



University House
University of Warwick,
Coventry.
CV4 8UW

Your Reference:
702930451

Our Reference: 702930451

Date: 16th March 2022

FAO **[REDACTED]**

Dear Sir/Madam,

Invitation To: Participate in an Innovative Partnership Reference Number: 702930451 - In-Silico Modelling of medical counter-measures for chlorine and phosgene lung injury.

1. You are invited to tender for In-Silico Modelling in competition in accordance with the attached documentation.
2. The anticipated date for the contract award decision is 31st March 2022, please note that this is an indicative date and may change.
3. You must submit your Tender no later than 23-MAR-2022. You must attach the enclosed Tender Return Label (DEFFORM 28) to the outer packaging of your Tender when you submit it to the Authority.
4. Please confirm receipt of this tender to **[REDACTED]** stated in the E-mail address **[REDACTED]**.

Yours faithfully

[REDACTED]

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Terms and Conditions

Standardised Contracting Terms

(Edn 02/22) 1

Definitions – In the Contract:

The Authority means the Secretary of State for Defence of the United Kingdom of Great Britain and Northern Ireland, (referred to in this document as "the Authority"), acting as part of the Crown;

Business Day means 09:00 to 17:00 Monday to Friday, excluding public and statutory holidays;

Control means the power of a person to secure that the affairs of the Contractor (or Subcontractor) are conducted in accordance with the wishes of that person by the means of holding shares, or possession of voting powers in, or in relation to the Contractor; or by virtue of any powers conferred by the constitutional or corporate documents, or by any other document regulating the Contractor (or Subcontractor, as the case may be); and a change of Control occurs if a person who Controls the Contractor ceases to do so or if another person acquires Control of the Contractor;

Contract means the agreement concluded between the Authority and the Contractor, including all terms and conditions, , specifications, plans, drawings, schedules and other documentation, expressly made part of the agreement in accordance with Clause 2.b;

Contract Price means the amount set out in Schedule 2 (Schedule of Requirements) to be paid (inclusive of Packaging and exclusive of any applicable VAT) by the Authority to the Contractor, for the full and proper performance by the Contractor of its obligations under the Contract;

Contractor means the person, firm or company specified as such in the Contract. Where the Contractor is an individual or a partnership, the expression shall include the personal representatives of the individual or of the partners, as the case may be;

Contractor Deliverables means the goods and / or services including packaging (and supplied in accordance with any QA requirements if specified) which the Contractor is required to provide under the Contract in accordance with the schedule of requirements.

Effective Date of Contract means the date stated on the Contract or, if there is no such date stated, the date upon which both Parties have signed the Contract;

Firm Price means a price excluding Value Added Tax (VAT) which is not subject to variation;

Government Furnished Assets (GFA) is a generic term for any MOD asset such as equipment, information or resources issued or made available to the Contractor in connection with the Contract by or on behalf of the Authority;

Hazardous Contractor Deliverable means a Contractor Deliverable or a component of a Contractor Deliverable that is itself a hazardous material or substance or that may in the course of its use, maintenance, disposal, or in the event of an accident, release one or more hazardous materials or substances and each material or substance that may be so released;

Issued Property means any item of Government Furnished Assets (GFA), including any materiel issued or otherwise furnished to the Contractor in connection with the Contract by or on behalf of the Authority;

Legislation means in relation to the United Kingdom any Act of Parliament, any subordinate legislation within the meaning of section 21 of the Interpretation Act 1978, any exercise of Royal Prerogative or any enforceable community right within the meaning of Section 2 of the European Communities Act 1972;

Notices means all notices, orders, or other forms of communication required to be given in writing under or in connection with the Contract;

Parties means the Contractor and the Authority, and Party shall be construed accordingly;

Sensitive Information means the information listed as such in Schedule 4 (Contractor's Sensitive Information), being information notified by the Contractor to the Authority, which is acknowledged by the Authority as being sensitive, at the point which this Contract is entered into or amended (as relevant) and remains sensitive information at the time of publication;

Subcontractor means any subcontractor engaged by the Contractor or by any other subcontractor of the Contractor at any level of subcontracting to provide Contractor Deliverables wholly or substantially for the purpose of performing (or contributing to the performance of) the whole or any part of this Contract and 'Subcontract' shall be interpreted accordingly

Transparency Information means the content of this Contract in its entirety, including from time to time agreed changes to the Contract, except for (i) any information which is exempt from disclosure in accordance with the provisions of the Freedom of Information Act 2000 (FOIA) or the Environmental Information Regulations Act 2004 (EIR), which shall be determined by the Authority, and (ii) any Sensitive Information; and

Quality Assurance Requirements means those requirements specified in Schedule 3 – Contract Data Sheet.

2 General

- a. The Contractor shall comply with all applicable Legislation, whether specifically referenced in this Contract or not
- b. If there is any inconsistency between these terms and conditions and the associated documents expressly referred to therein, the conflict shall be resolved according to the following descending order of priority:
 - (1) the terms and conditions;
 - (2) the schedules; and
 - (3) the documents expressly referred to in the agreement.
- c. Neither Party shall be entitled to assign the Contract (or any part thereof) without the prior written consent of the other Party.
- d. Failure or delay by either Party in enforcing or partially enforcing any provision of the Contract shall not be construed as a waiver of its rights or remedies. No waiver in respect of any right or remedy shall operate as a waiver in respect of any other right or remedy.
- e. The Parties to the Contract do not intend that any term of the Contract shall be enforceable by virtue of the Contracts (Rights of Third Parties) Act 1999 by any person that is not a Party to it.
- f. The Contract and any non-contractual obligations arising out of or in connection with it shall be governed by and construed in accordance with English Law, and subject to Clause 15 and without

prejudice to the dispute resolution procedure set out therein, the Parties submit to the exclusive jurisdiction of the English courts. Other jurisdictions may apply solely for the purpose of giving effect to this Clause 2.f and for enforcement of any judgement, order or award given under English jurisdiction.

- g. This Contract comes into effect on the Effective Date of Contract and will expire automatically on the date identified in Schedule 3 (Contract Data Sheet) unless it is otherwise terminated in accordance with the provisions of the Contract, or otherwise lawfully terminated.
- h. This Contract constitutes the entire agreement between the Parties relating to the subject matter of the Contract. The Contract supersedes, and neither Party has relied upon, any prior negotiations, representations and undertakings, whether written or oral, except that this condition shall not exclude liability in respect of any fraudulent misrepresentation.
- i. In addition to any other rights and remedies, the Authority shall have the right to terminate the Contract (in whole or in part) with immediate effect by giving written notice to the Contractor where the Contractor is in material breach of its obligations under the Contract. Where the Authority has terminated the Contract under Clause 2.i the Authority shall have the right to claim such damages as may have been sustained as a result of the Contractor's material breach of the Contract.
- j. The Authority shall have the right to terminate the contract if the Contractor is declared bankrupt or goes into liquidation or administration. This is without prejudice to any other rights or remedies under this Contract.

3 Severability

- a. If any provision of the Contract is held to be invalid, illegal or unenforceable to any extent then:
 - (1) such provision shall (to the extent that it is invalid, illegal or unenforceable) be given no effect and shall be deemed not to be included in the Contract but without invalidating any of the remaining provisions of the Contract; and
 - (2) the Parties shall use all reasonable endeavours to replace the invalid, illegal or unenforceable provision by a valid, legal and enforceable substitute provision the effect of which is as close as possible to the intended effect of the invalid, illegal or unenforceable provision.

