, it shall not be entitled to claim relief under this clause G3 to the extent that consequences of the relevant Force Majeure Event:
- (a) are capable of being mitigated by any of the Services, but the Contractor has failed to do so; and/or
 - (b) should have been foreseen and prevented or avoided by a prudent provider of services similar to the Services, operating to the standards required by the Contract.
- G3.4 Subject to clause G3.5, as soon as practicable after the Affected Party issues the Force Majeure Notice, and at regular intervals thereafter, the Parties shall consult in good faith and use reasonable endeavours to agree any steps to be taken and an appropriate timetable in which those steps should be taken, to enable continued provision of the Services affected by the Force Majeure Event.
- G3.5 The Parties shall at all times following the occurrence of a Force Majeure Event and during its subsistence use their respective reasonable endeavours to prevent and mitigate the effects of the Force Majeure Event. Where the Contractor is the Affected Party, it shall take all steps in accordance with Good Industry Practice to overcome or minimise the consequences of the Force Majeure Event.
- G3.6 If, as a result of a Force Majeure Event:
- (a) an Affected Party fails to perform its obligations in accordance with the Contract, then during the continuance of the Force Majeure Event:
 - i) the other Party shall not be entitled to exercise its rights to terminate the Contract in whole or in part as a result of such failure pursuant to clause H2.1 or H2.3; and
 - ii) neither Party shall be liable for any Default arising as a result of such failure;
 - (b) the Contractor fails to perform its obligations in accordance with the Contract it shall be entitled to receive payment of the Price (or a proportional payment of it) only to the extent that the Services (or part of the Services) continue to be performed in accordance with the terms of the Contract during the occurrence of the Force Majeure Event.
- G3.7 The Affected Party shall notify the other Party as soon as practicable after the Force Majeure Event ceases or no longer causes the Affected Party to be unable to comply with its obligations under the Contract.
- G3.8 Relief from liability for the Affected Party under this clause G3 shall end as soon as the Force Majeure Event no longer causes the Affected Party to be unable to comply with its obligations under the Contract and shall not be dependent on the serving of notice under clause G3.7.

H DEFAULT, DISRUPTION AND TERMINATION

H1 Termination on Insolvency and Change of Control

- H1.1 The Authority may terminate the Contract with immediate effect by notice and without compensation to the Contractor where the Contractor is a company and in respect of the Contractor:
- (a) a proposal is made for a voluntary arrangement within Part I of the Insolvency Act 1986 or of any other composition scheme or arrangement with, or assignment for the benefit of, its creditors;
 - (b) a shareholders' meeting is convened for the purpose of considering a resolution that it be wound up or a resolution for its winding-up is passed (other than as part of, and exclusively for the purpose of, a bona fide reconstruction or amalgamation);
 - (c) a petition is presented for its winding up (which is not dismissed within 14 days of its service) or an application is made for the appointment of a provisional liquidator or a creditors' meeting is convened pursuant to section 98 of the Insolvency Act 1986;
 - (d) a receiver, administrative receiver or similar officer is appointed over the whole or any part of its business or assets;
 - (e) an application order is made either for the appointment of an administrator or for an administration order, an administrator is appointed, or notice of intention to appoint an administrator is given;
 - (f) it is or becomes insolvent within the meaning of section 123 of the Insolvency Act 1986;
 - (g) being a "small company" within the meaning of section 247(3) of the Companies Act 1985, a moratorium comes into force pursuant to Schedule A1 of the Insolvency Act 1986; or
 - (h) any event similar to those listed in H1.1(a)-(g) occurs under the law of any other jurisdiction.
- H1.2 The Authority may terminate the Contract with immediate effect by notice and without compensation to the Contractor where the Contractor is an individual and:
- (a) an application for an interim order is made pursuant to sections 252-253 of the Insolvency Act 1986 or a proposal is made for any composition scheme or arrangement with, or assignment for the benefit of, the Contractor's creditors;
 - (b) a petition is presented and not dismissed within 14 days or order made for the Contractor's bankruptcy;
 - (c) a receiver, or similar officer is appointed over the whole or any part of the Contractor's assets or a person becomes entitled to appoint a receiver, or similar officer over the whole or any part of his assets;
 - (d) the Contractor is unable to pay his debts or has no reasonable prospect of doing so, in either case within the meaning of section 268 of the Insolvency Act 1986;
 - (e) a creditor or encumbrancer 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 the Contractor's assets and such attachment or process is not discharged within 14 days;
 - (f) he dies or is adjudged incapable of managing his affairs within the meaning of Part VII of the Mental Capacity Act 2005;
 - (g) he suspends or ceases, or threatens to suspend or cease, to carry on all or a substantial part of his business; or
 - (h) any event similar to those listed in clauses H1.2(a) to (g) occurs under the law of any other jurisdiction.

- H1.3 The Contractor shall notify the Authority immediately in writing of any proposal or negotiations which will or may result in a merger, take-over, change of control, change of name or status including where the Contractor undergoes a change of control within the meaning of section 1124 of the Corporation Taxes Act 2010 (“**Change of Control**”). The Authority may terminate the Contract with immediate effect by notice and without compensation to the Contractor within 6 Months of:
- (a) being notified that a Change of Control has occurred; or
 - (b) where no notification has been made, the date that the Authority becomes aware of the Change of Control,
- but shall not be permitted to terminate where Approval was granted prior to the Change of Control.
- H1.4 The Authority may terminate the Contract with immediate effect by notice and without compensation to the Contractor where the Contractor is a partnership and:
- (a) a proposal is made for a voluntary arrangement within Article 4 of the Insolvent Partnerships Order 1994 or a proposal is made for any other composition, scheme or arrangement with, or assignment for the benefit of, its creditors; or
 - (b) it is for any reason dissolved; or
 - (c) a petition is presented for its winding up or for the making of any administration order, or an application is made for the appointment of a provisional liquidator; or
 - (d) a receiver, or similar officer is appointed over the whole or any part of its assets; or
 - (e) the partnership is deemed unable to pay its debts within the meaning of section 222 or 223 of the Insolvency Act 1986 as applied and modified by the Insolvent Partnerships Order 1994; or
 - (f) any of the following occurs in relation to any of its partners:
 - (i) an application for an interim order is made pursuant to sections 252-253 of the Insolvency Act 1986 or a proposal is made for any composition scheme or arrangement with, or assignment for the benefit of, his creditors;
 - (ii) a petition is presented for his bankruptcy; or
 - (iii) a receiver, or similar officer is appointed over the whole or any part of his assets;
 - (g) any event similar to those listed in clauses H1.4(a) to (f) occurs under the law of any other jurisdiction .
- H1.5 The Authority may terminate the Contract with immediate effect by notice and without compensation to the Contractor where the Contractor is a limited liability partnership and:
- (a) a proposal is made for a voluntary arrangement within Part I of the Insolvency Act 1986 or a proposal is made for any other composition, scheme or arrangement with, or assignment for the benefit of, its creditors;
 - (b) it is for any reason dissolved;
 - (c) an application is made either for the appointment of an administrator or for an administration order, an administrator is appointed, or notice of intention to appoint an administrator is given within Part II of the Insolvency Act 1986;
 - (d) any step is taken with a view to it being determined that it be wound up (other than as part of, and exclusively for the purpose of, a bona fide reconstruction or amalgamation) within Part IV of the Insolvency Act 1986;

- (e) a petition is presented for its winding up (which is not dismissed within 14 days of its service) or an application is made for the appointment of a provisional liquidator within Part IV of the Insolvency Act 1986;
- (f) a receiver, or similar officer is appointed over the whole or any part of its assets; or
- (g) it is or becomes unable to pay its debts within the meaning of section 123 of the Insolvency Act 1986;
- (h) a moratorium comes into force pursuant to Schedule A1 of the Insolvency Act 1986; or
- (i) any event similar to those listed in clauses H1.5 (a) to (h) occurs under the law of any other jurisdiction.

H1.6 References to the Insolvency Act 1986 in clause H1.5(a) shall be construed as being references to that Act as applied under the Limited Liability Partnerships Act 2000 subordinate legislation.

H2 Termination on Default

H2.1 The Authority may terminate the Contract with immediate effect by notice if the Contractor commits a Default and:

- (a) the Contractor has not remedied the Default to the satisfaction of the Authority within 25 Working Days or such other period as may be specified by the Authority, after issue of a notice specifying the Default and requesting it to be remedied;
- (b) the Default is not, in the opinion of the Authority, capable of remedy; or
- (c) the Default is a Material Breach.

H2.2 If, through any Default of the Contractor, data transmitted or processed in connection with the Contract is either lost or sufficiently degraded as to be unusable, the Contractor shall be liable for the cost of reconstitution of that data and shall reimburse the Authority in respect of any charge levied for its transmission and any other costs charged in connection with such Default.

H2.3 If the Authority fails to pay the Contractor undisputed sums of money when due, the Contractor shall give notice to the Authority of its failure to pay. If the Authority fails to pay such undisputed sums within 90 Working Days of the date of such notice, the Contractor may terminate the Contract in writing with immediate effect, save that such right of termination shall not apply where the failure to pay is due to the Authority exercising its rights under clause C3.1 (Recovery of Sums Due) or to a Force Majeure Event.

H3 Termination on Notice

H3.1 The Authority may terminate the Contract at any time by giving 30 notice to the Contractor.

H4 Other Termination Grounds

H4.1 The Authority may terminate the Contract on written notice to the Contractor if:

- (a) the Contract has been subject to a substantial modification which requires a new procurement procedure pursuant to regulation 72(9) of the Regulations;
- (b) the Contractor was, at the time the Contract was awarded, in one of the situations specified in regulation 57(1) of the Regulations, including as a result of the application of regulation 57 (2), and should therefore have been excluded from the procurement procedure which resulted in its award of the Contract;

(c) the Contract should not have been awarded to the Contractor in view of a serious infringement of the obligations under the Treaties and the Regulations that has been declared by the Court of Justice of the European Union in a procedure under Article 258 of the TFEU; or

(d) the Contractor has not, in performing the Services, complied with its legal obligations in respect of environmental, social or labour law.

