**Project Review**  **Date:**

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| **Principle Investigator: Permit #: G-****Location: Department:** **Contact Information:** |
| **Scope of work (agents, conditions, activities):**  |
| **Hazards associated with the task/equipment:****Agent:**[ ] Fluids/compressed gasses: [ ] Chemical asphyxiant: [ ] Simple asphyxiate/oxygen deficient[ ] Toxic[ ] Carcinogenic[ ] Teratogenic[ ] Mutagenic[ ] Reproductive hazard[ ] Nonionizing radiation [ ] Laser (class 3b or 4): class \_\_\_\_\_\_[ ] Biological hazard/pathogenic[ ] Sensitizing[ ] Corrosive[ ] Self-reactive or unstable[ ] Reducing[ ] Peroxide-forming[ ] Catalytic[ ] Pyrophoric[ ] Potentially explosive[ ] Flammable/combustible[ ] Oxidizing[ ] Water-reactive | **Condition:**[ ] High Pressure: [ ] Low Pressure/vacuum: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_[ ] Electrical (50v): voltage [ ] Steam: \_\_\_\_\_psi[ ] Pneumatic (15 psi): [ ] Hydraulic: [ ] Suspended weight: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_lbs.[ ] Uneven surfaces[ ] Mechanical/moving parts[ ] Hot surfaces (2nd degree burn)[ ] Extreme cold[ ] Fall hazard/heights[ ] Cave in/collapse[ ] Clutter/confined area[ ] Noise (85 dbA): \_\_\_\_\_dbA[ ] Exhaust[ ] UV radiation[ ] Magnetic fields[ ] Vibration[ ] Robotics[ ] Open flame/sparks/potential fire hazard[ ] Fabricated parts (non-UL, non-ASME, etc.) |
| **Activity**[ ] Lifting (mechanical or person)[ ] Chemical mixing[ ] Waste handling –[ ] Transportation of hazardous materials | [ ] Sharp objects[ ] Fuel storage[ ] Remote location[ ] Construction site access[ ] Creation of secondary product: \_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| **Risk Rating (with weighted scaling per NFPA 45) *before* controls:**CV = OV = Risk Rating (CV x OV) =  | [ ] No Risk (RR=0)[ ] Low Risk (RR=1-9)[ ] Medium Risk (RR=10-19)[ ] High Risk (RR=20-59)[ ] Critical Risk (RR=60-100) |

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| **Engineering Controls:**[ ] Fume Hood[ ] Bio Safety Cabinet[ ] Local Exhaust Ventilation[ ] Dust Collection System[ ] Enclosure/Guards/Barriers[ ] Shielding[ ] Shoring[ ] Distance[ ] De-energization/Lockout-Tagout[ ] Isolation/Control Room[ ] Elimination/Substitution[ ] Mechanical Devices/Equipment[ ] Soundproof Room/Chamber[ ] Designed for MAWP & Temp[ ] UL or ASME rated[ ] Variance granted (VDOLI)[ ] Insulation/Encapsulation[ ] Other: | **Administrative Controls:**[ ] EHS Safety Training[ ] Task/Hazard Training[ ] SOP developed[ ] SWPs followed[ ] Noise reduction[ ] Restricted access[ ] Entry assessment[ ] Air Monitoring[ ] Exposure Monitoring[ ] Haz Com Plan/CHP[ ] Medical Surveillance[ ] Energy Control Proc.[ ] PFE/Fire Watch[ ] Hazard Analysis[ ] Schematic (detailed)[ ] Hot Work Permit[ ] Vaccination(s)[ ] Warning signs | **Personal Protective Equipment:**[ ] Hazard Assessment Form[ ] Included in SOP |
| **Risk Rating (with weighted scaling per NFPA 45) *after* controls:**CV = OV =  **Risk Rating (CV x OV) =**  | [ ] No Risk (RR=0)[ ] Low Risk (RR=1-9)[ ] Medium Risk (RR=10-19)[ ] High Risk (RR=20-59)[ ] Critical Risk (RR=60-100) |
| **What If Analysis:** Worst-case scenario? Lose power unexpectedly? Power returns unexpectedly? Vessel/hose/connection fails? Lose pressure? Excessive pressure? |
| **Action Items/Comments:** |

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| **NFPA 45, Table B-1: Severity of Consequences with *Weighted* Scaling** |
| **Consequence Value (CV)** | **Impact to:** |
| **Rating** | **Value** | **Personnel Safety** | **Resources** | **Work Performance** | **Property Damage** | **Reputation** |
| No Risk | **1** | No injuries | No impact | No delays | Minor | No impact |
| Minor | **5** | Minor injuries | Moderate impact | Modest delays | Moderate | Potential damage |
| Moderate | **10** | Moderate to life impacting injuries | Additional resources required | Significant delays | Substantial | Damaged |
| High | **20** | Life threatening injuries from single exposure | Institutional resources required | Major operational disruptions | Severe | Loss of confidence |

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| **NFPA 45, Table B-2: Probability of Occurrence with Standard Linear Scaling** |
| **Occurrence Value (OV)** | **Probability of Occurrence** |
| **Rating** | **Value** | **Percent** |
| Not present | **0** | 0% |
| Rare | **1** | 1-10% |
| Possible | **2** | 10-50% |
| Likely | **3** | 50-90% |
| Almost certain to certain | **4** | 90-100% |

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| **NFPA 45, Table B-6: Hazard Risk Rating with Weighted Scaling** |
|  | **Severity of Consequences (CV)** |
|  | **Ratings** | **CV = 1****No Risk** | **CV = 5****Minor** | **CV = 10****Moderate** | **CV = 20****High** |
| **Probability of Occurrence (OV)** | **OV = 4** | RR = 4LOW | RR = 20HIGH | RR = 40HIGH | RR = 80CRITICAL |
| **OV = 3** | RR = 3LOW | RR = 15MEDIUM | RR = 30HIGH | RR = 60CRITICAL |
| **OV = 2** | RR = 2LOW | RR = 10MEDIUM | RR = 20HIGH | RR = 40HIGH |
| **OV = 1** | RR = 1LOW | RR = 5LOW | RR = 10MEDIUM | RR = 20HGH |
| **OV = 0** | RR = 0N/A – The material or process is not present in the laboratory. |

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| **NFPA 45, Table B-4: Risk Level and Response Expectations** |
| **Risk Level** | **Expectation of Response** |
| **LOW** | **Acceptable** level of risk.Monitor and manage. |
| **MEDIUM** | **Tolerable** level of risk.Implement corrective action and consider additional controls. |
| **HIGH** | **Tolerable** level of risk with strict controls and oversight.Implement mitigating and corrective actions with routine monitoring and oversight. |
| **CRITICAL** | **Intolerable** level of risk.Implement mitigating and corrective actions. Engage higher levels of management. |