4 Transparency

- a. Notwithstanding any other Condition of this Contract, including Clause 5, the Contractor understands that the Authority may publish the Transparency Information to the general public.
- b. Subject to Clause 5.c, the Authority shall publish and maintain an up-to-date version of the Transparency Information in a format readily accessible and reusable by the general public under an open licence where applicable.
- c. If, in the Authority's reasonable opinion, publication of any element of the Transparency Information would be contrary to the public interest, the Authority shall be entitled to exclude such information from publication. The Authority acknowledges that it would expect the public interest by default to be best served by publication of the Transparency Information in its entirety. Accordingly, the Authority acknowledges that it shall only exclude Transparency Information from publication in exceptional circumstances and agrees that where it decides to exclude information from publication on that basis, it will provide a clear statement

to the general public explaining the categories of information that have been excluded from publication and reasons for withholding that information.

d. The Contractor shall assist and cooperate with the Authority as reasonably required to enable the Authority to publish the Transparency Information, in accordance with the principles set out above. Where the Authority publishes Transparency Information, it shall:

- (1) before publishing redact any information that would be exempt from disclosure if it was the subject of a request for information under the FOIA or the EIR, including the Sensitive Information;
- (2) taking into account the Sensitive Information set out in Schedule 4, consult with the Contractor where the Authority intends to publish information which has been identified as Sensitive Information. For the avoidance of doubt the Authority, acting reasonably, shall have absolute discretion to decide what information shall be published or be exempt from disclosure in accordance with the FOIA and/or the EIR; and
- (3) present information in a format that assists the general public in understanding the relevance and completeness of the information being published to ensure the public obtain a fair view on how this Contract is being performed.

5 Disclosure of Information

a. Information received or in connection with the Contract shall be managed in accordance with DEFCON 531 (ISC) and Clause 4.

6 Publicity and Communications with the Media

a. The Contractor shall not, and shall ensure that any employee or Subcontractor shall not communicate with representatives of the press, television, radio or other media on any matter concerning the Contract unless the Authority has given its prior written consent.

7 Notices

a. A Notice served under the Contract shall be:

- (1) in writing in the English Language;
- (2) authenticated by signature or such other method as may be agreed between the Parties;
- (3) sent for the attention of the other Party's representative, and to the address set out in the Contract;
- (4) marked with the number of the Contract; and
- (5) delivered by hand, prepaid post (or airmail), facsimile transmission or, if agreed in the Contract, by electronic mail.

b. Notices shall be deemed to have been received:

- (1) if delivered by hand, on the day of delivery if it is the recipient's Business Day in the place of receipt, and otherwise on the first Business Day of the recipient immediately following the day of delivery;

- (2) if sent by prepaid post, on the fourth Business Day (or the tenth Business Day in the case of airmail) after the day of posting;
- (3) if sent by facsimile or electronic means:
 - (a) if transmitted between 09:00 and 17:00 hours on a Business Day (recipient's time) on completion of receipt by the sender of verification of the transmission from the receiving instrument; or
 - (b) if transmitted at any other time, at 09:00 on the first Business Day (recipient's time) following the completion of receipt by the sender of verification of transmission from the receiving instrument.

8 Change of Control of Contractor

a. The Contractor shall notify the Representative of the Authority at the address given in Clause 8.b, as soon as practicable, in writing of any intended, planned or actual change in control of the Contractor, including any Sub-contractors. The Contractor shall not be required to submit any notice which is unlawful or is in breach of either any pre-existing non-disclosure agreement or any regulations governing the conduct of the Contractor in the UK or other jurisdictions where the Contractor may be subject to legal sanction arising from issuing such a notice.

b. Each notice of change of control shall be taken to apply to all contracts with the Authority. Notices shall be submitted to:

Mergers & Acquisitions Section
Strategic Supplier Management Team
Spruce 3b #1301
MOD Abbey Wood,
Bristol, BS34 8JH

and emailed to: [\[REDACTED\]](#)

The Representative of the Authority shall consider the notice of change of control and advise the Contractor in writing of any concerns the Authority may have. Such concerns may include but are not limited to potential threats to national security, the ability of the Authority to comply with its statutory obligations or matters covered by the declarations made by the Contractor prior to Effective day of Contract.

c. The Authority may terminate the Contract by giving written notice to the Contractor within six months of the Authority being notified in accordance with Clause 8.a. The Authority shall act reasonably in exercising its right of termination under this condition.

d. If the Authority exercises its right to terminate in accordance with Clause 8.c the Contractor shall be entitled to request the Authority to consider making a payment representing any commitments, liabilities or expenditure incurred by the Contractor in connection with the Contract up to the point of termination. Such commitments, liabilities or expenditure shall be reasonably and properly chargeable by the Contractor, and shall otherwise represent an unavoidable loss by the Contractor by reason of the termination of the Contract. Any payment under this Clause 8.d must be fully supported by documentary evidence. The decision whether to make such a payment shall be at the Authority's sole discretion.

e. Notification by the Contractor of any intended, planned or actual change of control shall not prejudice the existing rights of the Authority or the Contractor under the Contract nor create or imply any rights of either the Contractor or the Authority additional to the Authority's rights set out in this condition.

9 Progress Monitoring, Meetings and Reports

a. The Contractor shall attend progress meetings and deliver reports at the frequency or times (if any) specified in the Contract and shall ensure that its Contractor's representatives are suitably qualified to attend such meetings. Any additional meetings reasonably required shall be at no cost to the Authority.

10 Supply of Contractor Deliverables and Quality Assurance

a. The Contractor shall supply the Contractor Deliverables to the Authority at Contract Price. Unless otherwise stated in Schedule 3, the Contract Price shall be a Firm Price. b. The Contractor shall ensure that the Contractor Deliverables:

- (1) correspond with Schedule 2;
- (2) are of satisfactory quality (within the meaning of the Sale of Goods Act 1979, as amended) except that fitness for purpose shall be limited to the goods being fit for the particular purpose held out expressly by or made known expressly to the Contractor and in this respect the Authority relies on the Contractor's skill and judgement; and
- (3) comply with any applicable Quality Assurance Requirements specified in the Contract.

c. The Contractor shall apply for and obtain any licences required to import any material required for the performance of the Contract in the UK. The Authority shall provide to the Contractor reasonable assistance with regard to any relevant defence or security matter arising in the application for any such licence.

11 Delivery / Collection

a. The Contract shall specify whether the Contractor Deliverables are to be delivered to the consignee by the Contractor or collected from the consignor by the Authority.

b. Title and risk in the Contractor Deliverables shall pass from the Contractor to the Authority on delivery or on collection in accordance with Clause 11.a.

c. The Authority shall be deemed to have accepted the Contractor Deliverables within a reasonable time after title and risk has passed to the Authority unless it has rejected the Contractor Deliverables within the same period.

12 Third Party Intellectual Property

a. Claims, liabilities and indemnities in respect of infringements or alleged infringements of Third Party Intellectual Property Rights shall be handled in accordance with the provisions of DEFCON 632 (Edn 06/21).

b. Notwithstanding any other provisions of the Contract and for the avoidance of doubt, award of the Contract by the Authority and placement of any contract task under it does not constitute an authorisation by the Crown under Sections 55 and 56 of the Patents Act 1977 or Section 12 of the Registered Designs Act 1949. The Contractor acknowledges that any such authorisation by the Authority under its statutory powers must be expressly provided in writing, with reference to the acts authorised and the specific intellectual property involved.

13 Payment

- a. Payment for Contractor Deliverables will be made by electronic transfer and prior to submitting any claims for payment under Clause 13.b the Contractor will be required to register their details (Supplier onboarding) on the Contracting, Purchasing and Finance (CP&F) electronic procurement tool.
- b. Where the Contractor submits an invoice to the Authority in accordance with Clause 13.a, the Authority will consider and verify that invoice in a timely fashion.
- c. The Authority shall pay the Contractor any sums due under such an invoice no later than a period of 30 days from the date on which the Authority has determined that the invoice is valid and undisputed.
- d. Where the Authority fails to comply with Clause 13.b and there is undue delay in considering and verifying the invoice, the invoice shall be regarded as valid and undisputed for the purpose of Clause 13.c after a reasonable time has passed.
- e. The approval for payment of a valid and undisputed invoice by the Authority shall not be construed as acceptance by the Authority of the performance of the Contractor's obligations nor as a waiver of its rights and remedies under this Contract.
- f. Without prejudice to any other right or remedy, the Authority reserves the right to set off any amount owing at any time from the Contractor to the Authority against any amount payable by the Authority to the Contractor under the Contract or under any other contract with the Authority, or with any other Government Department.

