## Job Hazard Analysis

**University of Washington**  
**Campus Engineering & Operations**  
**3920 Jefferson Road, Seattle, WA 98195**

**Working Job Title:** HVAC Control Technician / Air Balancer  
**JHA Completed by:** _____________________________________________  
**Date:** _____________________

The Job Hazard Analysis form is designed to help supervisors assess and address health and safety hazards that have the potential to cause serious injury or illness (e.g., power tools, electrical repairs). Supervisors can use this document to train staff on safe work procedures.

The information below is a good faith effort to identify hazards encountered by HVAC technicians / air balancer. If a specific job task is not listed below, contact your supervisor to determine if a specific job hazard analysis or work plan is required.

This document will serve as the certification of hazard assessment for personal protective equipment for the above working job title position.

<table>
<thead>
<tr>
<th>Job Tasks</th>
<th>Potential Hazard</th>
<th>Controls &amp; Recommended Actions</th>
<th>Training and Personal Protective Equipment</th>
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</table>
| Driving vehicles | • Bodily injury | • Maintain current driver’s license  
• Follow all traffic rules  
• Report problems with state vehicles  
• Daily pre-trip vehicle inspection | Task Specific Training  
• Driver Safety and Awareness  
• Seatbelt use policy  
• Monthly shop safety meetings on PPE  
PPE  
• Seatbelt |
| Computer work | • Ergonomic problems: carpal tunnel and back problems  
• Eye strain | • Adequate lighting  
• Take frequent breaks/stretch/move  
• Review ergonomic info on EH&S website  
• Request on Ergonomic evaluation from EH&S | Task Specific Training  
• Ergonomic online training (optional)  
PPE  
• None |
| General use of hand and power tools such as multimeters, screwdrivers, wrenches, wire strippers | • Bodily injury | • Follow industry safety standards for operating power/hand tools  
• Location of first aid kit  
• Location of fire extinguisher  
• Location of exits | Task Specific Training  
• Monthly shop safety meetings on PPE  
PPE  
• Hearing protection – as needed  
• Substantial footwear  
• Impact glasses - as needed  
• Gloves - as needed |
| Maintain inventory supplies | • Ergonomic problems: carpal tunnel and back problems  
• Work at elevated heights | • Get help or use lifting tools for items exceeding 50 pounds or is an awkward shape  
• Request on Ergonomic evaluation from EH&S  
• Take frequent breaks/stretch/move  
• Use ergonomic keyboard | Task Specific Training  
• Back protection  
• Ladder safety  
PPE  
• None |
| Cell phone usage | • Inattention leading to bodily injury | • Be aware of your surroundings  
• Don’t drive and talk unless utilizing a ‘hands-free’ device | Task Specific Training  
• Driver Safety and Awareness  
PPE  
• None |
### HVAC Control Technician / Air Balancer

#### Job Tasks
- Operate/maintain/repair/troubleshoot pneumatic and DDC controls <50v – OR - not exposed to energized equipment in public/classroom/office areas.
- Operate/maintain/repair/troubleshoot air balance and water systems <50v – OR - not exposed to energized equipment in public/classroom/office areas.

#### Potential Hazard
- Airborne contaminants (such as occupant concerns, odors, mold)
- Biological hazards (such as sanitary sewer leaks, legionella)
- Compressed gasses (such as solder iron fuel)
- Confined spaces (such as crawl spaces, ceiling plenums)
- Ergonomic problems such as lifting, repetitive motion, awkward posture
- Hazardous chemicals (such as chemicals in hydronic systems)
- Hazardous energy (mechanical, heat, pressure)
- Insufficient lighting
- Noise
- Overhead equipment
- Power/Hand tools
- Regulated materials such as asbestos, lead, silica
- Slip/trip/fall
- Scaffolding
- Vermin (such as bird or rodent feces)
- Work off ladders