H5 Consequences of Expiry or Termination

H5.1 If the Authority terminates the Contract under clauses H2 or H4 and makes other arrangements for the supply of the Services the Authority may recover from the Contractor the cost reasonably incurred of making those other arrangements and any additional expenditure incurred by the Authority throughout the remainder of the Contract Period.

H5.2 If Contract is terminated under clauses H2 or H4 the Authority shall make no further payments to the Contractor (for Services supplied by the Contractor prior to termination and in accordance with the Contract but where the payment has yet to be made by the Authority), until the Authority has established the final cost of making the other arrangements envisaged under this clause.

H5.3 If the Authority terminates the Contract under clause H3 the Authority shall make no further payments to the Contractor except for Services supplied by the Contractor prior to termination and in accordance with the Contract but where the payment has yet to be made by the Authority.

H5.4 Save as otherwise expressly provided in the Contract:

(a) termination or expiry of the Contract shall be without prejudice to any rights, remedies or obligations accrued under the Contract prior to termination or expiration and nothing in the Contract shall prejudice the right of either Party to recover any amount outstanding at such termination or expiry; and

(b) termination of the Contract shall not affect the continuing rights, remedies or obligations of the Authority or the Contractor under clauses C2 (Payment and VAT), C3 (Recovery of Sums Due), D1 (Prevention of Fraud and Bribery), E2 (Data Protection), E3 (Official Secrets Acts 1911 to 1989, Section 182 of the Finance Act 1989), E4 (Confidential Information), E5 (Freedom of Information), E8 (Intellectual Property Rights), E9 (Audit), F9 (Remedies Cumulative), G1 (Liability, Indemnity and Insurance), H5 (Consequences of Expiry or Termination), H7 (Recovery upon Termination) and I1 (Governing Law and Jurisdiction).

H6 Disruption

H6.1 The Contractor shall take reasonable care to ensure that in the performance of its obligations under the Contract it does not disrupt the operations of the Authority, its employees or any other contractor employed by the Authority.

H6.2 The Contractor shall immediately inform the Authority of any actual or potential industrial action, whether such action be by its own employees or others, which affects or might affect its ability at any time to perform its obligations under the Contract.

H6.3 If there is industrial action by the Staff, the Contractor shall seek Approval to its proposals to continue to perform its obligations under the Contract.

H6.4 If the Contractor's proposals referred to in clause H6.3 are considered insufficient or unacceptable by the Authority acting reasonably, then the Contract may be terminated with immediate effect by the Authority by notice.

H6.5 If the Contractor is unable to deliver the Services owing to disruption of the Authority's normal business, the Contractor may request a reasonable allowance of time, and, in addition, the Authority will reimburse any additional expense reasonably incurred by the Contractor as a direct result of such disruption.

H7 Recovery upon Termination

- H7.1 On termination of the Contract for any reason, the Contractor shall at its cost:
- (a) immediately return to the Authority all Confidential Information, Personal Data and IP Materials in its possession or in the possession or under the control of any permitted suppliers or Sub-Contractors, which was obtained or produced in the course of providing the Services;
 - (b) immediately deliver to the Authority all Property (including materials, documents, information and access keys) provided to the Contractor in good working order;
 - (c) immediately vacate any Authority Premises occupied by the Contractor;
 - (d) assist and co-operate with the Authority to ensure an orderly transition of the provision of the Services to the Replacement Contractor and/or the completion of any work in progress; and
 - (e) promptly provide all information concerning the provision of the Services which may reasonably be requested by the Authority for the purposes of adequately understanding the manner in which the Services have been provided and/or for the purpose of allowing the Authority and/or the Replacement Contractor to conduct due diligence.
- H7.2 If the Contractor does not comply with clauses H7.1(a) and (b), the Authority may recover possession thereof and the Contractor grants a licence to the Authority or its appointed agents to enter (for the purposes of such recovery) any premises of the Contractor or its permitted suppliers or Sub-Contractors where any such items may be held.

H8 Retendering and Handover

- H8.1 Within 21 days of being requested by the Authority, the Contractor shall provide, and thereafter keep updated, in a fully indexed and catalogued format, all the information necessary to enable the Authority to issue tender documents for the future provision of the Services.
- H8.2 The Authority shall take all necessary precautions to ensure that the information referred to in clause H8.1 is given only to potential providers who have qualified to tender for the future provision of the Services.
- H8.3 The Authority shall require that all potential providers treat the information in confidence; that they do not communicate it except to such persons within their organisation and to such extent as may be necessary for the purpose of preparing a response to an invitation to tender issued by the Authority; and that they shall not use it for any other purpose.
- H8.4 The Contractor shall indemnify the Authority against any claim made against the Authority at any time by any person in respect of any liability incurred by the Authority arising from any deficiency or inaccuracy in information which the Contractor is required to provide under clause H8.1.
- H8.5 The Contractor shall allow access to the Premises in the presence of the Authorised Representative, to any person representing any potential provider whom the Authority has selected to tender for the future provision of the Services.
- H8.6 If access is required to the Contractor's Premises for the purposes of clause H8.5, the Authority shall give the Contractor 7 days' notice of a proposed visit together with a list showing the names of all persons who will be visiting. Their attendance shall be subject to compliance with the Contractor's security procedures, subject to such compliance not being in conflict with the objectives of the visit.
- H8.7 The Contractor shall co-operate fully with the Authority during any handover at the end of the Contract. This co-operation shall include allowing full access to, and providing copies of, all documents, reports, summaries and any other information necessary in order to achieve an effective transition without disruption to routine operational requirements.

H8.8 Within 10 Working Days of being requested by the Authority, the Contractor shall transfer to the Authority, or any person designated by the Authority, free of charge, all computerised filing, recording, documentation, planning and drawing held on software and utilised in the provision of the Services. The transfer shall be made in a fully indexed and catalogued disk format, to operate on a proprietary software package identical to that used by the Authority.

H9 Exit Management

H9.1 Upon termination the Contractor shall render reasonable assistance to the Authority to the extent necessary to effect an orderly assumption by a Replacement Contractor in accordance with the procedure set out in clause H10.

H10 Exit Procedures

H10.1 Where the Authority requires a continuation of all or any of the Services on expiry or termination of this Contract, either by performing them itself or by engaging a third party to perform them, the Contractor shall co-operate fully with the Authority and any such third party and shall take all reasonable steps to ensure the timely and effective transfer of the Services without disruption to routine operational requirements.

H10.2 The following commercial approach shall apply to the transfer of the Services if the Contractor:

- (a) does not have to use resources in addition to those normally used to deliver the Services prior to termination or expiry, there shall be no change to the Price; or
- (b) reasonably incurs additional costs, the Parties shall agree a Variation to the Price based on the Contractor's rates either set out in Schedule 2 or forming the basis for the Price.

H10.3 When requested to do so by the Authority, the Contractor shall deliver to the Authority details of all licences for software used in the provision of the Services including the software licence agreements.

H10.4 Within one Month of receiving the software licence information described above, the Authority shall notify the Contractor of the licences it wishes to be transferred, and the Contractor shall provide for the approval of the Authority a plan for licence transfer.

H11 Knowledge Retention

H11.1 The Contractor shall co-operate fully with the Authority in order to enable an efficient and detailed knowledge transfer from the Contractor to the Authority on the completion or earlier termination of the Contract and in addition, to minimise any disruption to routine operational requirements. To facilitate this transfer, the Contractor shall provide the Authority free of charge with full access to its Staff, and in addition, copies of all documents, reports, summaries and any other information requested by the Authority. The Contractor shall comply with the Authority's request for information no later than 15 Working Days from the date that that request was made.

I DISPUTES AND LAW

I1 Governing Law and Jurisdiction

I1.1 Subject to the provisions of clause I2 the Contract, including any matters arising out of or in connection with it, shall be governed by and interpreted in accordance with English Law and shall be subject to the exclusive jurisdiction of the Courts of England and Wales. The submission to such jurisdiction shall not limit the right of the Authority to take proceedings against the Contractor in any other court of competent jurisdiction, and the taking of proceedings in any other court of competent

jurisdiction shall not preclude the taking of proceedings in any other jurisdiction whether concurrently or not.

I2 Dispute Resolution

- I2.1 The Parties shall attempt in good faith to negotiate a settlement to any dispute between them arising out of or in connection with the Contract within 20 Working Days of either Party notifying the other of the dispute and such efforts shall involve the escalation of the dispute to the finance director of the Contractor and the commercial director of the Authority.
- I2.2 Nothing in this dispute resolution procedure shall prevent the Parties from seeking from any court of competent jurisdiction an interim order restraining the other Party from doing any act or compelling the other Party to do any act.
- I2.3 If the dispute cannot be resolved by the Parties pursuant to clause I2.1 either Party may refer it to mediation pursuant to the procedure set out in clause I2.5.
- I2.4 The obligations of the Parties under the Contract shall not cease, or be suspended or delayed by the reference of a dispute to mediation (or arbitration) and the Contractor and the Staff shall comply fully with the requirements of the Contract at all times.
- I2.5 The procedure for mediation and consequential provisions relating to mediation are as follows:
- (a) a neutral adviser or mediator (the “**Mediator**”) shall be chosen by agreement between the Parties or, if they are unable to agree upon a Mediator within 10 Working Days after a request by one Party to the other or if the Mediator agreed upon is unable or unwilling to act, either Party shall within 10 Working Days from the date of the proposal to appoint a Mediator or within 10 Working Days of notice to either Party that he is unable or unwilling to act, apply to the Centre for Effective Dispute Resolution to appoint a Mediator;
 - (b) the Parties shall within 10 Working Days of the appointment of the Mediator meet with him in order to agree a programme for the exchange of all relevant information and the structure to be adopted for negotiations. If appropriate, the Parties may at any stage seek assistance from the Centre for Effective Dispute Resolution to provide guidance on a suitable procedure;
 - (c) unless otherwise agreed, all negotiations connected with the dispute and any settlement agreement relating to it shall be conducted in confidence and without prejudice to the rights of the Parties in any future proceedings;
 - (d) if the Parties reach agreement on the resolution of the dispute, the agreement shall be recorded in writing and shall be binding on the Parties once it is signed by their duly authorised representatives;
 - (e) failing agreement, either of the Parties may invite the Mediator to provide a non-binding but informative written opinion. Such an opinion shall be provided on a without prejudice basis and shall not be used in evidence in any proceedings relating to the Contract without the prior written consent of both Parties; and
 - (f) if the Parties fail to reach agreement within 60 Working Days of the Mediator being appointed, or such longer period as may be agreed by the Parties, then any dispute or difference between them may be referred to the Courts unless the dispute is referred to arbitration pursuant to the procedures set out in clause I2.6.
- I2.6 Subject to clause I2.2, the Parties shall not institute court proceedings until the procedures set out in clauses I2.1 and I2.3 have been completed save that:
- (a) The Authority may at any time before court proceedings are commenced, serve a notice on the Contractor requiring the dispute to be referred to and resolved by arbitration in accordance with clause I2.7;

