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| **Category/Description** | **Satisfactory** |
| **Aerial Lifts**1. All aerial lift operators trained and certified by EHS?
2. Operators using the equipment safely and properly? (observe)
3. Lift properly set up (ie. outriggers, level, access chain/bar)?
4. Operators wearing hard hats for overhead obstacles?
5. Maximum capacity (or number of persons permitted) not being exceeded?
6. Lift in good condition and in proper working order?
7. Operator's manual is available and all operators have been trained on manufacturer's instructions? Documented?
8. Lift serviced and maintained according to the manufacturer's recommendations?
9. Insulated booms being tested, cleaned, and serviced per manufacturer's recommendations?
10. Grounding cables in good condition (insulation, clamps, etc.)?
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| **Asbestos**1. Personnel performing asbestos work are currently trained to worker or supervisor level?
2. Area containment is sufficient for the scope of the work?
3. Safe work practices are being followed and are adequate for the scope of work?
4. Contaminated tools properly cleaned or disposed of with abated material?
5. Personal air monitoring conducted and results properly retained?
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| **Compressed Gas Cylinders**1. Extra cylinders stored in an appropriate location or supplied upon demand?
2. Storage racks properly labeled to identify cylinder contents and empty/full?
3. Oxidizers and fuel gases in storage separated by at least 20 feet or by a 5-foot wall with a 30-minute fire resistance rating?
4. Individual cylinders labeled as to their contents?
5. Cylinders properly secured by a chain or stand to prevent tip over and damage?
6. Oxygen/acetylene cylinders (in use) secured in an approved cart?
7. Regulators removed and replaced with cylinder caps when not in use?
8. Cylinder caps in place and cylinders secured in an upright manner during transport and storage?
9. Cylinders safely transported in a secured, upright position?
10. For compressed gas cylinders located in labs/shops on 4th floor or above, quantities are less than one full-sized cylinder of pure flammable gas (hydrogen, methane, acetylene, butane, etc.), or less than two full-sized cylinders of oxidizers (oxygen, nitrous oxide, chlorine)?
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| **Chain Saws**1. Personnel trained on manufacturer's instructions (ie. proper use, care, maintenance, and protective equipment) for chain saw use? Documented?
2. Appropriate protective equipment available and being worn (safety glasses, face shield, hearing protection, hard hat, gloves, chaps, steel-toed boots)?
3. All chainsaws have a chain break or nose guide bar?
4. All chainsaws have a throttle and lock?
5. All chainsaws have a chain catcher?
6. Anti-kickback (i.e. green label) safety chain being used (recommended)?
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| **Chemical Safety**1. A written plan (CHP or Haz Com) is available to all personnel and has been reviewed within the last year.
2. Lab has completed online chemical registration via the Safety Management System?
3. Incompatibles stored separately?
4. Primary containers properly labeled?
5. Secondary containers properly labeled?
6. Waste containers are kept closed except when in use?
7. Chemicals stored off of floor and out of direct sunlight/away from heat sources?
8. Water reactives stored away from sinks and pipes?
9. Peroxide-formers are dated?
10. Peroxide-formers are within expiration date?
11. Picric/perchloric acid is hydrated?
12. Reactive metals stored properly?
13. Hood is currently certified or tagged out?
14. Hoods are uncluttered?
15. Storage in hood is at least 6 inches from sash?
16. Hoods are properly vented?
17. Flammable chemicals are removed during hot processes?
18. Designated eating/drinking area?
19. Separate food/drink storage from chemicals?
20. Refrigerators/freezers appropriately labeled (metal tag indicating rating, restriction label, No Food and Drink storage)?
21. Benchtops impervious to water and resistant to corrosive chemicals?
22. Sink, soap, paper towels available for hand-washing?
23. Entrances posted with current emergency contacts and any required signage?
24. Spill kit available to the area?
25. Spill and emergency procedures posted or detailed in lab manual?
26. Housekeeping is satisfactory?
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| **Contractors**1. Contract laborers properly trained on safety hazards (by their employer or Virginia Tech)?
2. Designated departmental coordinator for contractor work familiar with university policy (i.e. "Safety Requirements for Contractors and Subcontractors")?
3. Contractor informed of known hazards (ie. confined spaces, laboratory/ research hazards, asbestos/lead, etc.) in the vicinity of the work to be performed, and is provided information regarding relative university safety programs?