14 Subcontracting and Prompt Payment

- a. Subcontracting any part of the Contract shall not relieve the Contractor of any of the Contractor's obligations, duties or liabilities under the Contract.
- b. Where the Contractor enters into a Subcontract he shall cause a term to be included in such Subcontract:
 - (1) providing that where the Subcontractor submits an invoice to the Contractor, the Contractor will consider and verify that invoice in a timely fashion;
 - (2) providing that the Contractor shall pay the Subcontractor any sums due under such an invoice no later than a period of thirty (30) days from the date on which the Contractor has determined that the invoice is valid and undisputed;
 - (3) providing that where the Contractor fails to comply with Clause 14.b(1) above, and there is an undue delay in considering and verifying the invoice, that the invoice shall be regarded as valid and undisputed for the purposes of Clause 14.b(2) after a reasonable time has passed; and
 - (4) requiring the counterparty to that Subcontract to include in any Subcontract which it awards, provisions having the same effect as Clauses 14.b(1) to 14.b(4).

15 Dispute Resolution

- a. The Parties will attempt in good faith to resolve any dispute or claim arising out of or relating to the Contract through negotiations between the respective representatives of the Parties having authority to settle the matter, which attempts may include the use of any alternative dispute resolution procedure on which the Parties may agree.

- b. In the event that the dispute or claim is not resolved pursuant to Clause 15.a the dispute shall be referred to arbitration and shall be governed by the Arbitration Act 1996. For the purposes of the arbitration, the arbitrator shall have the power to make provisional awards pursuant to Section 39 of the Arbitration Act 1996.
- c. For the avoidance of doubt it is agreed between the Parties that the arbitration process and anything said, done or produced in or in relation to the arbitration process (including any awards) shall be confidential as between the Parties, except as may be lawfully required in judicial proceedings related to the arbitration or otherwise. No report relating to the same shall be made beyond the tribunal, the Parties, their legal representative and any person necessary to the conduct of the arbitration, without the concurrence of all the Parties to the arbitration.

16 Termination for Corrupt Gifts

The Authority may terminate the Contract with immediate effect, without compensation, by giving written notice to the Contractor at any time after any of the following events:

- a. where the Authority becomes aware that the Contractor, its employees, agents or any sub-contractor (or anyone acting on its behalf or any of its or their employees):
- (1) has offered, promised or given to any Crown servant any gift or financial or other advantage of any kind as an inducement or reward;
 - (2) commits or has committed any prohibited act or any offence under the Bribery Act 2010 with or without the knowledge or authority of the Contractor in relation to this Contract or any other contract with the Crown;
 - (3) has entered into this or any other contract with the Crown in connection with which commission has been paid or has been agreed to be paid by it or on its behalf, or to its knowledge, unless before the contract is made particulars of any such commission and of the terms and conditions of any such agreement for the payment thereof have been disclosed in writing to the Authority.
- b. In exercising its rights or remedies to terminate the Contract under Clause 16.a. the Authority shall:
- (1) act in a reasonable and proportionate manner having regard to such matters as the gravity of, and the identity of the person committing the prohibited act;
 - (2) give due consideration, where appropriate, to action other than termination of the Contract, including (without being limited to):
 - (a) requiring the Contractor to procure the termination of a subcontract where the prohibited act is that of a Subcontractor or anyone acting on its or their behalf;
 - (b) requiring the Contractor to procure the dismissal of an employee (whether its own or that of a Subcontractor or anyone acting on its behalf) where the prohibited act is that of such employee.
- c. Where the Contract has been terminated under Clause 16.a. the Authority shall be entitled to purchase substitute Contractor Deliverables from elsewhere and recover from the Contractor any costs and expenses incurred by the Authority in obtaining the Contractor Deliverables in substitution from another supplier.

17 Termination for Convenience

- a. The Authority shall have the right to terminate the Contract in whole or in part at any time by giving the Contractor at least 20 (twenty) business days written notice (or such other period as may be stated Schedule 3 – Contract Data Sheet).
- b. Subject to Clause 17.d, the Authority shall indemnify the Contractor against any commitments, liabilities or expenditure which would otherwise represent an unavoidable loss by the Contractor, subject to:
- (1) the Contractor taking all reasonable steps to mitigate such loss; and
 - (2) the Contractor submitting a fully itemised and costed list of such loss, with supporting evidence, reasonably and actually incurred by the Contractor as a result of the termination of the Contract or relevant part thereof.
- c. The Contractor shall include in any sub-contract over [REDACTED] which it may enter into for the purpose of the Contract the right to terminate the sub-contract under the terms of Clauses 17.a to 17.b except that:
- (1) the notice period for termination shall be as specified in the sub-contract, or if no period is specified 20 (twenty) business days; and
 - (2) the Contractor's right to terminate shall be restricted by including the following additional clause "Provided that this right is not exercised unless the main contract, or relevant part, has been terminated by the Secretary of State for Defence in accordance with the provisions of Clause 17".
- d. The Authority's total liability under the provisions of this Clause 17 shall be limited to the total price of the Contractor Deliverables payable under the Contract (or relevant part), including any sums paid, due or becoming due to the Contractor at the date of termination.

18 Contractor's Records

- a. The Contractor and its Subcontractors shall maintain all records specified in and connected with the Contract (expressly or otherwise) and make them available to the Authority when requested on reasonable notice.
- b. The Contractor and its Subcontractors shall also permit access to relevant records that relate to the contractual obligations to supply goods or services under the Contract, held by or controlled by them and reasonably required by the Comptroller and Auditor General, their staff and any appointed representative of the National Audit Office, and provide such explanations and information as reasonably necessary for the following purposes:
- (1) to enable the National Audit Office to carry out the Authority's statutory audits and to examine and/or certify the Authority's annual and interim report and accounts; and
 - (2) to enable the National Audit Office to carry out an examination pursuant to Part II of the National Audit Act 1983 of the economy, efficiency and effectiveness with which the Authority has used its resources.
- c. With regard to the records made available to the Authority under Clause 18.a, and subject to the provisions of Clause 5, the Contractor shall permit records to be examined and if necessary copied, by the Authority, or Representative of the Authority, as the Authority may require.

d. Unless the Contract specifies otherwise the records referred to in this Condition shall be retained for a period of at least 6 years from:

- (1) the end of the Contract term;
- (2) the termination of the Contract; or
- (3) the final payment, whichever occurs latest.

19 Goods Specific Conditions

a. Supply of Data for Hazardous Contractor Deliverables

(1) The Contractor shall establish if the Contractor Deliverables are, or contain, Dangerous Goods as defined in the Regulations set out in this Clause 19.a(1). Any that do shall be packaged for UK or worldwide shipment by all modes of transport in accordance with the following unless otherwise specified in the Contract.:

- (a) the Technical Instructions for the Safe Transport of Dangerous Goods by Air (ICAO), IATA Dangerous Goods Regulations;
- (b) the International Maritime Dangerous Goods (IMDG) Code;
- (c) the Regulations Concerning the International Carriage of Dangerous Goods by Rail (RID); and
- (d) the European Agreement Concerning the International Carriage of Dangerous Goods by Road (ADR).

(2) Certification markings, incorporating the UN logo, the package code and other prescribed information indicating that the package corresponds to the successfully designed type shall be marked on the packaging in accordance with the relevant regulation.

