

Research Proposal: Testing and Evaluating Igniter Performance

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Nomenclature

BW – Bridge-Wire

COTS – Commercial off the shelf

EED – Electro-Explosive Device

ESD – Electro-static Discharge

NDE – Non-Destructive Evaluation

NEM – Net Explosive Mass

NEQ – Net Explosive Quantity

PM – Project Manager

PPE – Personal Protective Equipment

PTA – Project Technical Authority

RA – Risk Assessment

SME – Subject Matter Expert

SOP – Standard (or Safe) Operating Procedure

SQEP – Suitably Qualified and Experienced Personnel

SSHT – Small Sale Hazard Testing

SSOW – Safe System of Work

1. Introduction

The data on initiation energy thresholds for legacy igniters is very limited. Identifying the correct conditions to store and handle these igniters is impossible without such data to demonstrate their safety. Therefore, once they have been removed from legacy munitions they are expedited for disposal as the effect of degradation over time remains unknown [1] [2]. This limits examples of legacy materials that could be repurposed for testing, trials and training aids.

Current safety measures require the implementation of full conducting conditions for any handling tasks involving the unknown igniters as these conditions offer the highest level of protection. However, these conditions require facilities with humidifiers capable of maintaining humidity levels above 60%, conducting flooring, conductive benches and conductive/anti-static PPE. The on-site facilities capable of providing these conditions are limited and often humidifiers are operating at their maximum capacity. This can cause issues such as malfunctions, resulting in delays or re-scheduling of tasks [2].

Developing a solution for this problem is the primary focus of this project. This proposal covers the following stages: finding a suitable solution, procuring a COTS igniter testing device, developing a safe testing method, testing and evaluating a selection of legacy igniters currently stored and marked for disposal. The overall aim is to develop an approved inhouse testing method for obtaining igniter performance data to inform the most appropriate safe handling and storage methods. This solution also benefits the wider business by enhancing the test and evaluation capabilities of the company.

2. Background to the Proposed Research

Igniters and characterisation technology:

Igniters are a type of one-shot initiating device and are often found within a munition as a source of ignition, as the initial step of an explosive train. They usually contain a pyrotechnic composition such as black powder and a thin electrical wire, known as a Bridge-Wire (BW), see Figure 1 [2]. When enough current flows through the BW, it generates heats that exceeds the pyrotechnics' ignition threshold causing the compound to rapidly deflagrate, producing a flash or small flame and gas [2] [3]. The igniter types of interest to this project are classed as low voltage EED and contain very little pyrotechnic composition (2g or less) [4] [2].

There are a few COTS devices available that can test the firing currents of igniters. The testing will likely destroy or damage the igniters when they are fired. Therefore they can only be tested once, thus an adequately sized sample of the same igniter type will be tested to determine a statistically significant average firing threshold [5] [6].

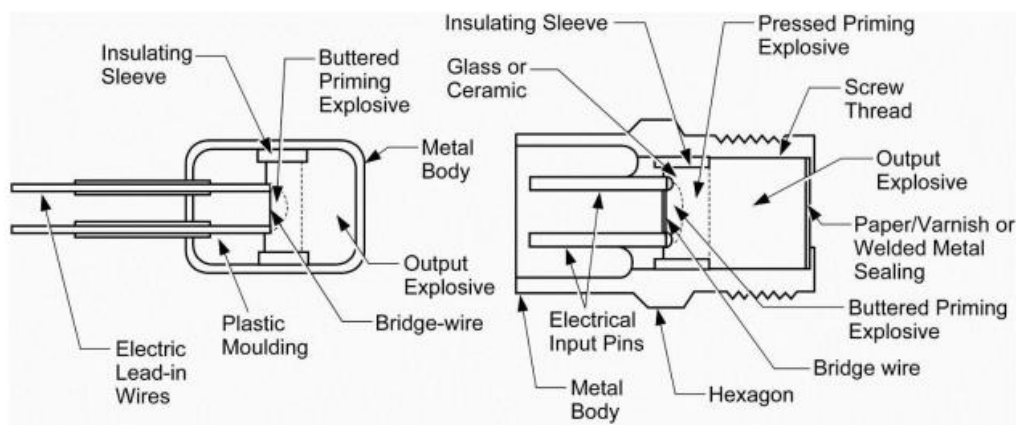


Figure 1 Typical BW type EEDs [2].