#### Controls & Recommended Actions
- Aerial lift
- Asbestos work plan (if applicable)
- Avoid energized electrical work when possible
- Barricades/signs/spotter (if applicable)
- Building system shutdown
- Confined space permit (as needed)
- Check-in with the department contact person prior to work
- Ensure work area is clear from spills and trip hazards
- Follow industry safety standards for operating power/hand tools
- Get help or use lifting tools for items exceeding 50 pounds, or is an awkward shape
- Hot Work Permit (ie soldering) if applicable
- Lead work plan (if applicable)
- Lockout procedure
- Location of exits
- Location of fire extinguisher
- Location of first aid kit
- Pest Contractor – as needed
- Safety Data Sheets (SDS) for chemical and products
- Use temporary lighting (such as head lamps)
- Water Treatment Plan

#### Training and Personal Protective Equipment

### Task Specific Training
- Asbestos <1% & Lead Work Practices
- Audiometric Hearing test
- Back Protection & Lifting Safety Online
- Bloodborne Pathogens for Non-Lab
- Compressed Gas Safety
- Confined Space Awareness
- Department specific training
- Ergonomic online training (optional)
- Fall Protection
- Fire extinguisher Hands On
- Fire extinguisher Online
- HazCom/GHS training
- Hearing Protection/Conservation Online
- Ladder Safety Hands On
- Ladder Safety Online
- Lift Training
- Lockout/Tagout Safety
- Monthly shop safety meetings on PPE and SDS
- Respirator training & Fit Test
- Scaffold Safety
- Supv LOTO Field Evaluation