(3) As soon as possible and in any event within the period specified in the Contract (or if no such period is specified no later than one month prior to the delivery date), the Contractor shall provide to the Authority's representatives in the manner and format prescribed in the Contract:

- (a) confirmation as to whether or not to the best of its knowledge any of the Contractor Deliverables are Hazardous Contractor Deliverables; and
- (b) for each Hazardous Contractor Deliverable, a Safety Data Sheet containing the data set out at Clause 19.a(4) which shall be updated by the Contractor during the period of the Contract if it becomes aware of any new relevant data.

(4) Safety Data Sheets if required under Clause 19.a(3) shall be provided in accordance with the extant UK REACH Regulation and any additional information required by the Health and Safety at Work etc. Act 1974 and shall contain:

- (a) Information required by the extant Classification, Labelling and Packaging (GB CLP) Regulation or any replacement thereof; and
- (b) where the Hazardous Contractor Deliverable is, contains or embodies a radioactive substance as defined in the extant Ionising Radiation Regulations, details of the activity, substance and form (including any isotope); and
- (c) where the Hazardous Contractor Deliverable has magnetic properties, details of the magnetic flux density at a defined distance, for the condition in which it is packed.

- (5) The Contractor shall retain its own copies of the Safety Data Sheets provided to the Authority in accordance with Clause 19.a(4) for 4 years after the end of the Contract and shall make them available to the Authority's representatives on request.
- (6) Nothing in this Clause 19.a reduces or limits any statutory or legal obligation of the Authority or the Contractor.
- (7) Where delivery is made to the Defence Fulfilment Centre (DFC) and / or other Team Leidos location / building, the Contractor must comply with the Logistic Commodities and Services Transformation Supplier Manual.

b. Marking of Contractor Deliverables

- (1) Each Contractor Deliverable shall be marked in accordance with the requirements specified in Contract, or if no such requirement is specified, the Contractor shall mark each Contractor Deliverable clearly and indelibly in accordance with the requirements of the relevant DEF-STAN 05-132 as specified in the Contract.. In the absence of such requirements, the Contractor Deliverables shall be marked with the MOD stock reference, NATO Stock Number (NSN) or alternative reference number specified in Schedule 2.
- (2) Any marking method used shall not have a detrimental effect on the strength, serviceability or corrosion resistance of the Contractor Deliverables.
- (3) The marking shall include any serial numbers allocated to the Contractor Deliverable.
- (4) Where because of its size or nature it is not possible to mark a Contractor Deliverable with the required particulars, the required information should be included on the package or carton in which the Contractor Deliverable is packed, in accordance with Clause 19.c (Packaging and Labelling (excluding Contractor Deliverables containing Ammunition or Explosives)).

c. Packaging and Labelling of Contractor Deliverables (Excluding Contractor Deliverables Containing Ammunition or Explosives)

- (1) The Contractor shall pack or have packed the Contractor Deliverables in accordance with any requirements specified in the Contract and Def Stan 81-041 (Part 1 and Part 6).

20 Goods Specific Conditions

Not used.

Project Specific Conditions

21. LIMITATIONS ON LIABILITY

Definitions

21.1 In this Condition [1] the following words and expressions shall have the meanings given to them, except where the context requires a different meaning:

"Charges" means any of the charges for the provision of the Services, Contractor Deliverables and the performance of any of the Contractor's other obligations under this Contract, as determined in accordance with this Contract;

"Data Protection Legislation" means all applicable Law in force from time to time in the UK relating to the processing of personal data and privacy, including but not limited to:

(1) UK GDPR;

(2) DPA 2018; and

(3) the Privacy and Electronic Communications (EC Directive) Regulations 2003 (SI 2003/2426) as amended, each to the extent that it relates to the processing of personal data and privacy;

"Default" means any breach of the obligations of the relevant Party (including fundamental breach or breach of a fundamental term) or any other default, act, omission, negligence or statement of the relevant Party, its employees, servants, agents or sub-contractors in connection with or in relation to the subject matter of this Contract and in respect of which such Party is liable to the other. In no event shall a failure or delay in the delivery of an Authority responsibility or an activity to be carried out by the Authority or its representatives in accordance with the Contract be considered a Default;

'DPA 2018' means the Data Protection Act 2018;

"Law" means any applicable law, subordinate legislation within the meaning of section 21(1) of the Interpretation Act 1978, 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, delegated or subordinate legislation or notice of any regulatory body;

"Service Credits" means the amount that the Contractor shall credit or pay to the Authority in the event of a failure by the Contractor to meet the agreed Service Levels as set out/referred to in [cross refer to service credit regime in the contract];

"Term" means the period commencing on [the commencement date / the date on which this Contract is signed / the date on which this Contract takes effect] and ending [on the expiry of x years /on x date] or on earlier termination of this Contract.

'UK GDPR' means the General Data Protection Regulation (Regulation (EU) 2016/679) as retained in UK law by the EU (Withdrawal) Act 2018 and the Data Protection, Privacy and Electronic Communications (Amendments etc) (EU Exit) Regulations 2019;

Unlimited liabilities

21.2 Neither Party limits its liability for:

21.2.1 death or personal injury caused by its negligence, or that of its employees, agents or subcontractors (as applicable);

21.2.2 fraud or fraudulent misrepresentation by it or its employees;

21.2.3 breach of any obligation as to title implied by section 12 of the Sale of Goods Act 1979 or section 2 of the Supply of Goods and Services Act 1982; or

21.2.4 any liability to the extent it cannot be limited or excluded by law.

21.3 The financial caps on liability set out in Clauses 21.4 and 21.5 below shall not apply to the following:

21.3.1 for any indemnity given by the Contractor to the Authority under this Contract, including but not limited to:

21.3.2 NOT USED

21.3.3 the Contractor's indemnity in relation to TUPE at Schedule [(TUPE)];

21.3.2 for any indemnity given by the Authority to the Contractor under this Contract, including but not limited to:

21.3.2.1 NOT USED

21.3.2.2 NOT USED

21.3.3 NOT USED

21.3.4 to the extent it arises as a result of a Default by either Party, any fine or penalty incurred by the other Party pursuant to Law and any costs incurred by such other Party in defending any proceedings which result in such fine or penalty.

Financial limits

21.4 Subject to Clauses 21.2 and 21.3 and to the maximum extent permitted by Law:

21.4.1 [throughout the Term] the Contractor's total liability in respect of losses that are caused by Defaults of the Contractor shall in no event exceed:

21.4.1.2 in respect of DEFCON 514 [REDACTED] in aggregate;

21.4.1.3 in respect of Condition 12 [REDACTED] in aggregate.

21.4.2 without limiting Clause 21.4.1 and subject always to Clauses 21.2, 21.3 and 21.4.3, the Contractor's total liability throughout the Term in respect of all other liabilities (but excluding any Service Credits paid or payable in accordance with Schedule 9 Key Performance Indicators whether in contract, in tort (including negligence), arising under warranty, under statute or otherwise under or in connection with this Contract shall be [REDACTED] in aggregate.

21.4.3 on the exercise of any and, where more than one, each option period or agreed extension to the Term, the limitation of the Contractor's total liability (in aggregate) set out in Clauses 21.4.1 and 21.4.2 above shall be fully replenished such that on and from each such exercise or extension of the Term, the Authority shall be able to claim up to the full value of the limitation set out in Clauses 21.4.1 and 21.4.2 of this Contract.

21.5 Subject to Clauses 21.2, 21.4 and 21.6, and to the maximum extent permitted by Law the Authority's total liability (in aggregate) whether in contract, in tort (including negligence), under warranty, under statute or otherwise under or in connection with this Contract shall in respect of all liabilities (taken together) be limited to the Charges paid by the Authority in the relevant Contract Year in respect of any and all claims in that Contract Year.