Current practices and gaps:

The aging of igniter composition has been researched and tested with methods applicable to this project [1]. The testing regimes in sources [4], [7] and [6] give some insight and guidance for the testing method for this project such as initially testing igniters with a safety ohmmeter to identify 'dud' articles [4]. Furthermore, research has identified the importance of accurate calibration of equipment in the testing of EEDs [8], this will be considered when developing the SOP for the equipment to ensure the test results are accurate.

Current in-house testing procedures cannot determine the 'initiation energy threshold' of EEDs required when determining the appropriate handling conditions, therefore another form of testing is required [2]. This testing along with any ESD testing completed through the internal SSHT process, can provide the relevant information for determining safety precautions and give assurance that the current safety precautions for handling and storing are adequate. NDE techniques such as X-ray can provide some visual evidence of the igniters internal structure such as confirming whether the

electrical contact or BW is intact and if there are any deformities present within the pyrotechnic compound. A safety ohm meter is currently used to determine the resistance of electrical connectors of EEDs [2].

Safety and regulatory context:

In-service EEDs are tested and regulated according to Def Stan 59-114 [2] and AOP-43 [9]. Even though these igniters are not 'in-service' and will never be repurposed for general military use, the methods of testing within [2] and [9] offers important guidance on how to conduct this testing safely. Igniters are an explosive device therefore the Explosive Regulations 2014 and DSA 03 OME Part 2 (JSP 482) govern their storage, use and transport. The guidance within DSA OME Part 2 Chapter 19 – Explosive Processing [10], section 5.2 and 5.3 , is of particular importance for this project. Therefore testing of the igniters will require a full explosive testing SSOW which will include, a safe operating procedure for the equipment, activity risk assessments and testing procedure [10] [2].

Internal research papers and guidance on internal SSOW processes have also been collated to aid in the construction of the safety and testing documentation.

3. Aims & Objectives

Aim: To Investigate and establish a suitable methodology to test and evaluate the performance of igniters, including the initiation energy thresholds to inform safety assurance for the handling, storage, trials and testing of igniters.

Objectives:

1. Identify and procure equipment that can safely test igniters (industry standard COTS).
2. Identify a suitably licenced testing facility for the testing of igniters.
3. Learn how to use and operate testing machine and software.
4. Develop testing regime (SOP, RA, Test plan).
5. Identify likely benchmark explosive articles of interest to the study e.g. New (COTS), legacy, disposal.
6. Carry out the testing.
7. Analyse and report on the test data.
8. Establish igniter testing capability for future work.

4. Experimental Design

4.1 Outline of Experimental Procedure

Experiment process overview:

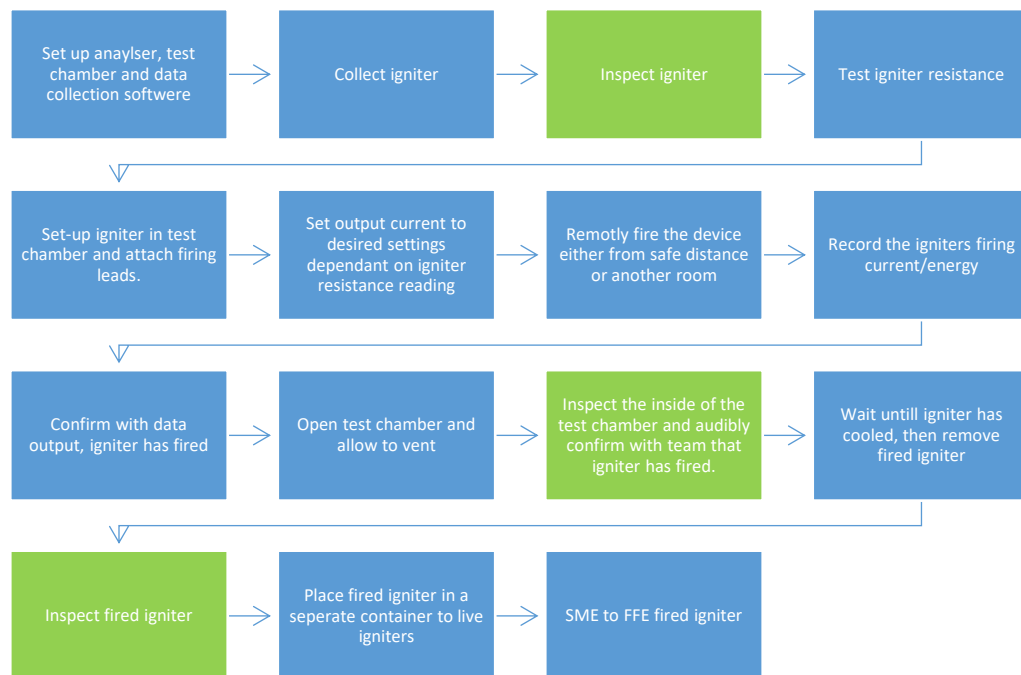


Figure 2 Simplified preliminary safe system for testing fire currents of igniter.

The process flow chart follows a preliminary SSOW for testing igniter initiation energies. The Green boxes highlight the inspection points. Inspections are a vital safety step as the result of each inspection will determine if the process is safe to continue [4] [6] [5] [9].

4.2 Data Collection & Evaluation

A safety ohmmeter will be used to record the igniters resistance prior to attaching to the test apparatus with the results entered into a central spreadsheet. The analyser and evaluation software will perform the data collection. The analyser will record the energy required to initiate the igniter and the software will be used to evaluate and display the results. The results will then be taken from the software/device and input into a central database/spreadsheet for use in the final report and future reference [4] [6] [9].

4.4 Risks & Limitations

Table 1 Predicted limitations and risks to project.

Risks & Limitations	Effect	Mitigation
Limited testing facilities	Testing delays, increased costs to project. Delays in final report.	Identifying suitable facilities and booking slots for testing explosive articles will be a priority.
Limited igniter types	Legacy igniters will not provide a known output. Equipment set-up and test method cannot be tested with unknown devices, no assurance test method/equipment functions as intended.	To establish a baseline, COTS igniters could be used as information on their firing thresholds will be provided by the manufacture within the safety data sheet.
Safe working limits/ half-day working limits	Extended testing day(s). Increased testing costs (staff hours, facility booking fees)	Limits are in place for safety. Make PM aware of required staffing hours before activity so it can be budgeted for.
Equipment not arriving on time	Delayed testing and evaluation results, leading to reduced time available to complete report before deadline.	Keep up to date on procurement process, ensuring that all documentation is completed fully and is submitted on time. Discuss plan B with SMEs, possibly conducting inert testing using similar setup/evaluation equipment.
Explosive testing	Harm to people, facility and equipment.	Only trained personnel to use equipment. Minimum explosive articles in testing facility during testing. Testing conducted in licence explosive facility.
Change of budget/funding	Less funding available to complete project. Limited resources available to complete testing/evaluation.	All portable electrical kit to have current PAT certificate. Only trained users to use equipment. Equipment to be used according to user manual.
Theft	Loss of expensive equipment and/or explosives.	Equipment to be stored in locked cabinet when not in used. Explosives to be stored, transported and used in accordance with internal security process and ER 2014 regulations. Delays in testing, report writing.
Equipment damage	Costly repairs to equipment causing testing delays.	Only trained personnel to use equipment. Equipment to be inspected before and after testing activity and damage to be reported and device quarantined. Equipment to be cleaned and serviced by trained user, following user manual. Replacement parts can be purchased from manufacture.

4.5 Ethical Issues

Any information regarding the igniters will be thoroughly vetted before being used in the final report with the specific igniter types, initiation energies changed or heavily redacted. The personnel involved in this project will hold the required level of security clearance and will all be bound by the Official Secrets Act 1989. The intent of this research is to provide a means of testing explosive articles to assure the required safe storage and handling measures are in place.

6. Resources & Planning

6.1 Resources

6.1.1 Physical Resources

Table 2 Equipment required for the project.

Equipment	Function
Igniters	Explosive devices for testing either legacy and/or COTS
Igniter test chamber	Sealed container capable of withstanding output pressures of low NEM igniters.
Igniter analysing/firing device	To fire the igniters, measure and record firing current. Connected to laptop with evaluation software downloaded.
Laptop & Evaluation software	Laptop used in conjunction with evaluation software to record and present test results. Laptop connected by ethernet cable to the analysing device and used to fire/operate the analyser from a safe distance.
Explosively licenced facility	A facility to conduct the testing, store the igniters during the testing and have adequate infrastructure (benches, lighting, power).