### PPE
- Bump cap - as needed
- Dust mask - as needed
- Electrically rated tools
- Gloves – as needed
- Hearing protection - as needed
- Impact glasses/goggles – as needed
- LOTO locks or tags
- Personal fall restraint/arrest equipment
- Substantial footwear
- Any other PPE as specified by the department
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<td>Operate/maintain/repair/troubleshoot pneumatic and DDC controls when working on exposed equipment that is &gt;50v in public/classroom/office areas</td>
<td>• Airborne contaminants (such as occupant concerns, orders, mold) &lt;br&gt; • Biological hazards (such as sanitary sewer leaks, legionella) &lt;br&gt; • Compressed gasses (such as solder gun fuel source) &lt;br&gt; • Confined spaces (such as crawl spaces, ceiling plenums) &lt;br&gt; • Electrically energized equipment &lt;br&gt; • Ergonomic problems such as lifting, repetitive motion, awkward posture &lt;br&gt; • Hazardous chemicals (such as chemicals in hydronic systems) &lt;br&gt; • Hazardous energy (mechanical, heat, pressure (gas / liquid lines)) &lt;br&gt; • Heat stress &lt;br&gt; • Insufficient lighting &lt;br&gt; • Noise &lt;br&gt; • Overhead equipment &lt;br&gt; • Pedestrian traffic &lt;br&gt; • Power/Hand tools &lt;br&gt; • Regulated materials such as asbestos, lead, silica &lt;br&gt; • Slip/trip/fall &lt;br&gt; • Scaffolding &lt;br&gt; • Vermin (such as bird or rodent feces) &lt;br&gt; • Work off ladders</td>
<td>• Aerial lift &lt;br&gt; • Asbestos work plan (if applicable) &lt;br&gt; • Avoid energized electrical work when possible &lt;br&gt; • Barricades/signs/spotter (if applicable) &lt;br&gt; • Building system shutdown &lt;br&gt; • Check-in with the department contact person prior to work &lt;br&gt; • Confined space permit (if applicable) &lt;br&gt; • Energized electrical work permit &amp; work plan – as needed &lt;br&gt; • Ensure work area is clear from spills and trip hazards &lt;br&gt; • Follow industry safety standards for operating power/hand tools &lt;br&gt; • Get help or use lifting tools for items exceeding 50 pounds, or is an awkward shape &lt;br&gt; • Hot Work Permit (ie soldering) if applicable &lt;br&gt; • If hot, drink water and take necessary rest breaks &lt;br&gt; • Lead work plan (if applicable) &lt;br&gt; • Lockout procedure &lt;br&gt; • Location of exits &lt;br&gt; • Location of fire extinguisher &lt;br&gt; • Location of first aid kit &lt;br&gt; • Pest Contractor – as needed &lt;br&gt; • Safety Data Sheets (SDS) for chemical and products &lt;br&gt; • Use portable refrigerant monitor where needed &lt;br&gt; • Use temporary lighting (such as head lamps) &lt;br&gt; • Water treatment plan</td>
<td>• Asbestos &lt;1% &amp; Lead Work Practices &lt;br&gt; • Audiometric Hearing test &lt;br&gt; • Back Protection &amp; Lifting Safety Online &lt;br&gt; • Bloodborne Pathogens for Non-Lab &lt;br&gt; • Compressed Gas Safety &lt;br&gt; • Confined Space Awareness &lt;br&gt; • Department specific training &lt;br&gt; • Ergonomic Online training (optional) &lt;br&gt; • Fall Protection &lt;br&gt; • Fire Extinguisher Hands On &lt;br&gt; • Fire Extinguisher Online &lt;br&gt; • HazCom/GHS training &lt;br&gt; • Hearing Protection /Conservation Online &lt;br&gt; • Ladder Safety Hands On &lt;br&gt; • Ladder Safety Online &lt;br&gt; • Lift Training &lt;br&gt; • Lockout/Tagout Safety &lt;br&gt; • Monthly shop safety meetings on PPE and SDS &lt;br&gt; • NFPA 70E Arc Flash/Electrical Safety &lt;br&gt; • Respirator Training &amp; Fit Test &lt;br&gt; • Scaffold Safety &lt;br&gt; • Supv LOTO Field Evaluation</td>
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<td>Operate/maintain/repair/troubleshoot air balance and water systems when working on exposed equipment that is &gt;50v in public/classroom/office areas</td>
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<td>• Airborne contaminants (such as occupant concerns, odors, mold, refrigerant leak) • Asbestos exposure • Biological hazards (such as sanitary sewer leak, cooling tower – legionella) • Compressed gasses (such as solder gun fuel source) • Confined spaces • Ergonomic problems such as lifting, repetitive motion, awkward posture • Hazardous chemicals (such as chemicals in hydronic systems) • Hazardous energy (mechanical, heat, pressure (gas / liquid lines)) • Heat stress • Noise • Overhead equipment • Power/Hand tools • Regulated materials such as asbestos, lead, silica • Slip/trip/fall • Scaffolding • Vermin (such as rats, birds, rodents feces) • Work off ladders</td>
<td>• Aerial lift • Asbestos work plan (if applicable) • Avoid energized electrical work when possible • Barricades/signs/spotter (if applicable) • Building system shutdown • Check-in with the department contact person prior to work • Confined space permit (if applicable) • Ensure work area is clear from spills and trip hazards • Follow industry safety standards for operating power/hand tools • Get help or use lifting tools for items exceeding 50 pounds, or is an awkward shape • Hot Work Permit (ie soldering) if applicable • If hot, drink water and take necessary rest breaks • Lead work plan (if applicable) • Lockout procedure • Location of exits • Location of fire extinguisher • Location of first aid kit • Pest Contractor – as needed • Refrigerant leak work plan (if applicable) • Safety Data Sheets (SDS) for chemical and products • Use portable refrigerant monitor where needed • Use temporary lighting (such as head lamps) • Water treatment plan • Cooling tower work practice – if applicable</td>
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  • Asbestos exposure  
  • Biological hazards (such as sanitary sewer leak, legionella)  
  • Compressed gasses (such as solder gun fuel source)  
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  • Building system shutdown  
  • Check-in with the department contact person prior to work  
  • Confined space permit (if applicable)  
  • Energized electrical work permit & work plan – as needed  
  • Ensure work area is clear from spills and trip hazards  
  • Follow industry safety standards for operating power/hand tools  
  • Get help or use lifting tools for items exceeding 50 pounds, or is an awkward shape  
  • Hot Work Permit (ie soldering) if applicable  
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  • Refrigerant leak work plan (if applicable)  
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<td>Confined spaces (such as crawl space, ceiling plenums)</td>
<td>Check-in with the department contact person prior to work</td>
<td>Bloodborne Pathogens for Non-Lab Online</td>
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<td>Electrically energized equipment</td>
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<td>Ergonomic problems such as lifting, repetitive motion, awkward posture</td>
<td>Energized electrical work permit &amp; work plan – as needed</td>
<td>Confined Space Awareness</td>
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<td>Hazardous chemicals (such as chemicals in hydronic systems)</td>
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<td>NFPA 70E Arc Flash/Electrical Safety</td>
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<td>Water treatment plan</td>
<td>Respirator Training &amp; Fit Test</td>
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<td>Supv LOTO Field Evaluation</td>
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**PPE**
- Arc Flash Tyvek coveralls- as required per NFPA 70E
- Bump cap - as needed
- Dust mask - as needed
- Electrically rated tools
- Gloves – as required per NFPA 70E
- Gloves – as needed
- Head cover – as required
- Head cover – as required per NFPA 70E
- Head light / temporary lighting
- Hearing protection (as needed)
- Impact glasses/goggles- as required per NFPA 70E
- LOTO locks or tags
- Shoe covers – as required
- Splash face shield – as required
- Substantial footwear
- Substantial leather footwear – as required per NFPA 70E
- Tyvek coveralls – as required
- Any other PPE as specified on the