- (b) if the Contractor intends to commence court proceedings, it shall serve notice on the Authority of its intentions and the Authority shall have 21 days following receipt of such notice to serve a reply on the Contractor requiring the dispute to be referred to and resolved by arbitration in accordance with clause 12.7; and
- (c) the Contractor may request by notice to the Authority that any dispute be referred and resolved by arbitration in accordance with clause 12.7, to which the Authority may consent as it sees fit.

12.7 If any arbitration proceedings are commenced pursuant to clause 12.6,

- (a) the arbitration shall be governed by the provisions of the Arbitration Act 1996 and the Authority shall give a notice of arbitration to the Contractor (the “**Arbitration Notice**”) stating:
 - (i) that the dispute is referred to arbitration; and
 - (ii) providing details of the issues to be resolved;
- (b) the London Court of International Arbitration (“**LCIA**”) procedural rules in force at the date that the dispute was referred to arbitration in accordance with 12.7(b) shall be applied and are deemed to be incorporated by reference to the Contract and the decision of the arbitrator shall be binding on the Parties in the absence of any material failure to comply with such rules;
- (c) the tribunal shall consist of a sole arbitrator to be agreed by the Parties;
- (d) if the Parties fail to agree the appointment of the arbitrator within 10 days of the Arbitration Notice being issued by the Authority under clause 12.7(a) or if the person appointed is unable or unwilling to act, the arbitrator shall be appointed by the LCIA;
- (e) the arbitration proceedings shall take place in London and in the English language; and
- (f) the arbitration proceedings shall be governed by, and interpreted in accordance with, English Law.

SCHEDULE 1 - SPECIFICATION

Comparative environmental life cycle assessment of cattle production systems

The main project aims to compare aspects of the environmental performance of different cattle production systems, ranging from conventional part housed and large-scale, fully housed dairy and beef to all-forage based production and including sub-set of organic production. The core method of analysis will apply systems-based environmental Life Cycle Assessment (LCA), using an enhanced version of the Defra-funded Cranfield model.

The main environmental impacts will include greenhouse gas (GHG) emissions, water quality (e.g. eutrophication potential) and air quality (e.g. acidification potential, NO_x), non-renewable resource consumption, stress weighted blue water consumption and land use. Other areas, such as biodiversity, other non-provisioning ecosystem services and social aspects are out of scope, but are being addressed in a separate RC-funded, CEH-led project (*Sustainable economic and ecological grazing systems – learning from innovative practitioners*, SEEGLSIP).

The Cranfield LCA model will be enhanced to (a) incorporate the revised approaches now used in the UK's GHG and ammonia inventories and (b) to support analyses of forage-based systems, especially those that conform to the *Pasture for Life* standards. The latter aspect incorporates two approaches. First will be the collection and analysis of activity data from *Pasture for Life* farmers by CEH to enable actual stocking levels to be quantified as grazing livestock units (i.e. 48,000 MJ metabolisable energy per year) per hectare. The existing site class based production model will be enhanced using both these data and applying a recently developed and tested grass production simulation model. Another aspect will be to identify the areas of grassland that are prone to soil damage by poaching (these would constrain extended grazing seasons). Comparisons of beef and milk production will be made using functional units to be agreed with Defra, e.g. per unit energy corrected milk, or per unit liveweight ready for slaughter or per unit weight beef carcass. A large scale sensitivity analysis will be conducted to address important variables such as: forage yields, grazing season length, milk yield, fecundity and soil carbon balance.

An assessment will also be made of the scale and seasonality of production that would be possible with forage-only based production, but based on the same land area as is used now for dairy and beef production. This will be a first order analysis, given that arable land currently produces crops like, milling wheat for both flour for humans and wheatfeed for stock or malting barley that supplies a fermentable substrate and an animal feed.

Some animal feeds from overseas, such as soy meal, are implicated in major GHG emissions from land use change (LUC). Alternative approaches to calculating these will be scrutinised to recommend what is most appropriate for different types of analysis. The most suitable will be applied in this study.

The potential for home grown legumes to replace imported soya will be explored.

Introduction

There is much public interest regarding the relative merits of alternative cattle production systems. This includes product yield, quality and animal welfare and environmental factors, such as the respective greenhouse gas (GHG) emissions (GHGE) from contrasting production systems.

Comparative environmental life cycle assessment (LCA) provides a vital tool for evaluating the relative performance of alternative cattle production systems, including GHGE. LCA uses the scientific understanding of animal nutrition and production, environmental science, soil science, seasonality, climate and other processes to estimate GHGE produced on-farm (e.g. from animals, soil, farm machinery) and off-farm (e.g. along the supply chain for inputs like fertilisers and feed) to derive impacts per functional unit (e.g. one litre of energy corrected milk at the farm gate). LCA also includes other environmental impacts such as water quality degradation. Like all models, LCA is sensitive to assumptions made (e.g. system boundaries, geographical scope or functional unit definition) and data availability and quality. Hence, the assumptions required to analyse representative systems may not reflect a given individual farm, but the sum of several or many farms. It has been claimed that systems where cattle are “grass-fed” must have the lowest GHGE because the animal enteric (digestive) GHGE are offset by active sequestration of atmospheric carbon by the farm’s grassland soils. The argument is more complex and includes the productivity of livestock (including nutrient availability), how grass and other feeds are managed and sourced, how cattle are managed in the winter and what are realistically achievable short and long term C sequestration rates and storage capacities in soils.

The very high C sequestration rates observed at the White Oaks Pasture Farm in Georgia, USA (Horbecke and Dettling, 2019) have been claimed by some UK protagonists as being what their farms or systems would achieve, but the regenerative approach used there started with a baseline of “heavily degraded” arable soils, when rates would be maximal. The scientific consensus is that soil C stocks move to an equilibrium under the same management system, thus, high initial rates cannot be maintained indefinitely (e.g. Johnson et al., 2009; Ogle et al., 2004; Smith et al., 2008; Conant et al. 2017). This approach is used by the IPPC (Ogle et al. 2004) in its national inventory reporting method (Verchot et al., 2006), which is used in the UK (Brown et al., 2019). In short, C storage in long term (>20 years), well managed UK pastures is expected to be at its upper carbon storage capacity unless active steps were taken to enhance its management. The current overall C uptake in UK grassland soils is estimated at 0.2 t C/ha, based mainly on historic land use change, rather than management changes (Thompson, 2019). This does not preclude individual farms supporting higher rates. Options for increasing soil C uptake rates in grassland (i.e. resulting in negative GHGE) are finely balanced between increasing these and increasing GHGE incurred from other sources to effect the increased soil C uptake (Garnett et al., 2017).

In comparing beef cattle systems, a balance is between shorter finishing times with a relatively high concentrate diet and longer finishing times with a relatively high forage diet. Grazed grass generates lower GHGE than silage or concentrates per unit metabolisable energy (ME) or per unit dry matter (Defra, ISO205), hence grazing presents apparent environmental advantages. All grazing systems can be constrained by nutrient supply, e.g. New Zealand (NZ) dairy cattle are not housed, given the benign climate, and fed mainly on pasture. The average NZ Friesian-Holstein cattle milk yield is about 4500 litres (LIC, 2019), while the UK’s Holstein dominated dairy cattle produce about 8000 litres per year (Agriculture in the UK, 2018). Part of the difference is genetic, but a major part must be the much lower use of concentrates in NZ.

Lorenz et al (2019) undertook a meta-analysis of the product carbon footprint (PCF) of dairy systems, from across the world (i.e. GHGE per unit milk). These considered (a) a pasture-based system (minimum of 50% feed intake from pasture and a maximum of 25% concentrates), (b) a confinement production system (zero grazing during lactation) and (c) a mixed production system with < 50% feed intake from pasture and/or >25% concentrates. Most UK dairying would be in systems (a) and (c).

When no variables were controlled, there were no significant differences between the PCF of systems. For comparable milk yields, however, pasture-based gives generally lower CF, but within all systems, moderately increasing yield, feed efficiency and pasture intake reduces the PCF. Pasture-based systems yielded less than the confinement ones in which the nutrient supplies were higher. There was also much variation between studies.

O'Brien et al. (2015) compared the PCF of milk production in Ireland, which has a longer grazing season than the UK (8 vs. about 6 months). The PCF averaged 1.2 kg CO₂e/kg FPCM, but ranged from 0.6 to 2.1. Farms that made best use of grass had lower PCFs.

Most LCA studies to date have not included grassland soil C sequestration, although most do include soil C losses from LUC associated with imports of feeds like soy from S America. O'Brien et al. (2014) did include a uniform (and arguably arbitrary) estimate of grassland C sequestration in a comparison of high producing dairy cattle in Irish lactation at pasture milk production with zero grazed production in the UK and USA. When C sequestration in grassland was included, the Irish pasture based system had the lowest PCF with those from the UK and USA being 5% and 7% higher. Without this, there was no difference between them. This indicated the potential effect of including C sequestration, but the comparison also confounded by disparate geographies.