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| **Cranes**1. Crane operator trained and knowledgeable?
2. Rigging inspected prior to use and in good condition?
3. Crane inspected within the last year?
4. All lifts properly planned to address occupied areas, traffic interruption, soil stability, etc.?
5. Crane and the lift path properly barricaded?
6. VT personnel assisting with the lift trained?
7. VT personnel inside the barricaded area wearing hard hats?
8. Is the safe working load indicated on the hoist?
9. Does the supporting structure to which the hoist is attached (roller and beam) have a safe working load indicated on it equal to (or greater than) that of the hoist?
10. Does the hook appear to be in good condition?
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| **Confined Spaces**1. Are confined spaces identified with OSHA-approved signs (red, white, black, DANGER - PRCS, DO NOT ENTER), where possible?
2. All entrants, attendants, and supervisors attended EHS training?
3. Assessment Form properly completed prior to entry and posted at the entrance?
4. All confined space hazards properly identified? (verify)
5. All confined space hazards properly eliminated or isolated in accordance with OSHA prior to entry?
6. Confined space was properly classified?
7. Entry approved (ie. signature) by a trained supervisor?
8. Personnel trained and familiar with the proper use of the air monitor?
9. Air monitor properly maintained and calibrated within the last 30 days?
10. Adequate plan for emergency situations?
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| **Electrical**1. No damaged, defective, or illegal tools and equipment?
2. Hand-held power tools either grounded or marked as double insulated?
3. Ground-Fault Circuit Interrupters (GFCI) used in wet or damp locations?
4. Electrical hazards likely to cause death or serious physical harm effectively de-energized, insulated, covered?
5. Equipment appears to be suitable for installation and use (ie. weather-proof, used according to manufacturer instructions)?
6. Disconnecting means properly labeled (unless evident) and readily accessible?
7. Wiring methods appear to be in accordance with National Electric Code?
8. Equipment has not been altered (ex. grounding pin removed, cords illegally spliced, etc.)?
9. Extension cords rated for heavy duty, in good condition, and protected from damage?
10. Extension cords being used only for temporary supply (i.e. not used in place of permanent wiring)?
11. Extension cords and power strips plugged directly into premise receptacle (i.e. no daisy-chaining)?
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| **Electrically Qualified Personnel**1. Department ensures that work tasks involving live electrical (> 50v) are assigned only to trained and qualified personnel for the task?
2. All persons working on live electrical attended EHS's Electrical Qualified Person training?
3. Documentation to support worker qualification (ie. license, education, experience) and approved work tasks?
4. All personnel working on live electrical attended EHS training for Lockout/tagout Authorized Persons?
5. Voltage-rated PPE and equipment currently certified (ie. third party tested) and in good condition?
6. Insulated tools in good condition?
7. Energized Electrical Work Assessment properly completed for live work tasks (except testing/diagnostic)?
8. PPE worn consistent with that required by NFPA 70E for the task/Hazard Risk Category?
9. Adequate plan for emergency situations (ie. means of calling 911, employees trained on what to do/not do)?
10. First Aid/CPR trained person on site?
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| **Electrical Research Equipment**1. Live parts of electrical research equipment (> 50v) guarded against accidental contact?
2. Job-made cords (temporary extension of branch) code compliant and protected from damage?
3. Inductors and Magnets (> 5 J or 50v) meet safe use requirements?
4. Power supplies code compliant?
5. Capacitors meet safe use requirements?
6. Appropriate personal protective equipment worn when exposed to energized systems or equipment isolated in appropriate room/cabinet/other?
7. Electrically safe work condition (ie. lockout/ tagout) established when testing or operation is not active?
8. Testing/energized work (Mode of Operation) performed in accordance with safe testing protocols?
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| **Excavation**1. Excavation Competent Person on site and training current?
2. All excavation entrants attended safety training?
3. Excavation Assessment Form properly completed by the competent person prior to personnel entering?
4. Excavation inspected daily and documented?
5. Proper means of egress (ie. within 25') provided for excavations greater than 4 feet deep?
6. Proper benching, sloping, shoring provided for excavations greater than 4 feet deep?
7. Surface encumbrances, adjacent structures, and underground utilities adequately supported?
8. Excavation protected from vehicular/mobile traffic?
9. Air monitoring conducted for potential hazardous atmosphere?
10. Water accumulation pumped out prior to employees working in area?
11. Plan for emergency situations?
 |  |
| **Eyewashes/Safety Showers**1. Eyewash present and functioning?