21.6 Clause 21.5 shall not exclude or limit the Contractor's right under this Contract to claim for the Charges.

Consequential loss

21.7 Subject to Clauses 21.2, 21.3 and 21.8, neither Party shall be liable to the other Party or to any third party, whether in contract (including under any warranty), in tort (including negligence), under statute or otherwise for or in respect of:

21.7.1 indirect loss or damage;

21.7.2 special loss or damage;

21.7.3 consequential loss or damage;

21.7.4 loss of profits (whether direct or indirect);

21.7.5 loss of turnover (whether direct or indirect);

21.7.6 loss of business opportunities (whether direct or indirect); or

21.7.7 damage to goodwill (whether direct or indirect), even if that Party was aware of the possibility of such loss or damage to the other Party.

21.8 The provisions of Clause 21.7 shall not restrict the Authority's ability to recover any of the following losses incurred by the Authority to the extent that they arise as a result of a Default by the Contractor:

21.8.1 any additional operational and administrative costs and expenses arising from the Contractor's Default, including any costs paid or payable by the Authority:

21.8.1.1 to any third party;

21.8.1.2 for putting in place workarounds for the Contractor Deliverables and other deliverables that are reliant on the Contractor Deliverables; and

21.8.1.3 relating to time spent by or on behalf of the Authority in dealing with the consequences of the Default;

21.8.2 any or all wasted expenditure and losses incurred by the Authority arising from the Contractor's Default, including wasted management time;

21.8.3 the additional cost of procuring and maintaining in place transitional assistance and replacement deliverables for the remainder of the Term and any option period or agreed extension to the Term (including legal and other consultants' fees, re-procurement project costs, other expenses associated with such exercise and any increase in the fees for the replacement services over and above the Contract Price that would have been payable for the relevant Contractor Deliverables);

21.8.4 any losses arising in connection with the loss, destruction, corruption, inaccuracy or degradation of Authority data, or other data or software, including, to the extent the Authority data, other data or software can be recovered or reconstituted, the fees, costs and expenses of reconstituting such Authority data, data or software;

21.8.5 damage to the Authority's physical property and tangible assets, including damage under DEFCONs 76 (ISC) and 611 (ISC);

21.8.6 costs, expenses and charges arising from, or any damages, account of profits or other award made for, infringement of any third-party Intellectual Property Rights or breach of any obligations of confidence;

21.8.7 any additional costs incurred by the Authority in relation to the Authority's contracts with a third party (including any compensation or interest paid to a third party by the Authority) as a result of the Default (including the extension or replacement of such contracts);

21.8.8 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; or

21.8.9 any savings, discounts or price reductions during the Term and any option period or agreed extension to the Term committed to by the Contractor pursuant to this Contract.

Invalidity

21.9 If any limitation or provision contained or expressly referred to in this Condition [1] is held to be invalid under any Law, it will be deemed to be omitted to that extent, and if any Party becomes liable for loss or damage to which that limitation or provision applied, that liability will be subject to the remaining limitations and provisions set out in this Condition [1].

Third party claims or losses

21.10 Without prejudice to any other rights or remedies the Authority may have under this Contract (including but not limited to any indemnity claim under DEFCONs 91 and Condition 12 or at Law), the Authority shall be entitled to make a claim under this Contract against the Contractor in respect of any losses incurred by the Authority which arise out of a claim made against the Authority by a third party under any contract with that third party provided that such third party claim:

21.10.1 arises naturally and ordinarily as a result of the Contractor's failure to provide the Contractor Deliverables or failure to perform any of its obligations under this Contract; and

21.10.2 is a type of claim or loss that would have been recoverable under this Contract if the third party were a party to this Contract (whether as the Authority or the Contractor), such claim to be construed as direct losses for the purpose of this Contract.

No double recovery

21.11 Neither Party shall be entitled to employ such rights and remedies available to it so as to seek to recover more than once in respect of the same loss, but the Authority shall be entitled to use (singly or together) such rights and remedies available to the Authority so as to recover the full extent of any recoverable losses suffered or incurred, including any remedies the Authority may have against any guarantor.

22. Contractor Performance Measurement

22.1 The Contractor agrees to the delivery requirements for all Items listed in the Schedule of Requirements (Schedule 2) in accordance with the Key Performance Indicators (KPIs) at Schedule 9.

22.2. The KPIs found at Schedule 9, are jointly agreed between the Authority and the Contractor and are deemed to be objectives against which performance can be assessed. The agreed KPIs shall be applicable for the duration of the Contract, unless formally amended.

22.3. The Contractor's performance under the Contract shall be monitored by the Authority and measured at regular intervals. The Authority shall assess the Contractor's performance against

the KPIs in accordance with Schedule 8, as either having met or not met the performance target.

22.4. The Authority shall be responsible for measuring the KPIs and evaluating performance against all KPIs against the measures and criteria as detailed in Schedule 9.

22.5. To achieve a KPI the Contractor is required to meet or exceed the KPI Achievement Criteria by the provided delivery date and/or timescale, the requirements for which are detailed at Schedule 7.

22.6. If the Contractor's performance is below the required KPI threshold, the Authority can enforce the Consequence of Not Meeting KPI at Schedule 9.

22.7. Over and above Consequence of Not Meeting KPI the Authority can deem it necessary to seek guarantees of improvements from the Contractor and/or enforce remedies and retentions.

22.7.1. In the event the Contractor falls significantly below the target threshold, as shown in Schedule 8, for a KPI the Authority is entitled to enforce a retention percentage of a payment due to the Contractor.

22.7.2. The retention figure represents the diminished value of the service received in the event of a failure against a KPI(s).

22.7.3. The retention percentage shall represent a deduction of 2.5% against the Milestone payment(s) at Schedule 8, aligned to the KPI where the Contractor has not met the threshold.

22.7.4. Where multiple Milestone Payment lines apply to a KPI the retention percentage will be deducted against a cumulative value.

22.7.5. The Authority reserves the right to exempt the Contractor from retentions if the Contractor proposes remedies to the contract which are approved by the Authority in a Recovery Plan. Receiving approval for remedies will not automatically ensure a retention is not enforced. The decision to enforce a retention is held at the discretion of the Authority.

22.8. If remedies and retentions are not successful and the Contractor continues to not perform at the required KPI target thresholds the Authority retain the option terminate the Contract in accordance with Clause 17.

23. Research Standards

23.1 The Contractor is to adhere to all research standards that pertains to this research project as stated in the project proposal at Schedules 6 & 7 which clearly defines the boundaries that the Authority expects the Contractor to operate within.

23.2 In the event the Authority feels Research Standards are not in line with Schedule 6 the Authority reserves the right to exercise its rights under Clause 17.

24. Complaints Procedure

24.1 The Contractor shall operate an unambiguous written procedure for handling complaints from the Authority about the service provided under this contract.

24.2 All complaints made by the Authority to the Contractor shall be acknowledged in writing within 3 working days by the Contractor. The Contractor shall keep a full written record of the nature of each complaint and details of the action taken as a result of the complaint. The Contractor shall use all reasonable endeavors to ensure that all complaints are resolved within 15 days of the complaint being notified to the Contractor.

24.3 Should the nature of the complaint require additional investigation or action by a Professional and Regulatory Body, or other government organizations in which case the Contractor shall use all reasonable endeavors to ensure that the complaint is resolved as soon as possible thereafter. The details of how the complaint has been resolved is to be notified to the Authority in writing as soon as possible thereafter and the Contractor will, on request from the Authority at any time, provide the Authority with an update as to the progress of the resolution of the complaint.

25. Contract Risk Management

25.1 Both Parties shall pro-actively manage risks attributed to them under the terms of this Contract.

25.2 The Contractor shall develop, operate, maintain and amend, as agreed with the Authority, processes for:

25.2.1 the identification and management of risks;

25.2.2 the identification and management of issues; and

25.2.3 monitoring and controlling project plans.