De Vries et al. (2015) analysed beef LCAs from over world that were generally comparable and included a range of feeding strategies plus dairy vs suckler systems. These were scrutinised from the system rather than geographic context. Comparisons was somewhat confounded because of the range of management systems and diets. Diets were generally linked to genetics and finishing systems and not enough studies compared these independently, but the authors were still confident about some comparisons between systems:

- Organic beef had a small average percentage less lower PCF than conventional beef (7% with range 3% to 15%)
- Dairy-based beef systems have a lower PCF than suckler beef systems
- Concentrate based systems had an average of 28% lower (4 to 48%) PCF than forage based.

Defra's existing LCA (Defra, IS0205), based on the established Cranfield model, generally accords with the findings for beef and dairy described above.

Nutritional limits

The effects of production system, productivity and animal diet on production are generally well understood (e.g. Ross et al., 2014; Basset-Mens et al., 2009; Thomassen et al., 2008; Keane and Moloney, 2010; Moorby et al., 2016; Casey and Holden, 2006; Edwards-Jones et al., 2009; Nguyen et al., 2010; Ledgard et al., 2019; Evans and Williams, 2009; Cardoso et al (2016)). Comparisons between higher and lower grass-based systems show that cattle in higher forage systems are less productive and this echoes the established nutritional studies of AFRC (1991, 1993) and Thomas (2004) that quantify how voluntary feed intake is limited by energy density. The energy densities of concentrates are higher than of forages. Careful matching of feeding with production is essential to avoid nutritionally influenced metabolic disorders, such as acidosis, ketosis, hypocalcaemia and hypomagnesaemia (AHDB, 2019a), which tend to be exacerbated by high productivity although hypomagnesaemia is most associated with cattle on grass. Diet is not the only choice influencing productivity: genetics has a major influence, with breeds being traditionally selected on their suitability for survival in harsh or more benign environments (Fraser et al., 2014). During the latter part of C20th, breeding and selecting alternative breeds for leaner carcasses and higher productivity became widespread, as evidenced by the dominance of Holstein dairy and Limousin beef cattle today. Trends in beef breeds and management are also influenced by meeting changing market needs (e.g. AHDB, 2019b). The above studies show that grass-dominated systems do not meet nutritional demands of stock as fully as more commonly found systems, in which conserved forage and concentrates meet better the energy demands of higher growth rate potential or lactation and hence limit potential productivity.

Imported feeds and land use change

The sustainability of imported animal feed has also been queried in the farming press and other media owing to GHGE from land use change (LUC), and long distance transport, mainly from South American soy production. Some critics have suggested that LCA models underestimate GHGE from animal feed production, however any analysis that is compliant with PAS 2050 (BSI, 2011) must include LUC emissions. That said, not all LCAs explicitly address(ed) LUC. The current PAS2050 method used attributes GHGE from LUC to the weighted area of LUC of that crop production during the previous 20 years, based on specific countries of origin, but if data on timing of LUC is poor, then all 20 years' of GHGE should be assumed. An accepted limit of this method is that it does not address indirect LUC GHGE: only direct GHGE.

A method to include indirect GHGE explicitly was developed by Audsley et al. (2009) and later refined by Vellinga et al. (2013) used in the Dutch animal feed industry's approach to the carbon footprinting of all its feeds (Feedprint, 2013). These methods link all global LUC GHGE with commercially connected agriculture so that all land used in domestic or overseas agriculture is linked with an allocation of these GHGE,

whatever the production system. This based on the premise that demand for commodities from agricultural land are global and hence all LUC arises from global demand and not only the population of the country in which it occurs. In contrast, Prudêncio da Silva et al. (2014) allocated LUC GHGE within Brazil according to region and end market for soy. They did not address indirect LUC.

Van Middelaar et al. (2013) showed that the choice of method does influence the outcome (and these authors recommended that the results for LUC and LU (with potential C sequestration) should be reported separately from the “above ground activities”, because of limited consensus on the methods (and data) available.

Soy is the most conspicuous “protein” feed imported to the UK, but not the only one (e.g. palm oil kernel meal, sunflower seed meal) and sourcing changes. E.g. the US has overtaking Brazil as the main supplier of soy to the UK. While the US has experienced relatively little LUC in recent decades, a change in internal policy to promote maize for bioethanol production in the 1990s led to major international LUC as markets adjusted to changed commodity supplies, mainly less maize and wheat (Searchinger et al., 2008). The net effect was to make bioethanol more GHG intensive than fossil petrol and that this would not have been identified with the PAS 2050 type of analysis.

Searchinger et al. (2018, 2019) took this analysis further to show that LUC should account for the yield potentials of land and the crops grown thereon. This method highlighted the fact that moving to lower yielding systems or species increases land pressure and limits the areas of land that could be devoted to C sequestration by tree planting. They argued that these factors should be accounted for in LUC analysis.

It is evident that different methods will yield different results that meet alternative expectations and that omitting indirect LUC can be very misleading for policymaking.

Defining “grass” feeding

The Pasture Fed Livestock Association’s Pasture for Life standard (www.pastureforlife.org) provides a useful framework for defining “grass-fed” scenarios for LCA modelling. Under the standard, cattle should be allowed access to pasture whenever soil conditions permit, hence all year grazing will not be possible in some areas owing to the dangers of soil damage by poaching (nor if animal welfare is jeopardised). Farmers who adopt the standard aim for near or complete self-sufficiency of feed from diverse pastures, minimising fertiliser use, making maximal use of grazed pasture plus fresh and conserved forages for out-wintered or housed periods. Maize silage, cereals, oilseeds and their by-products are prohibited. Bought-in feed is limited, though not prohibited, in order that products not available on-farm can be obtained (e.g. pelleted dried Lucerne to tempt dairy cows to milking).

Assessing nutrient supply for human consumption within an LCA framework.

Scientific studies about nutritional differences between “grass-fed” and “conventionally-fed” meat and milk tend to show fatty acid profiles and micronutrient contents in “grass-fed” foods to be better balanced for humans (e.g. Stergiadis et al. 2019, Duckett et al., 1993, Warren et al., (2004), others cited by McAuliffe et al, 2018 and Saarinen et al., 2017). McAuliffe et al, 2018, undertook a proof of concept study, to explore whether GHGE could be expressed against supply of nutrients for human diet. When focussing on the supply of nutrients for human diet, GHGE appeared lower from grass-fed systems, though the scenarios assessed were not compatible with the Pasture for Life standard. Importantly, McAuliffe et al did not unequivocally show that grass/pasture fed produce has a lower C footprint *per se* than conventional produce per unit output. In allocating GHGE to nutrients the total GHG production of the life cycle was unchanged, but expressed in a different way.

Other current research

A CEH-led project called Sustainable economic and ecological grazing systems – learning from innovative practitioners (SEEGSLIP) is studying several socio-economic and environmental aspects of farming within the Pasture for Life standards. The environmental aspects are more associated with feature like species diversity than the impacts that are commonly addressed in LCA. The study includes a survey of 50 to 60 farms and parts of the data collected will be made available to provide invaluable activity data that will form inputs to an LCA, e.g. stocking rates, production per ha. Some of their data may also help inform other aspects of the analysis.

Pasture in the comparisons will be defined as including grazed and conserved grass-based swards along with fodder crops such as brassicas or fodder beet, but excluding maize and wholecrop silages. Grass-based swards in all-forage systems are assumed be a minimum of a grass clover mixture, but may be a

complex mixture of grasses, legumes, herbs and other deep rooting species, but could be grass only in conventional systems.

There is a need to compare and contrast the environmental impacts of all cattle production systems in the UK using a systematic analysis". This must explore the relative emission intensities and resource requirements of grass/pasture fed cattle compared with conventional cattle and across variations/mixed systems. It must also show what limits there may be to grass/pasture fed cattle production when meeting the current demands for beef and milk over the year. The latter part reflects the strong possibility that grass/pasture fed milk production will be (a) lower yielding and (b) much more seasonal than from conventional production, with a heavier reliance on spring calving to make better use of spring and summer grazing. Similarly, it is crucial to have an up to date understanding of the overseas effect of feed production, in order to take a more holistic view on cattle production systems.

Objectives

The overall aim is to compare the environmental performance of a wide range of cattle production systems using environmental Life Cycle Assessment (LCA). Limits on the outputs of such systems will be calculated and compared with current (and expected future) production levels.

Specific objectives follow.

1. Agree the core analyses that will be undertaken, the impact categories and the functional units to be applied
2. Upgrade the current Cranfield systems LCA model to be closely compatible with the revised methods for calculating GHG and ammonia emissions in the UK inventories.
3. Upgrade the grass models that support the LCA model to allow for seasonal variations in forage supplies and limits to access by grazing cattle to protect soils.
4. Obtain activity data from farmers using forage only based production to support model validation.
5. Characterise the impacts of overseas animal feed production, including soya, required for UK production
6. Undertake the comparative LCAs of forage-only based production with conventional and organic production, including sensitivity analyses.
7. Estimate the limits to production using a range of forage-only production systems compared with current production.
8. Estimate the potential for and limits to replacing soya in livestock diets.

Approach and methodology

The main approach to be used will be systems-based environmental Life Cycle Assessment, based on the established Cranfield model (Defra, ISO205) to compare different production systems. This will be developed to address (a) a wide range of intensities from extensive "forage only" production to fully housed milk and beef production systems, and (b) to incorporate the revised approaches now used in the UK's GHG and ammonia inventories (c) to incorporate C fluxes in grassland. The term forage-only production will be used to represent a subset of those that are broadly defined under the *Pasture for Life* standards including systems both fully outdoor and with a winter housed period and conserved forage.