6.1.2 Human Resources

Table 3 Personnel required for the project and their responsibilities.

Personnel	Responsibilities
1 x Project Lead – OME student	The project lead will be responsible for the research, equipment quotations, liaising with manufactures, meeting with SMEs and technical leaders, creating safety documentation, providing PM with updates, testing igniters (under supervision of SQEP personnel), documenting results and writing up the final report.
Explosive SME's	Responsible for checking safety documentation, advising on testing facilities, testing method and supporting the testing of the igniters.
Additional testing staff	Suitable qualified staff to support explosive testing of igniters (approx. max 2)
PM	Responsible for delivery of overarching project.
PTA	Providing overarching project technical leadership

6.2 Gantt Chart

Table 4 Gantt chart displaying estimated project timelines.

	June 26	July 26	Aug 26	Sep 26	Oct 26	Nov 26	Dec 26	Jan 27	Feb 27	Mar 27
Research	*	*								
Procurement	*	*								
Develop safety and testing documentation		*	*	*						
Inert Testing					*	*				
Live Testing						*	*			
Data Evaluation and analysis						*	*	*		
Report Writing						*	*	*	*	*

References

- [1] Z. Szabová, R. Kuracina, M. Sahul, M. Mynarz, P. Lepík and L. Kosár, "Influence of the Pyrotechnic Igniter Composition Aging on Explosion Parameters of Dispersed Dusts," *Applied Sciences*, vol. 11, pp. 1-11, 2021.
- [2] UK Defence Standardisation (DStan), "Safety Principles for Electrical Circuits in Systems Incorporating Explosive Components. Part: 02: Electro-Explosive Devices and their Characterisation," UK Defence Standardsation (DStan), 2020.
- [3] Pacific Scientific Energetic Materials Company, "The Beginner's Guide To No-Fire & ALL-FIRE Sensitivity," Pacific Scientific Energetic Materials Company, [Online]. Available: <https://psemc.com/solutions/all-fire-no-fire-sensitivity/>. [Accessed 1 06 2026].
- [4] K. K. Mishra, A. S. Babu, C. P. Shetty and H. Shekhar, "Method to Determine the Electrical Energy for Ignition of Electro-Explosive Devices," *Journal of Areospace Technology and Management*, vol. 7, pp. 285-288, 2015.
- [5] B. T. Neyer, "A D-Optimality-Based Sensitivity Test," *Technometrics*, vol. 36, no. 1, p. 61/70, 1994.
- [6] P. G. Grohmann , "Characterisation Trials of the Electric Induction Bridgewire Igniter No 3 Type 1 for JP233 (U)," Ministry of Defence (MOD), Fort Halstead, Kent, 1985.
- [7] Ministry of Defence (MOD) UK, *ELECTRO-EXPLOSIVE DEVICES - ASSESSMENT AND CHARACTERISATION PILLAR PROCEEDINGS*, UK Government, 1995.
- [8] A. Chugg, *Improved Calibration of Instrumentation for Monitoring of Electro-Explosive Devices*, Swindon, 2018.
- [9] Allied Ordnance Publication (AOP), "ELECTRO-EXPLOSIVE DEVICES, ASSESSMENT AND TEST METHODS FOR CHARACTERIZATION - GUIDELINES FOR STANAG 4560 (AOP-43)," NATO Standardization Office (NSO), 2016.
- [10] Defence OME Safety Regulator (DOSR), "DSA 03.OME Part 2 (JSP 482) CHAPTER 19 EXPLOSIVES PROCESSING," Ministry of Defence (MOD), Bristol, 2019.

Appendix A : Student Ethics Form

ETHICS FORM – ~~SoAC~~ STUDENTS ONLY

APPLICATION FOR ETHICAL APPROVAL

In order for research to result in benefit and minimise risk of harm, it must be conducted ethically.