25.3 The Contractor allows the Authority to inspect at any time within working hours the accounts and records which the Contractor is required to keep.

25.4 The Contractor will maintain a risk register of the risks relating to the Contract which the Authority and the Contractor have identified.

Project Specific DEFCONs

DEFCON 129J (ISC) (Edn. 12/19) - The use of Electronic Business Delivery Form

DEFCON 502 (ISC) (Edn. 12/19) - Specification Changes

DEFCON 531 (ISC) (Edn. 09/21) - Disclosure of Information

DEFCON 608 (Edn. 07/21) – Access and Facilities to be provided by the Contractor

DEFCON 609 (ISC) (Edn. 12/19) - Contractor's Records

DEFCON 514A (Edn. 03/16) - Failure of Performance under Research and Development Contracts

DEFCON 532A (ISC) (Edn. 08/20) – Protection of Personal Data (Where Personal Data is not being processed on behalf of the Authority)

Intellectual Property Rights

DEFCON 703 (Edn. 06/21) - Intellectual Property Rights - Vesting in the Authority

Note 1: Any results can be used for Contractor non-commercial internal teaching and for research purposes. Should any internal teaching, or research, develop further with commercial viability then, the Contractor must inform the Authority before continuing. Furthermore, if the Contractor has a wish to use this type of information for other purposes they are able to request a licence from DIPR under clause 12 of DEFCON 703.

DEFCON 705 (Edn 09/20) -Intellectual Property Rights – Research and Technology

Note 1: For the purposes of DEFCON 705 'Foreground Technical Information' shall be limited to Technical Information, including but not limited to the anonymised analysis and conclusions of the Research Study.

Innovation SC Schedules

Schedule 1 – Additional Definitions of Contract

Schedule 2 - Schedule of Requirements for Contract No: 702930451

<u>Contractor Deliverables</u>				
Item Number	Specification	Delivery Date	Total Qty	Price (£) Ex VAT
1	Supply mathematical engineering civilian student who has a BSc or MSc in engineering or preferably mathematical engineering for three years for a PhD study.	[REDACTED]	1	[REDACTED]
2	Report 1 to be completed by July 2022.	[REDACTED]	1	[REDACTED]
3	Report 2 to be completed by Jun 23.	[REDACTED]	1	[REDACTED]
4	Report 3 to be completed May 23.	[REDACTED]	1	[REDACTED]
5	Final Report to be completed.	[REDACTED]	1	[REDACTED]
			Total Price (£) Ex VAT	£37,500.00

Schedule 3 – Contract Data Sheet

Condition 2.g - Contract Period	<p>Effective date of Contract: 01.10.2020</p> <p>The Contract expiry date shall be: 31.03.2024</p>
Condition 7 - Notices	<p>Notices served under the Contract can be transmitted by electronic mail</p> <p>Yes</p> <p>No</p> <p>Notices served under the Contract shall be sent to the following address:</p> <p>Authority: [REDACTED]</p> <p>Contractor:</p>
Condition 9 – Progress Meetings	<p>The Contractor shall be required to attend the following meetings:</p> <p>Type: Progress Meetings</p> <p>Frequency: Quarterly</p> <p>Location: Virtual (by default)</p>
Condition 9 – Progress Reports	<p>The Contractor is required to submit the following Reports:</p> <p>Type:</p> <ol style="list-style-type: none"> 1) Report on developing a chemical lung injury model, supplier provided scenarios will be investigated and the physiological outcomes will be compared to the source data 2) Report demonstrating the impact of existing drugs B2 agonists Norepinephrine and inhaled steroids on the new chemical lung injury model, using the licensed dose range. Validate drug action against the effects described in the pharmacological and clinical literature. 3) Report on evaluation of applying inhaled drug drug/combination candidates (N-Acetylcysteine Amide or TRPV4 inhibitors) to in-silico casualties of both chlorine and phosgene injury and describe potential clinical effect.

	<p>4) Final report</p> <p>5) Quarterly PowerPoint presentations</p> <p>Frequency: Reports 1- 4 once each and, report 5 quarterly.</p> <p>Method of Delivery: Virtual (by default)</p> <p>Delivery Address: As stated in DEFFORM 111</p>
Condition 10.a – Contract Price	<p>All Schedule 2 line items shall be FIRM Price and inclusive of any UK custom and excise or other duty payable other than those stated below:</p> <p>Not Applicable.</p>
Condition 10.b – Quality Assurance	<p>Is a Deliverable Quality Plan required for this Contract?</p> <p>No</p> <p>The MoD has determined the level of risk as 'Not Applicable' (Reference: [REDACTED]-In-silico modelling of medical counter-measures for chlorine and phosgene lung injury)</p>
Condition 11 – Delivery/Collection	<p>Contract Deliverables are to be:</p> <p>Delivered by the Contractor</p> <p>Special Instructions: Sent to the Authority's named individual as in line with DEFFORM 111</p> <p>Collected by the Authority</p> <p>Special Instructions (including consignor address if different from Contractor's registered address):</p>

Condition17 – Termination for Convenience	<p>The Notice period for terminating the Contract shall be twenty (20) days unless otherwise specified here:</p> <p>The Notice period for termination shall be 20 Business Days</p>
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DEFFORM 111

(Edn 07/21)

Appendix - Addresses and Other Information

1. Commercial Officer

Name: [REDACTED]

Address: [REDACTED]

Email: [REDACTED]

8. Public Accounting Authority

1. Returns under DEFCON 694 (or SC equivalent) should be sent to DBS Finance ADMT – Assets In Industry 1, Level 4 Piccadilly Gate, Store Street, Manchester, M1 2WD

☐ 44 (0) 161 233 5397

2. For all other enquiries contact DES Fin FA-AMET Policy, Level 4 Piccadilly Gate, Store Street, Manchester, M1 2WD

☐ 44 (0) 161 233 5394

2. Project Manager, Equipment Support Manager or PT Leader (from whom technical information is available)

Name: [REDACTED]

Address: [REDACTED]

Email: [REDACTED]

9. Consignment Instructions

The items are to be consigned as follows:

3. Packaging Design Authority

Organisation & point of contact:

DES IMOC SCP TLS Packaging

MOD Abbey Wood,

Bristol, BS34 8JH

10. Transport. The appropriate Ministry of Defence Transport Offices are:

A. DSCOM, DE&S, DSCOM, MoD Abbey Wood, Cedar 3c, Mail Point 3351, BRISTOL BS34 8JH

Air Freight Centre

IMPORTS ☐ 030 679 81113 / 81114 Fax 0117 913 8943

Email: DESIMOCSCP-TLS-Pkg@mod.uk

(+44 (0) 30 679 35353

4. (a) Supply / Support Management Branch or Order Manager: [REDACTED]

Branch/Name: [REDACTED]

Email : [REDACTED]

(b) U.I.N. [REDACTED]

EXPORTS ☐ 030 679 81113 / 81114 Fax 0117 913 8943

Surface Freight Centre

IMPORTS ☐ 030 679 81129 / 81133 / 81138 Fax 0117 913 8946

EXPORTS ☐ 030 679 81129 / 81133 / 81138 Fax 0117 913 8946

B. JSCS

JSCS Helpdesk No. 01869 256052 (select option 2, then option 3)

JSCS Fax No. 01869 256837

Users requiring an account to use the MOD Freight Collection Service should contact UKStratCom-DefSp-RAMP@mod.gov.uk in the first instance.