Other tools will be applied to explore limits to all-year outdoor, forage-only production, e.g. the LandIS data of soil poaching susceptibility and trafficability and the Silsoe Whole Farm Model (Audsley, 2014). The main purpose of the study is to make comparative environmental analyses, but commentary will also be made on other features of the different production systems, e.g. human-nutritional content of products, wider ecosystem services and animal welfare. Evidence on this will come from the literature and may also be informed by Defra-funded work on this subject.

The analysis will also explore what the dairy and beef sector would be like if forage-based production was all that was available, in contrast to its current position. The geographical scope will be England and Wales.

The alternative production systems will be selected once activity data from the CEH-led SEEGSLIP project are available to assess the range of forage only systems that can be reliably modelled.

The **main** systems to be compared are anticipated to include the following, noting that organic and non-organic variants will be modelled where appropriate data support this.

- Forage only milk (with bespoke winter forage)
- Forage only suckler beef (with bespoke winter forage)
- Forage only dairy-bred beef (with bespoke winter forage)
- All year housed milk production (with dry and young stock allowed access to grazing in the summer, as is normal) #
- Fully housed dairy-bred, cereal beef #
 - # To be considered at “normal” and very large scales if robust scale-dependent factors can be quantified (e.g. distances needed to spread manure) hence addressing a hypothetical feedlot style beef system
- Milk production with the normal split of summer grazing and winter housing
- Suckler beef production with the normal split of summer grazing and winter housing *
 - * both lowland and upland systems will be addressed if supporting data are sufficiently robust

Subsidiary systems to be explored are anticipated to be:

- Milk from grazed forage only
- Beef from grazed forage only
- Conventional milk production with automatic [robotic] milking systems (AMS) and conventional [human operated] milking systems (CMS).
- All forage production, but using more conventional grassland management methods than are preferred in the *Pasture for Life* standards.
- We do not propose to address “mob grazing” in detail, given that the definition is unclear (Gurda et al., 2018) and there is very little data in scientific journals on actual differences in cattle performance. If the activity data that we receive suggests that there are significant differences in the stocking rates supported by more conventional pasture management, it will be included through a sensitivity analysis of grass productivity.

For these production systems, the final **functional units** will be chosen in conjunction with stakeholders, but are likely to be relatively general, e.g.

- 1 kg energy corrected milk at the farm gate
- 1 kg expected carcass weight at the farm gate (liveweight x [Killing out Percentage])
- 1 kg energy corrected milk at the farm gate to meet a specified demand level at a specified time of year
- 1 kg expected carcass weight at the farm gate to meet a specified demand level at a specified time of year
- 1 ha of land managed to support the production system under analysis

The impact categories to be quantified will include a set to represent both emissions and resource use. The core set are expected to include:

- GHG emissions by gas and in total, using at least the commonly applied GWP₁₀₀ that is used in other areas, such as the GHG inventory and other newer approaches, such as GWP*, which is claimed to quantify the impacts of short lived GHG like methane better than GWP₁₀₀. (Allen et al., 2018)
- Eutrophication and acidification potentials (with ammonia and nitrate emissions made explicit)

- Cumulative energy demand
- Non-renewable (abiotic- non-biological) resource consumption (e.g. as non-renewable energy or as Antimony equivalents)
- Land occupation by type and quality
- Blue water consumption (stress weighted)

Enhancements needed in the Cranfield systems LCA model.

WP2 Upgrade the current Cranfield systems LCA model to be closely compatible with the revised methods for calculating GHG and ammonia emissions in the UK inventories.

Incorporation of the current approach used to calculate GHG and ammonia emissions in the revised UK inventories, subject to possible simplifications or adjustments to be compatible with the LCA model. The different model structures and data requirements are such that our aim is align LCA outputs closely with GHG inventory (GHGI) outputs, but exact correspondence cannot be guaranteed. Typical examples are on the calculation of enteric methane and ammonia from manure management.

WP3. Upgrade the grass models that support the LCA model to allow for seasonal variations in forage supplies and limits to access by grazing cattle to protect soils.

Develop the grass models to include more detailed time based production profiles that reflect the grass availability for grazing and forage conservation. This was recently addressed, in part, in the Silsoe Whole Farm Model, e.g. for rough grazing by sheep. This activity will also include input from Dr Paul Burgess who leads a NERC-funded project of grassland in which the model of Qi et al. (2018) is being developed. That model is already familiar to the team, because it was used in a metamodel form to estimate grassland production in a CEH-led ERAMMP project for the Welsh Government. It responds to climate variables (temperature, radiation and rainfall) and N rates. Dr Burgess's insights will enhance its application and reliability.

The potential benefit of using high sugar grasses (HSG) in conventional pasture management will be addressed. The evidence in favour of HSG is generally positive, but mixed with lower N excretion and yields reported by some, higher N fertiliser requirements by others and better silage quality by another (IGER, 2002; Conaghan et al, 2008; Ellis et al., 2011; Parsons et al 2010, Miller et al., 2001; Moorby et al 2006; Parsons et al, 2010; Soteriades et al 2018).

Development of the grass models to include more detailed, time-based accessibility by cattle to protect soils from damage by hoof poaching. Input data for this will come from the LandIS database in which data on soil wetness class and depth to an impermeable layer are coupled with rainfall to derive indices of suitability of grassland farming, including poaching by stock and machinery.

WP4. Obtain activity data from farmers using forage only based production to support model validation.

Grass productivity from all-forage farms will be derived from the CEH-led survey of 54 *Pasture for Life* farms under the SSEGLIP project. The Pasture-Fed Livestock Association (PFLA) has a similarity to LEAF, which has many members, but not all sign up to the LEAF Marque itself. In the sample of members that CEH surveyed, there are new members who still have conventional pastures and others who embrace mob grazing and biodiverse deep rooting pastures. Given that we have little solid data on mob grazing pasture yields (maybe none) or on extended grazing, we shall aim to quantify the productivity of the surveyed pastures by calculating the DM and ME supplied to stock (after all, 1 grazing livestock unit is defined as 48,000 MJ of ME). This will be by calculating the maintenance and production needs of the grazing stock for which we shall need milk yields, mature LW and growth rates of younger stock. We have a range of parameter values for these from existing models. We shall then use that understanding to inform our own pasture productivity model, which includes terms for soil and rainfall.

Depending on what we find (together with any other data that come to light), we shall address the possible higher productivity of mob grazing through a sensitivity analysis of pasture productivity to include the allegedly higher productivity of mob grazed pasture. If better data on mob grazing come to light during the project, we shall endeavour to make use of it.

The current LCA systems model is non-spatial and grassland productivity was originally calculated for hill, upland and lowland regions that were aggregated into areas with simplified soil characteristics (three

broad textures) and three rainfall bands and hence site class, from which yield was calculated. The areas of these in 5 km grid cells were then analysed in conjunction with data from the June Agricultural Survey to estimate the areas of grass productivity types that would be allocated to dairy, beef and sheep on the basis that within any cell, the best land would be used by dairy, then beef and last sheep. This aggregation allowed the weighted fractions of grass types to be linked with hill, upland and lowland systems. This approach will be re-examined to assess whether any changes are needed, given that the approach to calculating N₂O emissions in the GHGI is dependent on rainfall. Hence, aggregations that were acceptably accurate when N₂O was calculated with the Tier 1 (single value) emission factor may not be with Tier 2-3 emission factors. It is anticipated that aggregations will still be possible, but they not be same as in the current model.

Incorporation of the potential for C sequestration in some grass systems where a change is made from lower to higher productivity and the converse (i.e. soil C loss if reducing productivity and not increasing root biomass and above ground debris production). We anticipate using the RothC model for this. It has a long pedigree. We assume that long term grassland that has not had significant changes in its management has C stocks that are in equilibrium and hence the *status quo* itself does not induce extra C sequestration. When changes in management occur that either reduce C losses or increase gross C sequestration, then this will be accounted for. It is common to limit such changes in stored C to 20 years, which is the time when C stock change is maximal. This will be reviewed with stakeholders to consider alternatives, such as the complete transition to a new, higher equilibrium and to amortise the change of the time taken. The biodiverse pastures with deeper rooting species suggested by *Pasture for Life* seem likely to deliver enhanced C sequestration. The SEEGSLIP project will make measurements of C changes in soils, but the results will not be available to this project so that we may only be able to make broad estimates.

WP5. Characterise the impacts of overseas animal feed production, including soya, required for UK production.

The alternative methods of calculating LUC impacts on crops will be critically compared and numerical examples given, using soya as an example. This will identify how the GHG impacts of typical UK livestock diets are affected by the choice of method used. The main choices of method will be:

- worst case scenario on recently deforested land
- recently converted native and managed grassland
- weighted average of land use changes in a country or region(as in PAS2050)
- the commercially linked global agriculture method with one value per unit area for all crops.

For most of the C21st, Brazil was the main source of soya in the UK, although imports from the USA exceeded those from Brazil in recent years. Brazil's land use is dynamic and LUC is among the largest in the world and includes the major transitions of forest to grazing and then to arable. Hence, it provides an excellent case study to compare with the USA, with its much smaller rates of LUC. LU and LUC across Brazil and the USA will be assessed with data from public sources, e.g. FAOSTAT, USDA and the Brazilian Institute of Geography and Statistics (IBGE), either by states or regional aggregations of agriculturally similar areas.

The weighted average of land use changes in Brazil and the USA will be determined using land use data on deforestation, the creation of agricultural land, its split between arable and grassland and soya production. GHG emissions from deforestation and conversion of grassland to arable will be calculated in a time series from 1980 to present, with losses from the conversions being amortised over 20 years. The IPCC default values for C stocks above and below ground in the climatic regions of Brazil and the USA will be used to calculate the GHG emissions, using the Tier 1 method.

The effects of the alternative methods on the overall GHG impacts of UK cattle, pig and poultry production will be evaluated. The pros and cons of the methods will be discussed and recommendations made, remembering that a method may be more appropriate for answering a particular question than another.