The University follows the OECD Frascati manual definition of research activity: "creative work undertaken on a systematic basis in order to increase the stock of knowledge, including knowledge of man, culture and society, and the use of this stock of knowledge to devise new applications". As such this covers activities undertaken by members of staff, postgraduate research students, and both taught postgraduate and undergraduate students working on dissertations/projects.

The individual undertaking the research activity is known as the "principal researcher".

This form must be completed and approved prior to undertaking any research activity.

SECTION A: About You (Principal Researcher)

1	Full Name:	Jessica Eardley
2	Student Number:	2217994
3	Email address:	2217994@student.uwtsd.ac.uk
4	Programme of Study:	L6 OME Apprenticeship
5	Director of Studies/Supervisor:	

SECTION B: Internal and External Ethical Guidance Materials

	Please list the core ethical guidance documents that have been referred to during the completion of this form (including any discipline-specific codes of research ethics, location-specific ~~codes~~ of research ethics, and also any specific ethical guidance relating to the proposed methodology). Please tick to confirm that your research proposal adheres to these codes and guidelines. You may add rows to this table if needed.	
1	UWTSD Research Ethics & Integrity Code of Practice	☒
2	UWTSD Research Data Management Policy	☒
3		☐

SECTION C: Details of Research Activity

1	Indicative title:	Testing and Evaluating Igniter Performance	
2	Proposed start date:	01/07/2026	Proposed end date:
	Introduction to the Research (maximum 300 words in each section) Ensure that you write for a <u>Non-Specialist Audience</u> when outlining your response to the three points below: • Purpose of Research Activity • Proposed Research Question • Aims of Research Activity • Objectives of Research Activity Demonstrate, briefly, how <u>Existing Research</u> has informed the proposed activity and explain		

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	- What the research activity will add to the body of knowledge - How it addresses an area of importance.
3	Purpose of Research Activity Investigate and establish a suitable methodology to test and evaluate the performance of igniters, including the firing/non-firing currents and pressure outputs to inform safety assurance for the handling, storage, trials and testing of igniters.
4	Research Question Testing and Evaluating Igniter Performance
5	Aims of Research Activity To investigate and establish a suitable methodology to test and evaluate the performance of igniters, including the firing/non-firing currents and pressure outputs.
6	Objectives of Research Activity - Identify and procure equipment that can safely test igniters (industry standard COTS). - Identify a suitably licenced testing facility for the testing of igniters. - Learn how to use and operate testing machine and software. - Develop testing regime (SOP, RA, Test plan). - Identify likely benchmark articles of interest to the study e.g. New (COTS), legacy, disposal. - Carry out the testing. - Analyse and report on the test data. - Establish igniter testing capability for future work. (this box should expand as you type)
	Proposed data collection methods (maximum 600 words) Provide a brief summary of all the methods that may be used in the research activity to collect data, making it clear what specific techniques may be used. If methods other than those listed in this section are deemed appropriate later, additional ethical approval for those methods will be needed. You do not need to justify the methods <u>here</u> , but should instead describe how you intend to collect the data necessary for you to complete your project.
7	Collecting data digitally on analyser and inputting into spreadsheet. <u>For the purpose of the report</u> specific igniter types will be redacted and/or changed. No personal data will be <u>collected</u> and all data will be stored on corporate devices protected with 2 levels of password security. (this box should expand as you type)

SECTION D: Scope of Research Activity

	Will the research activity include:	YES	NO
1	Use of a questionnaire or similar research instrument?	☐	☒
2	Use of interviews?	☐	☒
3	Use of focus groups?	☐	☒
4	Use of participant diaries?	☐	☒
5	Use of video or audio recording?	☐	☒
6	Use of computer-generated log files?	☐	☒

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7	Participant observation with their knowledge?	☐	☒
8	Participant observation without their knowledge?	☐	☒
9	Access to personal or confidential information without the participants' specific consent?	☐	☒
10	Administration of any questions, test stimuli, presentation that may be experienced as physically, mentally or emotionally harmful / offensive?	☐	☒
11	Performance of any acts which may cause embarrassment or affect self-esteem?	☐	☒
12	Investigation of participants involved in illegal activities?	☐	☒
13	Use of procedures that involve deception?	☐	☒
14	Administration of any substance, agent or placebo?	☐	☒
15	Working with live vertebrate animals?	☐	☒
16	Procedures that may have a negative impact on the environment?	☐	☒
17	Other primary data collection methods. Please indicate the type of data collection method(s) below.		
	Details of any other primary data collection method: (this box should expand as you type)	☐	☒

If you have ticked NO to every [question](#) then the research activity is (ethically) low risk and you may skip section E and continue to section F.