2. Eyewash is flushed weekly?
3. Eyewash is clearly labeled?
4. Eyewash located within 10 seconds of work area and path is unobstructed?
5. Deluge shower is present where potential for skin damage exists?
6. Deluge shower located away from electrical equipment?
7. Deluge shower is clearly labeled and tagged with EHS inventory number?
8. Deluge shower located within 10 seconds of work area and path is unobstructed?
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| **Flagging**1. All personnel performing flagging operations currently trained and certified by VDOT?
2. Personnel using an approved STOP/SLOW paddle?
3. Personnel clearly visible to oncoming traffic?
4. Proper signs/cones/warnings present?
5. Personnel properly dressed in accordance with VDOT policy?
6. All personnel operating equipment with an obstructed view to the rear, or serving as a guide, completed Reverse Signal Operations training?
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| **Fire Safety**1. Evacuation routes posted in the building (in stairways, by elevators, in long corridors, in large assembly areas)?
2. Fire extinguishers present, mounted at least 4 inches but not greater than 5 feet off the floor, readily accessible, and charged and ready for use?
3. Fire extinguishers inspected monthly (by housekeeping or a designated person) and annually (by the vendor)?
4. All personnel expected to use fire extinguishers trained within the last 2 years (ex. laboratory personnel)?
5. Flammable liquids stored in approved flammable liquid cabinets?
6. Flammable liquid cabinets located away from ignition sources and exits?
7. Combustibles minimized and stored properly (ie. at least 3' away from ignition sources, not violating proper ceiling clearances)?
8. Walls/doors do not have excessive decorations (ie. combustibles) on them?
9. Burn permits obtained for grills, sterno, tiki torches, and candles?
10. Fire- or smoke-rated doors free from alteration/damage and kept closed?
11. Fire equipment (ie. smoke detectors, fire panels, hydrants, exit signs, sprinkler heads, etc.) in working order and in good condition?
12. All ceiling tiles in good condition and in place?
13. Does there appear to be unauthorized construction in the area, such as walls, structures, partitions, floor/ceiling openings?
14. Exits, corridors, stairways, and aisles unobstructed?
15. Halogen lamps (home lamps) not in use?
16. Occupancy limit signs posted in assembly areas and at least 2 exits present if occupancy is greater than 50?
17. Fueling area well ventilated, PFE present, grounded/bonded properly, spill kit present, and approved fuel tank properly labeled?
18. Battery charging area well ventilated, eyewash present, spill kit present, and appropriate personal protective equipment used for battery maintenance?
19. Electric/Gas Utility Vehicles (EGUV) have a slow-moving-vehicle emblem attached to the rear.
20. Proper procedures followed for charging/fueling?
21. Vehicle not used to transport quantities of flammables, compressed gas cylinders, hazardous waste, or excessive personnel?
22. Lithium-ion batteries used, charged, and maintained in accordance with manufacturer's instructions?
23. Electric mobility devices (ie. eScooters, hoverboards, electric unicycles/bicycles, etc. with lithium-ion batteries) not located in buildings?
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| **Fall Hazards**1. All fall hazards in the work area (including roofs, mezzanines, tanks/towers/equipment, etc.) properly guarded or otherwise addressed?
2. Competent person designated to evaluate fall hazards in the workplace and has attended EHS Fall Protection User training?
3. All personnel using personal fall arrest systems attended EHS Fall Protection User training?
4. Personnel properly connected to an appropriate anchor point?
5. Connecting devices and harnesses inspected (documented) by a competent person annually?
6. Plan for emergency situations?
 |  |
| **Farm Equipment**1. operators of farm machinery and equipment attended annual Farm Safety training?
2. Operators have been trained on machinery/equipment/tools regarding the manufacturer's instructions (Owner/Operator Manual). Training documented?
3. All guards (including power take-off, master shield, implement shields) in place and in proper working order?
4. Tractor operators wearing seatbelts?
5. Personnel working around power take-offs (PTO) taking appropriate precautions against entanglement? (Snug clothing, distance)
6. Operators routinely inspect farm equipment prior to use for damage and defects? Equipment is properly maintained on a regular basis?