For examples of major policy and scientific questions include:

- What if soya is sourced from a country with little recent LUC instead of one, like Brazil, with large recent LUC?
- Will the results of an analysis of a commodity that includes GHGE from LUC give misleading results if extrapolated from a specific case to a larger scale?
- Will indirect effects be adequately captured?
- Will it be suitable for long-term policymaking?

- Are the computational demands too high for reasonable use?

The analysis will be coupled with alternative assessments of the impacts of soya production on LUC. The aim will be to compare the range of production systems and determine to what extent soya use influences the GHG emissions per unit output either directly or indirectly.

In addition, the study will explore ways to characterise the wider land-use impacts induced to sustain current UK production levels and systems, with a view to informing future work to understand better the wider impact and associated mitigation opportunities.

The findings will be presented to stakeholders to

- Clarify the differences in methods and their suitability for answering different questions.
- Quantify the magnitude of the effects of the alternative methods on UK livestock production.
- Recommend what is / are the best way forwards.
- Apply the agreed method in the rest of this project.

WP6. *Undertake the comparative LCAs of forage-only based production with conventional and organic production, including sensitivity analyses.*

Once the model enhancements and made and analytical features are agree, the comparisons will be made observing the rigorous need to compare only those systems in which the functional units are equivalent. A specific feature will be to apply a systematic sensitivity analysis.

For each main system that is analysed, there will be best estimates made of the main model input parameter values such as milk yield, longevity and calving index as well as forage yields, grazing season length and C sequestration potential. A preliminary sensitivity analysis will be used to compare the relative importance of these and to select a subset to be applied throughout.

WP7. *Estimate the limits to production using a range of forage-only production systems compared with current production.*

An assessment will be made of the scale and seasonality of production that would be possible with forage based production only, but based on the same land area as is used now for dairy and beef production. This will be a first order analysis, given that arable land currently produces crops like OSR that supply both oil and meal for livestock, milling wheat for flour and wheatfeed or malting barley that supplies a fermentable substrate and an animal feed. We can estimate aspects such as what surpluses or crop by-products there may be and what alternative uses there could be for these, e.g. biofuel or feeding more to monogastric stock to replace soy with meal and pure amino acids. The core purpose is to compare contrasting production systems of all pasture vs conventional, but one aspect will also be explored to address future land availability. This will be based on scenarios that were developed for the UK Climate Change Risk Assessment 2017 (UKCCRA, 2017) and address the forecasted change in land quality (e.g. susceptibility to poaching) and availability that will arise with climate change. Changes in rainfall and evaporation patterns will affect the potential for poaching of land as well pasture productivity. Policies such as dietary change and active afforestation to limit climate changes impacts also reduce the land used for livestock farming. Addressing all of these in detail is outside of the scope this project, but a set of scenarios will be devised with stakeholders to assess a future with limited land availability. We suggest that an effective approach will be to compare restrictions in grassland availability by broad type and context, e.g. lowland improved, upland improved, lowland rough grazing and upland rough grazing.

WP8. *Estimate the potential for and limits to replacing soya in livestock diets.*

There are two main aspects to this: feeding monogastrics and ruminants. The nutritional needs for monogastrics are a lot tighter for protein than for ruminants.

On legumes in forages, we know that organically managed clover-grass clovers can be almost as productive as fertilised pasture. There are some difficulties with high clover silages. The buffering capacity is higher than grass (or maize) and so it is harder to get the pH down as much as is ideal to stop deterioration. It is even more challenging with pure lucerne silage. Lucerne can be dried as hay, although it is more brittle than grass and field losses can be rather high. There is little produced here at present. Producing lucerne hay should be much more reliable than back in the 1980s and 1990s because our weather forecasting of good drying days is so much better than it used to be. It was about the mid-1990s when forecasts based on computational fluid dynamics became more accurate than simply using yesterday's weather for today.

The real test is a grain-like feed to replace soya meal (and soya hulls for ruminants). The contexts are likely to be concentrates for dairy cows both in the grazing and housing season, fast growing beef animals

of the “cereal beef” type, milk replacer for calves and concentrates for fast growing young lambs (possibly dominated by a very early lambing system). If considering monogastrics too, then the highest inclusion rates for soya bean meal (SMB) in concentrates are in layers, beef cattle and dairy cows (35%), then broilers, post-weaning pigs, and ewes (30%) and younger animals (20-25%). Of course, ruminants will receive as well as concentrates, while monogastrics may only receive concentrates. Ruminants should be the most flexible in protein substitution and poultry the least flexible. Obvious alternative oil seed meals such as from oilseed rape (OSR) and sunflower contain lower concentrations of crude protein (CP) and have less ideal amino acid profiles with lower lysine concentrations. This reduces their overall applicability, especially for monogastrics. In contrast, potato protein has an amino acid profile that is much more like soya, with similar concentrations (in the CP) of lysine, methionine and cysteine.

One important thing to consider is that an imbalanced amino acid profile will cause higher than necessary N excretion along with the resultant higher NH₃ and N₂O emissions. Hence, potential benefits from moving away from soya would be partly offset by this.

We have a case of supply and demand. We could formulate nutritionally feasible low-no soya diets across all species and quantify the domestic (and non-soya overseas) crops needed to meet the demand. Obvious candidates are field beans and peas, as well as co-products such as OSR meal, wheatfeed and brewery or fermentation residues (much depends on the size of bioethanol production). At some point, there will also be varieties of soya that we can grow successfully here (current production is a few hundred ha). This is a scenario to consider for the future.

Lucerne has a high protein content (18-20% CP) is perennial, drought tolerant but does not tolerate wet or acid soils. Lupins have a higher protein content (32-44 % CP, yellow have a higher concentration than blue). Most is ensiled, but the grain can also be harvested. It is an annual and suits free draining soils with a more acid range than Lucerne (pH 5-7). Production limits will concern land area availability, soil suitability and rotational constraints. If we radically increase bean or pea production, we either displace other crops for which there may still be a demand, convert grassland to arable in the UK or import crops from overseas (which may also generate LUC). Further, problems could arise, such as disproportionately higher disease incidence than now with much more land supporting minority crops, such as peas and beans.

Lupins appear to be well suited to replacing soya in ruminants, but not in monogastrics, owing mainly their capacity for producing a much higher fraction of essential amino acids than monogastrics (Abraham et al., 2019).

Approach

Assess current usage of soya

Best estimates will be made from the literature and expert opinion about the inclusion rates of soya products (whole beans, meal, oil and hulls) in livestock feeds. Hence, demand over the five main sectors (poultry, pigs, dairy cattle, beef cattle and sheep) will be calculated from national statistics and a breakdown of production systems.

Assess current feed crop and crop co-products supplies

These will be derived from national Defra's statistics, e.g. AUK and feed manufacturing and usage and trade statistics from UK and FAOSTAT sources. These will include UK crops, such as feed barley and UK co-products, such as brewers' grains and wheatfeed. Imported non-soy feeds and co-products, such as grain maize and citrus peel will be quantified separately and it will be assumed that these will not change.

Assess substitution potential

Using the same sources, the nutritional potential to substitute soya products for other feeds will be systematically assessed and quantified. There may not be any single solutions, but a range of possibilities depending on what alternatives are offered and especially what substitution with pure amino acids there may be. Criteria will be developed to meet limiting amino acids at different levels, e.g. lysine only, the first three limiting amino acids. Substitution will also be constrained by anti-nutritional properties and upper inclusion rates that were determined by science and experience, e.g. Ewing (1998).

Quantities of current feed types for ruminants will be estimated from the balances of grazed grass, conserved forages and concentrates by production system using the Cranfield systems-LCA model. Two main scenarios will be investigated for ruminants: substitution using concentrates only and with both concentrates and conserved legume forages (e.g. Lucerne hay).

A linear program will be used to explore the possible ranges of soy substitution. Three main approaches will be used to quantify meeting protein and energy needs: land areas required, feed prices and GHG emissions of the feed mixture. In each case, the objective function to be minimised will be the land area, price or GHG emissions that results from a specific target to reduce soy use, while still meeting nutritional criteria. Total land area is unequivocally limited and price is a powerful driver in ration formulation and choice. Constraints will include upper inclusion rates and land limits (maybe determined by region). Prices and crop yields (hence land demands) will be varied stochastically to establish a range of optimal solutions.

The range of optimal solutions will be critically assessed with stakeholders to rank them according to criteria such as feasibility and acceptability to the feed industry. A shortlist will be thus selected for further investigation.

Assess effects on GHG emissions

The shortlisted solutions will be assessed for net GHG emissions. In each case, a life cycle inventory (LCI) will be created for “new” feeds (i.e. ones that are not included in the current LCA model). Alternative ration formulations will be applied to the overall LCI of each diet, including the total crude protein supply. The overall LCA of each production system will then be assessed, accounting for both the impacts of producing the alternative feeds and the revised N excretion that can be expected with a reduced soya diet.