If YES to any question, then no research activity should be undertaken until full ethical approval has been obtained.

SECTION E: Intended Participants

	Who are the intended participants:	YES	NO
1	Students or staff at the University?	☐	☒
2	Adults (over the age of 18 and competent to give consent)?	☐	☒
3	Vulnerable adults?	☐	☒
4	Children and Young People under the age of 18? (Consent from Parent, Carer or Guardian will be required)	☐	☒
5	Prisoners?	☐	☒
6	Young offenders?	☐	☒
7	Those who could be considered to have a particularly dependent relationship with the investigator or a gatekeeper?	☐	☒
8	People engaged in illegal activities?	☐	☒
9	Others. Please indicate the participants below, and specifically any group who may be unable to give consent.		
	Details of any other participant groups: Complete this only if your participants cannot give consent. This includes animals (this box should expand as you type)	☐	☒

Participant numbers and source

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	Provide an estimate of the expected number of participants. How will you identify participants and how will they be recruited?	
10	How many participants are expected?	Ballpark figures are fine, but make sure that you explain how you will identify and contact your participants. (this box should expand as you type)
11	Who will the participants be?	(this box should expand as you type)
12	How will you identify the participants?	(this box should expand as you type)

Information for participants:		YES	NO	N/A
13	Will you describe the main research procedures to participants in advance, so that they are informed about what to expect?	☐	☐	☒
14	Will you tell participants that their participation is voluntary?	☐	☐	☒
15	Will you obtain written consent for participation?	☐	☐	☒
16	Will you explain to participants that refusal to participate in the research will not affect their treatment or education (if relevant)?	☐	☐	☒
17	If the research is observational, will you ask participants for their consent to being observed?	☐	☐	☒
18	Will you tell participants that they may withdraw from the research at any time and for any reason?	☐	☐	☒
19	With questionnaires, will you give participants the option of omitting questions they do not want to answer?	☐	☐	☒
20	Will you tell participants that their data will be treated with full confidentiality and that, if published, it will not be identifiable as theirs?	☐	☐	☒
21	Will you debrief participants at the end of their participation, in a way appropriate to the type of research undertaken?	☐	☐	☒
22	If NO to any of above questions, please give an explanation			
You should be able to tick YES for all of these questions. If not, then explain why not in this box. (this box should expand as you type)				

Information for participants:		YES	NO	N/A
24	Will participants be paid?	☐	☐	☒
25	Is specialist electrical or other equipment to be used with participants?	☐	☐	☒
26	Are there any financial or other interests to the investigator or University arising from this study?	☐	☐	☒
27	Will the research activity involve deliberately misleading participants in any way, or the partial or full concealment of the specific study aims?	☐	☐	☒
28	If YES to any question, please provide full details			
You should be able to tick NO for most of these questions. For any cases that you have ticked YES then provide details in this box. If you are using cameras/voice recorders to record <u>interviews</u> then please state that in this box. (this box should expand as you type)				



