

4TH YEAR PROJECT HAZARD ASSESSMENT FORM

Project Code: A-SDG33_2	Project Location: Whittle Laboratory, Multi-Stage Room
Student Name: Sam Drury	Student Email: spd38@cam.ac.uk
Supervisor Name: Dr Sam Grimshaw	Supervisor Email: sdg33@cam.ac.uk

Brief Description of Project:
 Project involves testing of both open-rotor propellers as well as ducted fans on a small quadcopter style drone (~1kg), undertaking stationary and small displacement dynamic tests in an indoor test environment. Test environment is a wire mesh with 10mm grid fastened to a wooden frame with approximate dimensions 2.2m x 2m and a height of 2.4m

Hazard identification *(the following examples are not an exhaustive list):*

Are there any hazards which are likely to be encountered during the project? YES ☒ NO ☐ (Tick box)

If YES then please provide further details under the headings below.

Electrical: (e.g. electric shock, equipment operating at voltages >1000v, working on exposed circuits with voltages >50v etc)
 Contact with wire/high current source (battery or tether) - all exposed wires will be heat shrunk, appropriate insulated tools will be used.
 Battery failure/explosion while charging - use charging bags, smart chargers, and supervise all charging activities.

Hazardous Substances: (e.g. harmful, toxic, flammable, sensitiser, carcinogenic, explosive, corrosive etc)
 None.

Gases: (e.g. asphyxiant, flammable, toxic, explosive, oxidising etc)
 None.

Laser: (e.g. class of laser etc)
 None.

Radiation: (e.g. ionising, non-ionising, electromagnetic fields, x-rays, ultraviolet (UV) etc)
 None.

Robotic: (e.g. errors - human/control, mechanical failures, power systems etc)
 None.

Mechanical: (e.g. power tools, workshop machinery, powered lifting, etc)
 Loss of control (LOC) while armed - enable manual kill-switch prior to arming to allow shutoff in case of LOC.
 All tests will be performed inside the caged test environment.

Biological: (e.g. biological hazards, genetically modified organisms (GMO) etc)

None.

Physical: noise, vibration, high pressures, falling objects collapsing structures, sharp objects, high or low temperatures etc)

None - drone tests will be conducted in the caged test environment.

Other: (e.g. computer use, working at height, confined spaces, lone working, manual handling, slips, trips and falls, dust etc)

Working at computers - correct posture will be noted and regular breaks taken.

Identified risks should be discussed with your supervisor and a safe system of work agreed. A more in depth risk assessment may be required after initial review. Do not proceed until this form is signed off.

For any safety queries contact the Department of Engineering, Safety Office on 01223 (3)32740 or 01223 (7)61455 or email safety-office@eng.cam.ac.uk, Room INO-18 (Inglis Building Office Floor).

Signature of Student:



Date: 08/10/2020

Signature of Supervisor:



Date: 9/10/2020

Signature of Safety Office:



Date: 12th October 2020