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Project outputs and deliverables

- Revised systems LCA model that can address the analysis of forage-based production systems and be compatible with the current approaches to calculating GHG and ammonia emissions.
- Interim results presented in person to stakeholders and a written report
- Final report with complete methods, findings and discussion that will address the core comparisons between systems and the sensitivity of these systems to changed input parameters; limits to forage-based production systems and implications for broader ecosystem services.
- Quantitative assessment of the opportunities to replace imported soya with home-grown legumes
- Quantitative assessment of the options for calculating GHG emissions from land use change and how these affect the carbon footprints of beef from Brazil and the UK
- Presentation to Defra and other stakeholders on the final report, e.g. NFU, AHDB, PFL members

Risks to delivery and contingency plans

Key risk	Likelihood	Significance
Lack of co-operation from farmers in providing good quality activity data on forage-based systems	10%	This would mean that models developed would be less robust than is ideal, but would still be based on evidence from the literature and other reliable secondary sources. However, CEH have conducted the surveys and we anticipate getting good quality data
Key staff leaving or suffering from long-term ill-health	20%	There is no reason to expect key staff members to leave in the project timespan. Ill-health cannot be predicted. The effects would be to delay delivery. Other staff with non-agricultural LCA experience would need training in the agricultural parts to get up to speed.
Negative feedback from entrenched stakeholders with a non-scientific background	30%	This would not stop the scientific progress of the project, but could lead to

		<p>tiresome and time-consuming side-tracks.</p> <p>The main control measure is to explain our approach and data sources clearly and to clarify that we study systems, rather than individual farms and base our approach on science, rather than assertion.</p>
COVID 19	40%	<p>The minimum effect is slower progress than normal, because only remote working is possible and this adds to overheads of all activities. Morale can also suffer. Some who at higher risk or exposure may be infected by COVID 19, with weeks of illness or possibly even death.</p> <p>We are minimising risks through remote working, but some risks are also outside of the work arena. These cannot be controlled from the project. Scientists are more likely than the general public to understand the risks and thus behave with restraint and caution.</p>

Deliverables and timetable

Financial Arrangement: The Contractor will be paid by invoice following satisfactory completion of milestones 1-2, 3-4, 5-6, 7-8, 9-11

Target date (Assumed start date: 01-Oct-2020)		Description of milestone including the deliverable	Suggested payment (£)
First Invoice			
1	09-Oct-2020	Agree the core analyses that will be undertaken and the functional units to be applied	£3,405
2	23-Nov-2020	Obtain processed activity data from farmers using forage-based production to support model validation	£14,704
Due 23-Nov-2020 - Invoice Total			£18,109
Second Invoice			
3	30-Nov-2020	Upgrade the current Cranfield systems LCA model to be closely compatible with the revised methods in the UK inventories	£22,954
4	22-Dec-2020	Upgrade the grass models that support the LCA model to allow for seasonal variations and limits to protect soils	£17,782
Due 22-Dec-2020 - Invoice Total			£40,736
Third Invoice			
5	18-Jan-2021	Undertake the comparative LCAs of forage-based production with conventional production, including sensitivity analyses	£8,354
6	01-Feb-2021	Present and deliver interim findings to Defra and stakeholders	£3,991
Due 01-Feb-2020 - Invoice Total			£12,345
Fourth Invoice			
7	15-Feb-2021	Estimate the limits to production using forage-only production systems compared with current production	£4,355
8	12-Mar-2021	Undertake and complete analysis on the potential for soya substitution by home-grown legumes	£11,650
9	27-Mar-2021	Deliver final findings on the assessment of GHG emissions from LUC from feed crop production in the UK & overseas	£12,800
10	31-Mar-2021	Complete all analyses and revisions from interaction with stakeholders.	£9,912
Due 31-Mar-2021 - Invoice Total			£38,717
Fifth Invoice			
11	31-May-2021	Present and deliver project findings to Defra and stakeholders	£2,940
Due 31-May-2021 - Invoice Total			£2,940
TOTAL			£112,847

Programme of work (detailing Specific Tasks)

Defra would like the project to start in June 2020 and last for ten months with a contract expiry date of 31st March 2021.

Key Performance Indicators (KPI's)

Metri c	KPI	What is required to make this measurable	KPI Measurement	KPI Rating		
Delivery	KPI 1 – Project Deadlines	Deliverables will be presented by the Contractor(s) to the Authority at the agreed date and quality as outlined in the deliverables.	Quality deliverables are presented to the Authority on the day and or time (if appropriate) that has been agreed by both parties. The Authority's project officer deems the deliverable to be of sufficient quality.	Deliverables sent to the Authority greater than 5 (five) working days after the agreed deadline.	Deliverables sent to the Authority greater than 1 (one) working day after the agreed deadline, or less than one day but later than the agreed time if a restricted timescale.	Meets expectations - All deliverables sent to the Authority on time
Contract Management	KPI 2 – Invoices	Invoices to be received within three (3) working days of the end of each month. Invoices and associated deliverables should be clearly linked. Note partial payment for milestones is not permissible: only completed milestones and	Invoices quote the correct PO, Contract number, the Authority Contact, and qualitative description of the work being done. Invoices must be clearly itemised: specific milestones and deliverables should be explicitly listed.	Invoices received by the Authority which contains inaccuracies and/or greater than 10 (ten) working days after the agreed deadline.	Invoices received by the Authority greater than 5 (five) working days after the end of the month, and/or contains some inaccuracies.	Meets expectations - All invoices received by the Authority on time and accurately reflect agreed work

		deliverables are chargeable.	Associated reports should be clearly and explicitly linked to invoices to help financial tracking.			
Quality of Service	KPI 3 – Quality of Deliverable :Error Free	Deliverables are accurate and free of errors.	Deliverables reviewed by the Authority for accuracy.	A significant error is identified that results in published documents or National Statistics being amended by Defra. Or an error is identified that results in Government incurring financial damages or significant reputational harm.	An error is identified that does not result in published documents or National Statistics being amended	Meets Expectations – No errors within deliverables
Contract Management	KPI 4 – Annual risk Assessment	High quality, detailed and up to date project risk assessments in place.	Initial submission 1 month from commencement and kept up to date throughout the project. Evidence should be provided that risks are proactively managed.	Risk Assessment is not kept up to date and known risks are not communicated on the Risk Assessment	Risk Assessment is kept up to date but communication on the Risk Assessment is incomplete	Risk assessment is kept up to date and remains appropriate for use

Quality of Service	KPI 5 – Quality of Deliverable : Model QA	A credible QA development plan is in place with time bound deliverables to implement Defra Quality Assurance Guidelines for Models. QA logs are implemented and accurately maintained for all models.	A credible and time bound plan to implement Defra QA Guidelines for Models is in place and adhered to. The guidelines are implemented within the lifetime of the Contract. QA logs are accurately maintained and annually updated.	Lack of a model QA development plan, a significant inaccuracy in the QA log or significant failure to maintain the model at the required standard, failure to implement the Defra QA Standards for Models within the lifetime of the project	Lack of a model QA development plan, a significant inaccuracy in the QA log or a failure to maintain the model to the required standard	Meets expectations
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SCHEDULE 2 - PRICING

1. The Customer, will pay to the Contractor no more than the fixed sum of **£112,847** (exclusive of VAT)

The maximum value of this contract will be no more than **£112,847** across FY20/21 and FY21/22 with an option to extend for 6 months

Year	Amount
2020/2021	£109,907
2021/2022	£2,940
Total	£112,847

2. Subject to any variation of the Project, the amount in paragraph 1, above, shall remain firm throughout the duration of the Agreement.
3. In the event that the Agreement is varied, the amount in paragraph 1 shall be adjusted by such reasonable sum as may be agreed, in writing, between the Customer and the Contractor.
4. Invoices should be submitted upon satisfactory completion of the milestones stated in the table above
5. Within 30 days of receiving an invoice satisfactory to the Customer, the Customer shall pay to the Contractor the amount of the Eligible Costs which the Customer reasonably consider to have been properly incurred by the Contractor in the carrying out of the Project during the relevant period.

SCHEDULE 3 - CHANGE CONTROL

Contract Change Note ("CCN")

CCN Number	
Contract Reference Number & Title	
Variation Title	
Number of Pages	

WHEREAS the Contractor and the Authority entered into a Contract for the supply of [project name] dated [dd/mm/yyyy] (the "Original Contract") and now wish to amend the Original Contract

IT IS AGREED as follows

1. The Original Contract shall be amended as set out in this Change Control Notice:

Change Requestor / Originator		
Summary of Change		
Reason for Change		
Revised Contract Price	Original Contract Value	£
	Previous Contract Changes	£
	Contract Change Note [x]	£
	New Contract Value	£
Revised Payment Schedule		
Revised Specification (See Annex [x] for Details)		
Revised Contract Period		
Change in Contract Manager(s)		
Other Changes		

2. Save as amended all other terms of the Original Contract shall remain effective.
3. This CCN takes effect from the date on which both Parties communicate acceptance of its terms via Bravo.

SCHEDULE 4 - COMMERCIALLY SENSITIVE INFORMATION

- 1.1 Without prejudice to the Authority's general obligation of confidentiality, the Parties acknowledge that the Authority may have to disclose Information in or relating to the Contract following a Request for Information pursuant to clause E5 (Freedom of Information).
- 1.2 In this Schedule the Parties have sought to identify the Contractor's Confidential Information that is genuinely commercially sensitive and the disclosure of which would be contrary to the public interest.
- 1.3 Where possible the Parties have sought to identify when any relevant Information will cease to fall into the category of Information to which this Schedule applies.
- 1.4 Without prejudice to the Authority's obligation to disclose Information in accordance with the FOIA and the EIR, the Authority will, acting reasonably but in its sole discretion, seek to apply the commercial interests exemption set out in s.43 of the FOIA to the Information listed below.

CONTRACTOR'S COMMERCIALLY SENSITIVE INFORMATION	DATE	DURATION OF CONFIDENTIALITY
[REDACTED]	[REDACTED]	[REDACTED]
[REDACTED]	[REDACTED]	[REDACTED]

SCHEDULE 5 - PROCESSING, PERSONAL DATA AND DATA SUBJECTS

1. This Schedule shall be completed by the Authority, who may take account of the view of the Contractor, however the final decision as to the content of this Schedule shall be with the Authority at its absolute discretion.
2. The contact details of the Authority Data Protection Officer are:



3. The contact details of the Contractor Data Protection Officer are:



Email: [Redacted]

4. The Contractor shall comply with any further written instructions with respect to processing by the Authority.
5. Any such further instructions shall be incorporated into this Schedule.

Data Processing descriptor	Narrative
Identity of the Controller and Processor	The Parties acknowledge that for the purposes of the Data Protection Legislation, the Authority is the Controller and the Contractor is the Processor in accordance with Clause E2. 1.
Subject matter of the processing	Processing of data may be required should the Authority call-off a task which involves members of the public, e.g. social survey, noise level monitoring, nuisance complaint analysis.
Duration of the processing	If required, at any point during the contract.