SECTION F: Anticipated Risks

	Outline any anticipated risks that may adversely affect any of the participants, the researchers and/or the University, and the steps that will be taken to address them.	
1	Risks to participants For example: sector-specific health & safety, emotional distress, financial disclosure, physical harm, transfer of personal data, sensitive organisational information. If you have identified in section D that there are no <u>participants</u> then enter N/A and go skip to question 3.	
	Risk to participants: N/A <i>(this box should expand as you type)</i>	How you will mitigate the risk to participants: N/A <i>(this box should expand as you type)</i>
2	If research activity may include sensitive, embarrassing or upsetting topics (e.g. sexual activity, drug use) or issues likely to disclose information requiring further action (e.g. criminal activity), give details of the procedures to deal with these issues, including any support/advice (e.g. helpline numbers) to be offered to participants. Note that where applicable, consent procedures should make it clear that if something potentially or actually illegal is discovered in the course of a project, it may need to be disclosed to the proper authorities	
	N/A <i>(this box should expand as you type)</i>	
3	Risks to the investigator For example: personal health & safety, physical harm, emotional distress, risk of accusation of harm/impropriety, conflict of interest	
	Risk to the investigator: Personal Health and safety: - Risk of injury during physical testing of hazardous materials. Emotional distress: - Risk of stress due to project delays Risk of accusation of harm/impropriety Conflict of interest	How you will mitigate the risk to the investigator: Personal Health and safety: - Abide by SSOW and technical training - Abide my manufactures guidelines - Conduct training where necessary - Wear appropriate PPE - Work with SQEP personnel Emotional distress: - Ensure back up plans are in place - Keep track of deadlines - Communicate deadlines and progress on project with supervisors (academic and industry) - Ensure adequate periods of rest or time away from project Risk of accusation of harm/impropriety: - Work according to Civil Service Code of Conduct. - Work within boundaries of knowledge and understanding - Abide by SSOW Conflict of interest: - Abide by Civil Service Code of Conduct

4	University/institutional risks For example: adverse publicity, financial loss, data protection	
	Risk to the University:	How you will mitigate the risk to the University: Abide by student code of conduct.
5	Environmental risks For example: accidental spillage of pollutants, damage to local ecosystems	
	Risk to the environment: Damage to the environment - Contaminated waste	How you will mitigate the risk to environment: Environmental risks captured on risk assessment: - Waste disposed of according to internal disposal process, HSE Regulations and MOD regulations.

SECTION G: Feedback, Consent and Confidentiality

If you have identified in section D that there are no participants then enter skip this section and continue to section H.

1	Feedback What de-briefing and feedback will be provided to participants, how will this be done and when?	
	You don't need to email your participants with your final report. A good alternative is to set up an email address that they will be able to contact for further details or results. (this box should expand as you type)	
2	Informed consent Describe the arrangements to inform potential participants, before providing consent, of what is involved in participating. Describe the arrangements for participants to provide full consent before data collection begins. If gaining consent in this way is inappropriate, explain how consent will be obtained and recorded in accordance with prevailing data protection legislation.	
	If you are using a paper questionnaire then you should have the participants sign an appropriate consent form. These forms will count as personal data and should be noted as such in section J. If you are using an online questionnaire, then you should have a screen before the questions start that acts as a consent form, informing participants that by clicking on the NEXT button they are providing consent. (this box should expand as you type)	
3	Confidentiality / Anonymity Set out how anonymity of participants and confidentiality will be ensured in any outputs. If anonymity is not being offered, explain why this is the case.	
	Do not collect names unless you really need them. Do not name participants or organisations in any research publications (including the thesis) without their explicit permission. (this box should expand as you type)	

SECTION H: Data Protection and Storage

	Does the research activity involve personal data (as defined by the General Data Protection Regulation 2016 "GDPR" and the Data Protection Act 2018 "DPA")?	YES	NO
1	"Personal data" means any information relating to an identified or identifiable natural person ('data subject'). An identifiable natural person is one who can be identified, directly or indirectly, in particular by reference to an identifier such as a name, an	☐	☒

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	identification number, location data, an online identifier or to one or more factors specific to the physical, physiological, genetic, mental, economic, cultural or social identity of that natural person. Any video or audio recordings of participants is considered to be personal data.		
	If YES, provide a description of the data and explain why this data needs to be collected:		
2	This includes audio/video data of participants, but can also include IP addresses and usernames. Names, addresses and emails also count, as do consent forms. <i>(this box should expand as you type)</i>		
	Does it involve special category data (as defined by the GDPR)?	YES	NO
3	"Special category data" means sensitive personal data consisting of information as to the data subjects' – (a) racial or ethnic origin, (b) political opinions, (c) religious beliefs or other beliefs of a similar nature, (d) membership of a trade union (within the meaning of the Trade Union and Labour Relations (Consolidation) Act 1992), (e) physical or mental health or condition, (f) sexual life, (g) genetics, (h) biometric data (as used for ID purposes).	☐	☒
	If YES, provide a description of the special category data and explain why this data needs to be collected:		
4	What counts as 'sensitive' will differ between cultures. Any information on behaviour that is not in accordance with cultural norms would count as sensitive personal data. <i>(this box should expand as you type)</i>		