5. Drawings/Specifications are available from

Not Applicable

11. The Invoice Paying Authority

Ministry of Defence ☐ 0151-242-2000

DBS Finance

Walker House, Exchange Flags Fax: 0151-242-2809

Liverpool, L2 3YL

Website is:

<https://www.gov.uk/government/organisations/ministry-of-defence/about/procurement#invoice-processing>

6. Intentionally Blank

12. Forms and Documentation are available through *:

Ministry of Defence, Forms and Pubs Commodity Management

PO Box 2, Building C16, C Site

Lower Arcott

Bicester, OX25 1LP (Tel. 01869 256197 Fax: 01869 256824)

Applications via fax or email:

Leidos-FormsPublications@teamleidos.mod.uk

Quality Assurance Representative:

Commercial staff are reminded that all Quality Assurance requirements should be listed under the General Contract Conditions.

AQAPS and **DEF STANs** are available from UK Defence Standardization, for access to the documents and details of the helpdesk visit <http://dstan.gateway.isg-r.r.mil.uk/index.html> [intranet] or <https://www.dstan.mod.uk/> [extranet, registration needed].

*** NOTE**

1. Many **DEFCONs** and **DEFFORMs** can be obtained from the MOD Internet Site:
<https://www.aof.mod.uk/aofcontent/tactical/toolkit/index.htm>
2. If the required forms or documentation are not available on the MOD Internet site requests should be submitted through the Commercial Officer named in Section 1.

Schedule 4 - Contract Change Control Procedure (i.a.w. clause 3.c) for Contract No: 702930451

1. Authority Changes

Subject always to Condition 3 (Amendments to Contract), the Authority shall be entitled, acting reasonably, to require changes to the Contractor Deliverables (a "Change") in accordance with this Schedule 4.

2. Notice of Change

a. If the Authority requires a Change, it shall serve a Notice (an "Authority Notice of Change") on the Contractor.

b. The Authority Notice of Change shall set out the change required to the Contractor Deliverables in sufficient detail to enable the Contractor to provide a written proposal (a "Contractor Change Proposal") in accordance with clause 3 below.

3. Contractor Change Proposal

a. As soon as practicable, and in any event within fifteen (15) Business Days (or such other period as the Parties may agree) after having received the Authority Notice of Change, the Contractor shall deliver to the Authority a Contractor Change Proposal.

b. The Contractor Change Proposal shall include:

- (1) the effect of the Change on the Contractor's obligations under the Contract;
- (2) a detailed breakdown of any costs which result from the Change;
- (3) the programme for implementing the Change;
- (4) any amendment required to this Contract as a result of the Change, including, where appropriate, to the Contract Price; and
- (5) such other information as the Authority may reasonably require.

c. The price for any Change shall be based on the prices (including all rates) already agreed for the Contract and shall include, without double recovery, only such charges that are fairly and properly attributable to the Change.

4. Contractor Change Proposal – Process and Implementation

- a. As soon as practicable after the Authority receives a Contractor Change Proposal, the Authority shall:
 - (1) evaluate the Contractor Change Proposal;
 - (2) where necessary, discuss with the Contractor any issues arising and following such discussions the Authority may modify the Authority Notice of Change and the Contractor shall as soon as practicable, and in any event not more than ten (10) Business Days (or such other period as the Parties may agree) after receipt of such modification, submit an amended Contractor Change Proposal.
- b. As soon as practicable after the Authority has evaluated the Contractor Change Proposal (amended as necessary) the Authority shall:
 - (1) indicate its acceptance of the Change Proposal by issuing an amendment to the Contract in accordance with Condition 3 (Amendments to Contract); or
 - (2) serve a Notice on the Contractor rejecting the Contractor Change Proposal and withdrawing (where issued) the Authority Notice of Change.
- c. If the Authority rejects the Change Proposal it shall not be obliged to give its reasons for such rejection.
- d. The Authority shall not be liable to the Contractor for any additional work undertaken or expense incurred unless a Contractor Change Proposal has been accepted in accordance with Clause 4b.(1) above.

5. Contractor Changes

If the Contractor wishes to propose a Change, it shall serve a Contractor Change Proposal on the Authority, which shall include all of the information required by Clause 3b above, and the process at Clause 4 above shall apply.

Schedule 5 - Contractor's Sensitive Information Form (i.a.w. Condition 4) for Contract No: 702930451*(Contractor to populate)*

This list shall be agreed in consultation with the Authority and the Contractor and may be reviewed and amended by agreement. The Authority shall review the list before publication of any information.

Contract No: 702930451	
Description of Contractor's Sensitive Information:	
None	
Cross Reference(s) to location of Sensitive Information:	
N/A	
Explanation of Sensitivity:	
N/A	
Details of potential harm resulting from disclosure:	
N/A	
Period of Confidence (if applicable):	N/A
Contact Details for Transparency / Freedom of Information matters:	
Name:	[REDACTED]
Position:	[REDACTED]
Address:	[REDACTED]
Telephone Number:	[REDACTED]
Email Address:	[REDACTED]

Schedule 6 – Research Proposal Statement of Requirement

Statement of requirement to develop in-silico modelling of medical counter-measures for chlorine and phosgene lung injury

INTRODUCTION

1. The chemicals chlorine and phosgene are closely associated with the industrial sectors involved in the production of plastics, agriculture, and other industries (dyes, textile etc). These chemicals are a recognised health risk following industrial and transportation accidents. Due to their toxicity exposure to chlorine and especially phosgene causes a severe chemical lung injury that leads to acute respiratory distress syndrome (ARDS) and frequently results in death.

BACKGROUND

2. Both chlorine (Cl_2) and phosgene (COCl_2) were used as chemical weapons in WW1 and more recently they were used against the civilian population in the Middle East. Due to the unpredictable nature of exposure to these agents it is impossible to undertake controlled clinical studies, or research on improving treatment strategies; this has been dependent on the use of rodents and large animal models.

REQUIREMENT

3. The Contractor is to:
- a) Supply mathematical engineering civilian student who has a BSc or MSc in engineering or preferably mathematical engineering for three years for a PhD study.
 - b) Develop a chlorine/phosgene chemical lung injury model.
 - c) Undertake further significant development of the chemical lung injury model to provide a new trans-membrane receptor coupled with a pharmacokinetic and pharmacodynamics module.
 - d) Modelling behaviour of drug action validated against effects described in the pharmacological and clinical literature.
 - e) Investigate the impact of inhaled drug drug/combination candidates to in-silico casualties of both chlorine and phosgene injury and describe potential clinical effects.

MILESTONES

4. The Contractor will deliver the follow milestones:
 - a) Recruit appropriate qualified student for research by Oct 20 in consultation with the Authority.
 - b) Report on developing the chemical lung injury model, supplier provided scenarios will be investigated and the physiological outcomes will be compared to the source data; provided by DSTL, via the Authority, to be completed by July 22.
 - c) Report on the impact of existing drugs B₂ agonists Norepinephrine and inhaled steroids on the new lung model, using the licensed dose range. Validate drug action against the effects described in the pharmacological and clinical literature. To be completed by May 23.
 - d) Report on using the chemical lung injury model, supplier provided scenarios will be investigated and the physiological outcomes will be compared to the source data; provided by DSTL, via the Authority, to be completed by Jul 22.
 - e) Report on evaluation of applying inhaled drug drug/combination candidates (N-Acetylcystiene Amide or TRPV4 inhibitors) to in-silico casualties of both chlorine and phosgene injury and describe potential clinical effect by December 23.
 - f) Final Report to be completed by March 24.

RESEARCH STANDARDS

5. The Contractor has policies and guidance on research and Health & Safety standard for its researchers on any work undertaken at Warwick University. This includes adherence to all research standards, ethical and legal requirements.

AUTHORITIES RESPONSIBILITIES

6. The Authority shall provide formats for quarterly power points briefings and template for the milestones and final report at least 4 weeks before the dates due as per section 5.