7. Slow moving vehicle emblems (required if traveling 25 mph or less) clean, clear and visible to traffic?
8. All-terrain vehicle operators have completed ATV Safety training?
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| **First Aid**1. Personnel currently trained in first aid and CPR, where required (construction, communications, electrical, confined space attendants/rescue, MSHA, in job description, adult/child care, machine shops, logging, remote locations)?
2. First aid kits adequately stocked with appropriate supplies (and medications are prohibited)?
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| **Haz Com**1. Hazardous chemicals/products in the work area?
2. A written plan (CHP or Haz Com) is available to all personnel?
3. Hazardous products in the work area are on the Chemical List and there is a corresponding SDS on file?
4. Evidence that the plan has been reviewed within the last year?
5. Have all personnel received awareness training (ie. Haz Com RTK, General Lab Safety, Part B)?
6. All primary and secondary containers properly labeled?
7. Products with a health rating of 3 or 4 reviewed by EHS?
8. Are products properly stored?
 |  |
| **Health Hazards**1. Are there 3-D printers in use at this location?
2. Radiation or x-ray equipment labels within a room where there is no sign on the door?
3. Potential contact with bloodborne pathogens, animals (including carcasses)?
4. Use of fiberglass cloth or filler powder?
5. Use of epoxy systems or bonding compounds?
6. Lead materials or other heavy metals being used/heated?
7. Excessive dust (silica, nano, coal, cotton, etc.)
8. Mercury-containing equipment present?
9. Formaldehyde/formalin/methylene oxide being used?
 |  |
| **Hot Work**1. Designated and trained Hot Work Permit Coordinator?
2. Current hot work permit posted for permanent welding/cutting areas?
3. Temporary hot work permits issued for work outside of designated area?
4. Area maintained according to permit requirements?
5. Personnel performing hot work or serving as fire watch attended annual portable fire extinguisher training?
6. Personnel in the area adequately protected from sparks, slag, and UV light?
7. Adequate ventilation in the area?
8. Welding leads in good condition?
9. SDS available for welding rods/wire, metals, and gases?
10. Welding processes and metals with potential health risks (stainless steel, painted surface, cadmium plating, nickel plating, process residues) adequately controlled?
11. Proper flame-resistant clothing being worn for welding/cutting?
12. Proper shaded lens being used for type of welding/cutting being performed?

13. Torch and hoses are working properly and in good condition? |  |
| **Lock Out/Tag Out**1. All employees performing servicing/maintenance work on hazardous energy sources attended EHS Lockout/Tagout Authorized Person training?
2. Energy Control Procedures (ECPs) developed for equipment with more than one energy source or stored energy?
3. Was the Energy Control Procedure correct and followed?
4. Alternate procedures developed for situations where hazardous energy cannot be locked/tagged out (ex. working under vehicles)?
5. Personnel properly locking/tagging out equipment (i.e. following our general lockout/tagout procedures or a written procedure)?
6. Adequate/appropriate devices, locks, and tags available for lockout/tagout situations in area?
7. Was de-energization of equipment/system verified before work proceeded?
8. Effective process (ie. continuity maintained) for assuring lockout/tagout when work shifts are involved?
9. Effective process for group lockout/tagout?
10. Adequate process for emergency removal of lockout/tagout devices?
 |  |
| **Machine Shop**1. Machine Shop Coordinator designated to oversee operator training, equipment servicing and maintenance?
2. Shop Coordinator attended EHS Machine Shop Coordinator training?
3. Operators trained on each piece of machinery they are operating in accordance with manufacturer's instructions (Owner/Operator Manual)? Documented?
4. Operator's manuals available for all machinery?
5. Are shop self-inspections being conducted at least annually? Documented?
6. Established policy regarding work hours, proper dress, buddy system, emergency contacts, etc. posted?
7. Bench grinder: tongue (1/4") and bench rest (1/8") properly adjusted to the wheel?
8. Radial saw: head returns/retracts back when released?
9. Drill press: anchored for stability?
10. Table saw: blade guarded or lowered when not in use?
11. Band saw; blade guard lowered when not in use or to within 1/4" of stock when in use?
12. Lathe: chuck key removed from chuck when in use?
13. No exposed belts, gears, pulleys, shafts, missing guards on any equipment (including fans)?
14. Out-of-service equipment properly locked and tagged out?
15. Light bulbs guarded or covered if within 7' of floor?
16. Do air nozzles on compressed air have ventilation holes?
17. Do air compressors (greater than 60 gal.) have a current Certificate of Insurance posted?
 |  |
| **Personal Protective Equipment**1. Designated Personal Protective Equipment (PPE) Coordinator attended EHS PPE Awareness and Hazard Assessment training?