	Will data from the research activity (collected data, drafts of the thesis, or materials for publication) be stored in any of the following ways?	YES	NO
5	Manual files (i.e. in paper form)?	☒	☐
6	University computers?	☐	☒
7	Private company computers?	☒	☐
8	Home or other personal computers?	☒	☐
9	Laptop computers/ CDs/ Portable disk-drives/ memory sticks?	☒	☐
10	"Cloud" storage or websites?	☐	☒
11	Other – specify:	☐	☒
12	For all stored data, explain the measures in place to ensure the security of the data collected, data confidentiality, including details of backup procedures, password protection, encryption, anonymisation and pseudonymisation:		
	If possible, save your data on computers that are secure and regularly backed up. Many cloud services only provide GDPR-compliant storage for business customers. An example of suitable text is given below. <i>All data will be kept in password protected cloud storage on the University Office 365 system which will not be shared. Audio/visual data will be transcribed and would be shown to participants to check accuracy of reporting. Any USB sticks used to store or transfer data will be password protected. All participants will be given a unique identifier to ensure confidentiality and this list will be kept securely in the password protected folder.</i>		

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	(This box should expand as you type)		
	Data Protection		
	Will the research activity involve any of the following activities:	YES	NO
13	Electronic transfer of data in any form?	☒	☐
14	Sharing of data with others at the University outside of the immediate research team?	☒	☐
15	Sharing of data with other organisations?	☒	☐
16	Export of data outside the UK or importing of data from outside the UK?	☐	☒
17	Use of personal addresses, postcodes, faxes, emails or telephone numbers?	☐	☒
18	Publication of data that might allow identification of individuals?	☐	☒
19	If YES to any question, please provide full details, explaining how this will be conducted in accordance with the GDPR and Data Protection Act (2018) (and/or any international equivalent):		
	<i>This includes data such as drafts of your thesis as well as experimental or survey data. An example of suitable text is given below.</i> <i>All data will be encrypted and kept in password protected cloud storage on the University Office 365 system which will not be shared. Any USB sticks used to store or transfer data will be password protected. All data transfers will be encrypted and password protected. All participants will be given a unique identifier to ensure confidentiality and this list will be kept securely in the password protected folder. The data will be stored until the completion of the project and then deleted. In accordance with the DPA2018, participants will have the right to ask to see what data is held relating to them, and this data will be deleted immediately if the participant requests this, in which case the data will not be used in the project.</i> (This box should expand as you type)		
20	List all who will have access to the data generated by the research activity:		
	<i>Normally the principal researcher, possibly also the supervisor and, if the project has an industrial partner, a representative of that partner. Possibly also external examiner or second marker?</i> (This box should expand as you type)		
21	List who will have control of, and act as custodian(s) for, data generated by the research activity:		
	<i>Usually the principal researcher.</i> (This box should expand as you type)		
22	Give details of data storage arrangements, including security measures in place to protect the data, where data will be stored, how long for, and in what form.		
	<i>All data will be encrypted and kept in password protected cloud storage on the University Office 365 system which will not be shared. Any USB sticks used to store or transfer data will be password protected and will be reformatted at the end of the project in order to destroy the data. The data will be stored until the completion of the project and then deleted.</i> (This box should expand as you type)		
22	Confirm that you have read the UWTSD guidance on data management (see https://www.uwtss.ac.uk/library/research-data-management/)	☒	
23	Confirm that you are aware that you need to keep all data until after your research has completed or the end of your funding	☒	

SECTION I: Declaration

ETHICS FORM – SoAC STUDENTS ONLY

	The information which I have provided is correct and complete to the best of my knowledge. I have attempted to identify any risks and issues related to the research activity and acknowledge my obligations and the rights of the participants. In submitting this application I hereby confirm that I undertake to ensure that the above named research activity will meet the University's Research Ethics and Integrity Code of Practice which is published on the website: https://www.uwtsd.ac.uk/research/research-ethics/		
1	Signature of applicant:	J. Eardley	Date: 25/06/2026
2	Director of Studies/Supervisor:		Date:
3	Signature:		

FOR INTERNAL USE ONLY:

	Ethical approval given		
1	Signature of assessor:		Date:
2	Name:		
3	Role:		