

## Ongoing Management Requirements Applicable to Operational Permits

### 105.5.1 Additive Manufacturing (3D Printing)

Receipt of this operational permit grants you the authority to conduct additive manufacturing operations. This permit is an ongoing license, and its validity is contingent upon your continuous adherence to the following fire and life safety management requirements.

#### **Universal Responsibilities:**

- **Maintain Systems in Operative Condition:** All fire protection and life safety systems—including sprinklers, fire alarms, extinguishers, and communication systems—**must** be maintained in a fully operative condition at all times. If a system becomes impaired, the fire department **must** be notified immediately, and a fire watch or other mitigation may be required.
- **Record Keeping:** Records of all system inspections, tests, and maintenance **must** be kept on the premises and be made available to the fire code official upon request.
- **Maintain Clear Access:** Fire lanes, access to fire hydrants, Fire Department Connections (FDCs), and pathways to fire protection equipment **must** be kept clear and unobstructed at all times.
- **Housekeeping:** The premises **must** be maintained in an orderly manner, free from the accumulation of combustible waste and debris that could create a fire hazard.
- **Permit on Site:** The approved operational permit **must** be posted or kept on-site and be readily available for inspection.
- **Staff Training:** Employees **must** be trained on the fire safety procedures for their workplace, including the location of fire extinguishers and evacuation plans.

#### **Specific Responsibilities for Additive Manufacturing:**

- **Follow Manufacturer Instructions:** You must ensure that all additive manufacturing equipment is installed, operated, and maintained in strict accordance with the manufacturer's instructions.
- **Dust and Metal Compliance:** If your operation involves combustible dusts or metals, you must also comply with the specific requirements of CFC Chapter 22 (Combustible Dusts) and/or Chapter 59 (Flammable Solids), including conducting a Dust Hazard Analysis.
- **Powder Combustibility:** You are responsible for determining the combustibility and explosibility of any metal powders used in the process. This may require testing in accordance with ASTM E1226.

- **Fire/Explosion Protection:** Continuously maintain all required fire and explosion protection systems, such as specialized fire suppression, explosion venting, or inert gas systems, in full working order.
- **Dust Control:** Regularly inspect and maintain the dust collection system to ensure it is operating effectively and preventing the accumulation of combustible dusts on surfaces.
- **Control Ignition Sources:** Strictly control all potential ignition sources in the manufacturing area, including static electricity, open flames, and hot surfaces.