RCloud Tasking Form – Part B: Statement of Requirement (SoR)

Title of Requirement	Evaluation of transgenic *Galleria mellonella* to report disease status and screen therapies.
Requisition No.	**1000165973**
SoR Version	**0.1**

1.	Statement of Requirements
1.1	**Summary and Background Information**
	In a world first, REDACTED have generated transgenic wax moth larvae (*Galleria mellonella*) under a previous Dstl contract. We would like to continue to access this system in order to enhance models of infection, understanding of host immune responses and evaluation of antibiotic efficacy. There is an MoD requirement for development of broad spectrum therapies to treat diseases caused by biological warefare (BW) agents. To do this, robust *in vitro* and *in vivo* models are required to understand the host immune response, characterise bacterial pathogenicity and evaluate efficacy of therapeutics, such as antibiotics. Wax moth larvae (*Galleria mellonella*) models have been developed in the collaboration with the University of Exeter for many of these infections. There are several advantages to this model, including similarity of immune cells to humans, ease of handling at high containment and correlation to rodent models allowing a reduction of animal use. The REDACTED lab have unique expertise in cell biology, in particular the study of cell division. Using this knowledge, the REDACTED lab have generated transgenic *Galleria mellonella* (wax moth larvae) for the first time. These larvae have been bred to express fluorescent proteins within specific tissues and CRISPR mutagenesis has been used to delete host genes. These unique larvae will enhance the utility of this model to understand host response to infection and improve outputs for antibiotic screening against BW agents.
1.2	**Requirement**
	The PhD student that will be contracted to the REDACTED will use these unique transgenic larvae to:

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1. Report disease status upon infection with bacteria, such as *C. burnetii* or *B. thailandensis,* with and without antibiotics.

2. Use CRISPR to study the host immune response to bacterial infection.

Payment Plan

Proposed payment 1: end of PhD Year 1 - REDACTED

Proposed payment 2: end of PhD Year 2 - REDACTED

Proposed payment 3: end of PhD Year 3 - REDACTED

Milestone 4: PhD Thesis – on completion of PhD Year 4 - REDACTED

NOTE: Payment will be annually in arrears, and upon satisfactory completion of all deliverables at the end of each PhD Year.

Additional Definitions

"PHD Year"   A consecutive twelve (12) Month period during the Term, commencing on the date that the Authority formally confirms approval of the student in writing

Research Workers

Supervisor – REDACTED

Student – To be advised

Work will not commence until a student has been identified and security checks, where applicable, have been carried out and confirmed by the Authority. Dstl reserves the right to terminate this contract in the event that a student is not identified or security checks successfully completed within a reasonable timeframe.

Completion and acceptance of security checks is at the Authority's sole discretion.

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1.3	**Options or follow on work** *(if none, write 'Not applicable')*
	N/A
1.4	**Contract Management Activities**
	N/A
1.5	**Health & Safety, Environmental, Social, Ethical, Regulatory or Legislative aspects of the requirement**

	N/A

[dstl]

1.6	Deliverables & Intellectual Property Rights (IPR)					
Ref.	Title	Due by	Format	Expected classification (subject to change)	What information is required in the deliverable	IPR Condition
I - 1	Interim quarterly technical reports	Quarterly	Presentation and/or written report	Official	Quarterly report to include: • Update on technical progress • Progress report against project schedule.	Default RCloud Agreement Terms and Conditions shall apply
I - 2	Annual Report	Annually (end of each year)	Presentation and/or written report	Official	Annual report to include: • Update on technical progress • Progress report against project schedule. Detail method development and analytical approach sufficient to inform joint publications and in preparation for future regulatory strategies.	Default RCloud Agreement Terms and Conditions shall apply
D - 1	Final Thesis	T0+4 years	Electronic + in university format	Official	PhD thesis at a standard recognised by the relevant external examiners.	Default RCloud Agreement Terms and Conditions shall apply

1.7	Deliverable Acceptance Criteria
	All Reports shall be free from spelling and grammatical errors and shall be set out in accordance with the Statement Of Requirement (1) above The Report shall summarise the results of work performed during the period covered in sufficient detail to comprehensively explain the results achieved, provide a description of current substantive performance and details of any problems encountered and/or which may exist along with proposed corrective action. The Report must contain sufficient detail to explain the work undertaken in that period, this could include supporting information such as raw data in an Excel or GraphPad Prism format, relevant scientific graphs and diagrams.

2	Evaluation Criteria
2.1	Method Explanation
	Evaluating this based on technical compliance and affordability. Pass/Fail
2.2	Technical Evaluation Criteria
	Does the bid fully meet the Statement of Requirement. Pass/Fail
2.3	Commercial Evaluation Criteria
	Tenderer has submitted a commercially compliant bid. Firm priced version submitted within budget Pass/Fail Labour rates and price as per rates uploaded to R Cloud Pass/Fail Completion of Research Workers Forms Pass/Fail Completion of Statement Relating to Good Standing Pass/Fail