2. Hazard Assessment Form properly completed for all personnel in the department using PPE?
3. Hazard Assessment Form reviewed and updated as needed?
4. Personnel wearing the appropriate PPE for the hazards observed?
5. Personal protective equipment being worn properly?
6. Personal protective equipment in good condition?
7. Personal protective equipment properly stored?
8. Personal protective equipment approved (ex. ANSI, NIOSH)?
9. Personnel trained on proper care, use, and limitations of assigned personal protective equipment?
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| **Policy**1. Health and Safety Policy (No. 1005) communicated to everyone in the department?
2. Supervisors/PIs have identified required training for their personnel in the SMS?
3. Supervisors conducting periodic safety self-audits of work areas to ensure a safe and healthy workplace?
4. Departmental personnel know to contact EHS at 231-2341 immediately if an environmental, health, or safety inquiry is received from a state, federal, or local authority?
5. All work-related accidents, injuries, and illnesses reported to Human Resources, reviewed and investigated in order to correct hazardous conditions and/or reduce common hazards?
6. Departmental personnel know to contact EHS immediately for the following VOSH required notifications within a timely manner: amputations, loss of an eye, admission to hospital, 3 or more employees sent to the ER, fatalities?
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| **Powered Industrial Trucks**1. All forklift operators currently trained and certified through EHS?
2. Operators have been trained on the manufacturer's instructions (Owner/Operator Manual)? Training documented?
3. Forklift in good condition and being serviced and maintained regularly by qualified technicians?
4. Forklift being inspected (documented) daily or before each use?
5. Forklift appropriate for location and expected loads?
6. Forklift operators wearing seat belt?
7. Pallet jacks equipped with emergency stopping device or operators required to wear steel-toed shoes?
8. Cage attachment for personnel marked with load capacity and manufacturer's instructions available?
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| **Research Activities**1. Research activities reviewed and approved by the department (documented) prior to beginning?
2. Hazard risk analysis has been performed by the department (documented)?
3. Equipment/machinery/rigs marked or stamped by an appropriate design standard (UL, ASME, etc.), and rated for the temperatures, pressures, chemicals, etc. to which they will be subjected?
4. Engineering controls (ventilation, guarding, etc.) are sufficient for the existing or potential hazards?
5. Administrative controls (Hazard Assessment training, SOPs, etc.) are sufficient for the existing or potential hazards?
6. Location is sufficient for the nature/hazards of research activities?
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| **Scaffolding**1. Competent person designated to oversee scaffolding activities and has attended EHS Scaffold Competent Person training?
2. All employees accessing and using scaffolding attended EHS Scaffold Awareness training?
3. Scaffolding inspected by the competent person daily/prior to use?
4. Is the working platform fully decked?
5. Is the working platform fully guarded?
6. Does the scaffold appear to be plumb, level, and square?
7. Has proper access been provided (secured ladder, access gate, frame designed for climbing)?
8. Foundation of scaffolding adequate (firm, level, mud sills, screw jacks)?
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| **Walking, Working Surfaces**1. Proper type of ladder being used for the task?
2. Personnel following safe work practices during ladder use? Attended EHS Ladder Safety training?
3. Ladders rated for heavy duty or extra-heavy duty (ie. 250 lbs. or more)?
4. Ladder inspected prior to use and in good condition?
5. Are there slipping/tripping hazards present in the work area (wet floors, tools, equipment, cords, rugs/mats, uneven floors, debris, etc.)?
6. Floors kept as dry as practical?
7. Entrance mats available for wet weather?
8. Outside walkways/stairs in good repair?
9. Mezzanine and/or industrial shelving posted with load rating?
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| **Waste Management**1. Sharps container available (if required)?
2. Waste containers have lids and are kept closed?
3. Waste properly labeled (proper chemical name, % of each chemical, "Hazardous Waste" on the container?
4. Waste properly stored?
5. Batteries recycled?
6. Spent fluorescent bulbs and ballasts picked up by EHS?
7. Photo-finishing chemicals captured and disposed of through EHS?
8. Parts washer chemicals captured and disposed of through EHS?
 |  |