Nature and purposes of the processing	Collection and processing of social survey data relating to noise and/or statutory nuisance and/or light pollution and areas of synergy and/or monitoring exposure from those areas.
Type of Personal Data	Name, address, date of birth, telephone number, images of dwelling, self-reported health.
Categories of Data Subject	Members of the public, environmental health practitioners/officers.
Plan for return and destruction of the data once the processing is complete UNLESS requirement under union or member state law to preserve that type of data	Data will be retained for duration of task and then destroyed. Anonymised data will be retained by the Authority.

SCHEDULE 6 - NON DISCLOSURE AGREEMENT

THIS NON DISCLOSURE AGREEMENT is made the **1st day of October 2020** (the "Commencement Date")

BETWEEN:

Cranfield University registered in England and Wales under (RC000151) whose registered office is situated at [REDACTED] (the "Contractor");

and

[REDACTED] (the "Disclosee").

(each a "Party" and together the "Parties").

WHEREAS:

- (a) The Contractor has contracted with the Secretary of State for Environment, Food and Rural Affairs (the "Authority") to provide services to the Authority in an agreement dated [insert date] (the "Contract").
- (b) The Contract places an obligation of confidentiality on the Contractor. The Disclosee is an [insert employee, professional advisor or consultant] of the Contractor engaged in the provision of services to the Authority in support of or in connection with the services to be provided by the Contractor under the Contract.
- (c) The Disclosee may therefore, have communicated to it, certain Confidential Information belonging to the Authority which is proprietary and must be held in confidence. Accordingly, the Contract requires the Contractor to ensure that the Disclosee enters into a non-disclosure agreement with the Contractor on the terms set out herein.
- (d) Any Confidential Information disclosed by the Authority or the Contractor to the Disclosee, whether contained in original or copy documents, will at all times remain the property of the Authority together with all notes, memoranda and drawings that have been made as a result of access to such Confidential Information.

NOW IT IS AGREED as follows:

Definition and Interpretation

1. In this Agreement:

- a) "Confidential Information" means: any information which has been designated as confidential by the Authority in writing or that ought to be considered as confidential (however it is conveyed or on whatever media it is stored) whether commercial, financial, technical or otherwise including (without limitation) information belonging to or in respect of the Authority which relates to research, development, trade secrets, formulae, processes, designs, specifications, the Authority data, internal management, information technology and infrastructure and requirements, price lists and lists of, and information about, customers and employees, all materials and information belonging to third parties in respect of which the Disclosee owes obligations of confidence; information the disclosure of which would, or would be likely to, prejudice the commercial interests of any person, intellectual property rights or know-how of the Authority and all personal data within the meaning of the General Data Protection Regulation (Regulation (EU) 2016/679), whether or not that information is marked or designated as confidential or proprietary; whether arising prior to, on or after the Commencement Date;
- b) "Law" means any applicable Act of Parliament, subordinate legislation within the meaning of Section 21(1) of the Interpretation Act 1978, exercise of the royal prerogative, enforceable community right within the meaning of Section 2 of the European Communities Act 1972, regulatory policy, guidance or industry code, judgment of a relevant court of law,

or directives or requirements of any regulatory body of which the Contractor is bound to comply.

2. In construing this Agreement the general words introduced or followed by the word include(s) or including or in particular shall not be given a restrictive meaning because they are followed or preceded (as the case may be) by particular examples intended to fall within the meaning of the general words.
3. Unless the context requires otherwise, the singular shall include the plural and vice versa, and the masculine shall include the feminine and vice versa.
4. Reference to any legislative and statutory requirement or similar instrument shall be deemed to include reference to any subsequent amendment to them.
5. References to any person shall, as the context may require, be construed as a reference to any individual, firm, company, corporation, government department, agency, or any association or partnership (whether or not having a separate legal personality).

CONFIDENTIALITY

6. The Disclosee undertakes to: keep confidential all Confidential Information and safeguard it accordingly; and that any Confidential Information supplied will not be used by it for any purpose other than in connection with the Contractor's delivery of the services under the Contract without the prior written permission of the Authority.
7. The Disclosee will take all necessary precautions to ensure that the Confidential Information is held in confidence and will provide proper and secure storage for all information and any papers, drawings or other materials which relate to or are compiled from such information.
8. The Disclosee shall, with respect to any Confidential Information it receives directly from or on behalf of the Authority or from the Contractor, comply, with all instructions and/or guidelines produced and supplied by or on behalf of the Authority from time to time for the handling and storage of Confidential Information, generally or for specific items.
9. The Disclosee will not disclose any Confidential Information or any part thereof to any third party.
10. Where the Disclosee is an employee, breach of the obligations set out herein in this Agreement shall be a cause of disciplinary proceedings, and the Contractor shall institute and enforce such disciplinary proceedings as against the Disclosee in relation to such breach.
11. Where the Disclosee is a professional advisor or consultant, breach of the obligation set out herein shall entitle the Contractor to terminate the contract of engagement with the Disclosee immediately, and the Contractor shall enforce such right of termination as against the Disclosee in relation to such breach.
12. All Confidential Information in tangible form received hereunder together with all copies thereof shall be destroyed or returned immediately to the Contractor or where so required by the Authority and notified to the Disclosee, to the Authority, upon request or upon completion of the task for the purposes of which such Confidential Information was released.
13. The Confidential Information will not be used by the Disclosee for any purpose or in any way other than under this Agreement.
14. The following circumstances shall not constitute a breach of the obligations of confidentiality contained in this Agreement:
 - 14.1 Disclosure of Confidential Information by the Disclosee when required to do so by Law or pursuant to the rules or any order having the force of Law of any court, of competent jurisdiction;

- 14.2 Disclosure of Confidential Information by the Disclosee where and to the extent that the Confidential Information has, except as a result of breach of confidentiality, become publicly available or generally known to the public at the time of such disclosure;
- 14.3 Disclosure of Confidential Information by the Disclosee where and to the extent that the Confidential Information is already lawfully in the possession of a recipient or lawfully known to it prior to such disclosure;
- 14.4 Possession of Confidential Information by the Disclosee where it has been acquired from a third party who is not in breach of any obligation of confidence in providing that Confidential Information;

provided that, in no event shall information relating to the affairs of any identifiable person be disclosed or released from the obligations herein without the prior written consent of the Authority.

- 15. The Disclosee shall: notify the Contractor and the Authority promptly of the date and circumstances of the loss or unauthorised disclosure, if any, of the Confidential Information or any part of the Confidential Information and in addition, the action being taken to rectify that loss or unauthorised disclosure.
- 16. The obligations contained in this Agreement shall continue until notified in writing by the Authority or the Confidential Information becomes public knowledge (other than by breach of the terms of this Agreement).
- 17. No licence of any intellectual property rights (including but not limited to patent rights, copyrights, trademarks and rights in proprietary information and/or know-how and whether registrable or unregistrable) is granted hereby, beyond that necessary to enable use of the Confidential Information for the purpose for which the Confidential Information was released.
- 18. Nothing in this Agreement shall be construed as compelling any of the Parties to disclose any Confidential Information or to enter into any further contractual relationship with any other party.
- 19. No representation or warranties are given regarding the accuracy, completeness or freedom from defects of the Confidential Information or with respect to infringement of any rights including intellectual property rights of others.
- 20. Without affecting any other rights or remedies that the other Parties may have, the Disclosee acknowledges and agrees that damages alone would not be an adequate remedy for any breach of any of the provisions of this Agreement.

GENERAL

- 21. No failure or delay by any Party to this Agreement in exercising any of its rights hereunder shall operate as a waiver of such rights, nor shall any single or partial exercise preclude any further exercise of such rights. Any waiver by a Party of any breach or non-compliance with any term of this Agreement shall not constitute a waiver of any subsequent breach of non-compliance with the same or any other term of this Agreement.
- 22. No Party may assign this Agreement or any of its rights and obligations hereunder without the prior written consent of the Authority.
- 23. Any notice under this Agreement shall be in writing and shall be delivered by post, fax or e-mail to the address of the Party in question set out at the beginning of this Agreement or such other address (or e-mail address or fax number) as the Parties may notify one another from time to time.
- 24. No term of this Agreement shall be enforceable, by virtue of the Contracts (Rights of Third Parties) Act 1999, by any person who is not a party to this Agreement other than the Authority. The Parties shall only with the prior written consent of the Authority be entitled to vary any of the provisions of this Agreement without notifying or seeking the consent of any third party and the rights conferred by section 2 of the Contracts (Rights of Third Parties) Act 1999 are excluded.

25. This Agreement shall be governed by and shall be interpreted in accordance with the laws of England.
26. The courts of England have exclusive jurisdiction to settle any disputes which may arise out of or in connection with this Agreement and accordingly that any proceedings, suit or action arising out of or in connection therewith shall be brought in such courts.

This Agreement has been entered into on the date first written above.

SIGNED by the authorised signatory for and on behalf of the Contractor:

SIGNED by the Disclosee:

SCHEDULE 7 - CONTRACTOR AND THIRD PARTY SOFTWARE

CONTRACTOR SOFTWARE

For the purposes of this Schedule 7, “**Contractor Software**” means software which is proprietary to the Contractor, including software which is or will be used by the Contractor for the purposes of providing the Services. The Contractor Software comprises the following items:

Software	Supplier (if Affiliate of the Contractor)	Purpose	No. of Licences	Restrictions	No. of copies	Other	To be deposited in escrow?
██████		LCA of agriculture					N
██████		Analysis of land use					N
██████		Soils database					N

THIRD PARTY SOFTWARE

For the purposes of this Schedule 7, “**Third Party Software**” means software which is proprietary to any third party which is or will be used by the Contractor for the purposes of providing the Services including the software specified in this Schedule 7. The Third Party Software shall consist of the following items:

Third Party Software	Supplier	Purpose	No. of Licences	Restrictions	No. of copies	Other	To be deposited in escrow?
██████	██████	LCA data	1	Raw data should not be passed to others	1		N

