

AOE DEPARTMENT SAFETY REVIEW FORM FOR **EXPERIMENTAL RIGS**

In the context of this form 'rig' refers to any potentially hazardous piece of equipment whose safe operation requires more detailed instructions and procedures than can be included in the Experimental Workspace Safety Review form for the area in which the rig is housed. Examples include a wind tunnel, laser system, high pressure tank, material testing machine, rotating system.

Before any such rig in the Department of Aerospace and Ocean Engineering is brought into operation, and **at least once per year** thereafter, a copy of this form must be completed, signed and submitted by the responsible faculty/staff member (usually the principal investigator). When an existing rig undergoes modifications which could affect its safety, a new copy of this form must be submitted by the responsible faculty/staff member at that time, and before it is operated again.

Completed forms should be submitted to the AOE Assistant Department Head for Facilities (Michael Philen) and should also be made available to other faculty/staff with relevant expertise, or with direct involvement in the rig or space where it is housed. Any advice resulting from this interaction should be copied to the Assistant Department Head, as well as being transmitted back to the responsible faculty/staff member. Once the responsible faculty/staff member is satisfied that all safety concerns have been met the final version of the form should be signed and submitted and a copy displayed in a prominent position on or adjacent to the rig and on the department safety website. The responsible faculty/staff member may then authorize its operation. Under no circumstances may a rig be operated without a completed, current copy of this form prominently displayed.

Date of form[Aug 15, 2023](#) Form expires (no more than 1 year after form date):[Aug 15, 2024](#)

Name of Rig:.....**3D Printers**.....

Workspace where rig is located[140 Goodwin Hall](#).....

Include room, building and name given to the space on the EHS training website.

Faculty/staff member responsible for the rig and its safety[Aurelien Borgoltz](#).....

Office Address [660D McBryde Hall](#)..... Phone[231-1959](#)..... Email[aurelien@vt.edu](#).....

1. An evaluation of the above rig has been performed and the following safety risks have been identified (append details where necessary):

- **Risk of injury when 3D printer is improperly operated and used**
- **Risk of fire and injury due to flammable chemicals, cleaning agent, and solvents used for the preparation, operation, and cleaning of the 3D printer**

2. The following actions have been taken to minimize those risks (append details where necessary):

- **All users of the 3D printer must have explicit approval from Aurelien Borgoltz (Lab supervisor, [aurelien@vt.edu](#), 231-1959) or Scott Patrick (technical supervisor of the 3D printers, [jpatrick@vt.edu](#), 231-3312).**
- **All users have been assigned several required training courses as detailed in Section 5**
- **The 3D printers uses several chemicals for its preparation, clean up, and operation. A chemical inventory has been compiled, is attached to this form, and available on the EHS Chemical Registration site at: https://secure.hosting.vt.edu/www.ehss.vt.edu/programs/LMS/inventory_entry.php and is also listed in the Workspace Safety Review Form. Chemicals in this lab, maybe stored only in the marked chemical storage cabinet and Safety Data Sheets for all chemicals may be found in the yellow MSDS cabinet attached to the lab wall.**
- **If you have any questions regarding the handling and disposal of any chemical substance, ask the AOE Machine Shop Supervisor, Mr. James Lambert ([jalamber@vt.edu](#), 231 6752)**

3. A safe operating procedure has been developed (attach the procedure to this form). This includes protective equipment to be worn, whether users may operate the rig alone and, if necessary, precautions to be taken by others working in the same laboratory. The procedure is in a form suitable for posting on the rig.

- **Users of the 3D printer will be provided with its operation manuals and instructions, and must carefully study them before operating the 3D printer**

4. Check one and include a list:

The rig may only be operated by the following individuals.

The rig may only be operated under the supervision of the following individuals.

Scott Patrick

Casey Lewis

Users who have received explicit approval from Scott Patrick

5. The above individuals are all registered on the EHS training website at

https://secure.hosting.vt.edu/www.ehss.vt.edu/training/training_report.php and have taken all appropriate safety training courses. Their training is current and is recorded on the EHS website, under the above workspace name. The appropriate safety courses are (list here):

Electric Awareness

Portable Fire Extinguishers

Lockout-Tagout Awareness

HAZCOM RTK

Personal Protective Equipment (PPE) Awareness

Coronavirus Awareness

Signature of faculty/staff member responsible for the rig and its safety

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..... Date Aug 15, 2023.....