CONTRACT MONITORING

7. Deliverables are listed in section 4.
8. The Contractor will be responsible for producing the power point presentation on a quarterly basis and forward these within 10 working days at the end of agreed quarterly dates to **[REDACTED]** and the latter to forward these to **[REDACTED]**, for the latter to present at the Research Defence Academic Working Group.
9. The Contractor will provide all relevant information (Performance data against milestones) at least

10 days in advance of the contract review meeting to allow for onward distribution to relevant parties.

10. Quarterly PowerPoint presentations will include (but not exclusive to) the following items:

- a. Title of the project and the names of research team
- b. Research update
- c. Issue's update
- d. Financial update
- e. Any other business (AOB)

11. All publications must be submitted to the Authority for clearance to publish or present at least 20 working days before the required date.

REVIEWS

12. This research contract is expected to be completed over 3.5 years and quarterly report progress reports will be submitted to the Authority, as per Contract Monitoring. If the project does not proceed for whatever reason according to the milestones listed in section 5, there will be a review of the requirements and the project maybe cancelled with 3 months' notice or revised depending on potential options that are available at that time.

FINANCE

13. Data is agreed between the Authority and the Contractor, this forms the foundation of an invoice and will be in line with the milestones.

14. The only person that can approve the invoice for payment will be the DO.

15. The contract may be terminated by giving 3 months' notice to the Contractor if the research fails to follow the expected trajectory and/or other suitable options appear mathematically unlikely to provide a satisfactory solution and the DO will be the Authority to make this decision.

Schedule 7 - Methodology/Study

TITLE OF THE RESEARCH

In-silico modelling of medical counter-measures for Chlorine and Phosgene Lung Injury.

THE RESEARCH QUESTION

1. Does inhaled N-Acetylcysteine Amide or TRPV4 inhibitors (in isolation or in combination) deliver a clinical benefit to UK military casualties in the pre-hospital arena?

INTRODUCTION

2. The toxic industrial (TIC) and weaponised chemicals, phosgene (COCl_2) and chlorine (Cl_2) are ubiquitous within the plastics, agricultural and other chemical industries. While a well-recognised risk to health following industrial and transportation accidents, their ease of production and their lethality has resulted in their use as chemical weapons, most notably against civilian populations in the Middle East over recent years. Both agents cause a severe chemical lung injury that leads to acute respiratory distress syndrome (ARDS) and, frequently, death. The unpredictable and sporadic nature of human lung injury from TIC/weaponised exposure makes clinical study in human casualties practically impossible, and research on improving treatment strategies is therefore reliant on the use of rodent and large animal models. We propose a new approach, based on the use of validated, high-fidelity, computer simulations, with the dual aims of radically reducing the current dependence of researchers in this field on animal models, whilst increasing the scope, complexity and duration of studies that can be performed into novel treatments.

STUDY DESIGN/METHODOLOGY

3. This work will be carried out in collaboration with our partners at DSTL Porton Down. A large animal database of phosgene-exposed animals under a variety of conditions is already available. The database details a comprehensive set of cardiovascular parameters, arterial and mixed venous blood gas results measured regularly throughout the trial period. A similar database for chlorine-exposed animals is currently being generated. The process would replicate the construction of our blast lung injury simulator in that the average dose-injury relationship would be delineated and subsequently represented in the model. The model would then run injury scenarios and the physiological outcome will be compared to the source data. Our collaborators here share our interest in reducing and refining dependence on live animal modelling for future work in this area.
4. This work will require significant further development of the model to introduce new trans-membrane receptors coupled with a pharmacokinetic and pharmacodynamics module. Whilst we can currently evaluate the effect of physical interventions such as changes in airway pressure within the lungs, the medical profession also urgently needs the ability to explore potential drug therapies. The pharmacology and physiology of drug treatment in the context of PBLI is very amenable to modelling, and is the natural next step in the development of this research tool. Modelling the physiology around activation of ligand operated membrane receptors will be the most challenging task, as we will need to determine the distribution and concentration of the molecular targets of interest and super-impose a

physiological effect that results from their stimulation. On completion of this development phase, we will evaluate the potential of two candidate therapeutic drugs. N-acetylcysteine amide (NACA) is a relatively novel modification of N-acetylcysteine (NAC) in which a carboxyl group has been replaced with an amide group, resulting in an electrochemically neutral compound. This facilitates greater penetration into the intracellular space, across the blood brain barrier and into mitochondria, with a significantly improved bioavailability. NACA is a potent antioxidant/reducing agent. It is five times more potent an anti-oxidant than NAC and replenishes depleted mitochondrial glutathione levels to over 90% of normal compared to 15% for NAC. It is also non-toxic to humans. The ion channel transient receptor potential vanilloid 4 (TRPV4) was also recently identified as a major mediator of pulmonary oedema in animal models of acute lung injury. It is a non-selective calcium ion channel activated by pressure, stretch, heat and toxin exposure. This makes it an ideal target for inhibition in the treatment of blast lung as well as toxic acute lung injury. Phase II trials are currently on-going evaluating its use in the management of heart failure related pulmonary oedema. We will model the effects of these drugs in both PBLI and Phosgene generated lung injury, both individually and in combination (bundled care) both as intravenous preparations and as nebulised agents. We will also study their use in spontaneously breathing casualties and in mechanically ventilated casualties.

ANTICIPATED FINDINGS FROM THE STUDY

5. This work will evaluate the potential value of 2 agents to UK forces for use in toxic lung injury. Should modelling evidence not support use of these agents this project will have generated a modelling tool which remains at the disposal of DSTL/MOD

WHO IS THIS WORK BEING DONE FOR?

6. This project will be undertaken on behalf of [REDACTED] (Defence Professor of Anaesthesia and Critical Care Medicine) in collaboration with [REDACTED] (Principle Scientist, DSTL Porton Down). Professor [REDACTED] (Warwick University) will oversee the project directly.

Schedule 8 – Milestone Payment Plan
MILESTONES

4. The Contractor will deliver the follow milestones:

No.	Milestone Description	Milestone Achievement Criteria	Milestone Achievement Date	Milestone Value (GBP)
1	Recruit appropriate qualified student for research by Oct 20 in consultation with the Authority.	Provide evidence of approval to the DO	[REDACTED]	[REDACTED]
2	Report on development of a chemical lung injury model, supplier provided scenarios will be investigated and the physiological outcomes will be compared to the source data; provided by DSTL, via the Authority.	Receipt and acceptance of report as per description	[REDACTED]	[REDACTED]
3	Report demonstrating to the Authority the impact of existing drugs B ₂ agonists Norepinephrine and inhaled steroids on the new lung model, using the licensed dose range. Validate drug action against the effects described in the pharmacological and clinical literature.	Receipt and acceptance of report as per description	[REDACTED]	[REDACTED]
4	Report on evaluation of applying inhaled drug drug/combination candidates (N-Acetylcysteine Amide or TRPV4 inhibitors) to <i>in-silico</i> casualties of both chlorine and phosgene injury and describe potential clinical effect.	Receipt and acceptance of report as per description	[REDACTED]	[REDACTED]
5	Final Report	Receipt and acceptance of report as per description	[REDACTED]	[REDACTED]

Schedule 9 – Key Performance Indicators

Ser	KPI Description	KPI Achievement Criteria	KPI Achievement Date	Milestone Linked To	SOR Line Linked to	Consequence of Not Meeting KPI
1	Submission of all reports as set out in the milestones and SOR.	Receipt of report on time and in full.	Final report by March 2024	2,3,4,5	4B,4C,4D,4E	The Authority will reserve its right to enforce its rights under clause 22.8.
2	Demonstrate progress against requirements at quarterly progress meetings with the Authority and, produce a power point presentation on a quarterly basis - within 10 working days at the end of agreed quarterly dates.	Progression confirmed by DO at each progress meeting	Quarterly	N/A	8,10,11,12	Contractor must provide the Authority with a Recovery Plan if the KPI Achievement Criteria is not met at 2 consecutive quarterly meetings.