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<td>Operate/maintain/repair/troubleshoot pneumatic and DDC controls &lt;50v – OR - not exposed to energized equipment in laboratory areas</td>
<td>• Airborne contaminants (such as occupant concerns, odors, mold, refrigerant leak) • Asbestos exposure • Biological hazards (such as sanitary sewer leaks, legionella) • Compressed gasses (such as solder gun fuel) • Confined spaces (such as crawl space, ceiling plenums) • Ergonomic problems such as lifting, repetitive motion, awkward posture • Hazardous chemicals (such as chemicals in hydronic systems) • Hazardous energy (mechanical, heat, pressure (gas or liquid lines)) • Insufficient lighting • Noise • Overhead equipment • Power/Hand tools • Regulated materials such as asbestos, lead, silica • Slip/trip/fall • Vermin (such as bird or rodent feces) • Work off ladders</td>
<td>• Asbestos work plan (if applicable) • Barricades/signs/spotter (if applicable) • Avoid energized electrical work when possible • Building system shutdown • Check-in with the department contact person prior to work • Confined space permit (if applicable) • Ensure work area is clear from spills and trip hazards • Follow industry safety standards for operating power/hand tools • Get help or use lifting tools for items exceeding 50 pounds, or is an awkward shape • Hot Work Permit (ie soldering) if applicable • Lead work plan (if applicable) • Lockout procedure • Location of exits • Location of fire extinguisher • Location of first aid kit • Pest Contractor – as needed • Safety Data Sheets (SDS) for chemical and products • Use temporary lighting (such as head lamps) • Water Treatment Plan</td>
<td>• Asbestos &lt;1% &amp; Lead Work Practices • Audiometric Hearing test • Back protection &amp; Lifting Safety Online • Bloodborne Pathogens for Non-Lab Online • Compressed Gas Safety • Confined Space Awareness • Confined Space Entry/Hands On – as needed • Department specific training • Ergonomic Online training (optional) • Fire Extinguisher Hands On • Fire Extinguisher Online • HazCom/GHS training • Hearing Protection /Conservation Online • Ladder Safety Hands On • Ladder Safety Online • Lockout/Tagout Safety • Monthly shop safety meetings on PPE and SDS • Respirator Training &amp; Fit Test • Supv LOTO Field Evaluation</td>
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PPE
- Bump cap - as needed
- Dust mask - as needed
- Gloves – as needed
- Head light / temporary lighting
- Hearing protection - as needed
- Impact glasses/goggles
- LOTO locks or tags
- Substantial footwear
- Any other PPE as specified on the department lab entry sign
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<td>- Biological hazards (such as sanitary sewer leaks, legionella)</td>
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<td>- Check-in with the department contact person prior to work</td>
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<td>- Electrically energized equipment</td>
<td>- Confined space permit (if applicable)</td>
<td>- Compressed Gas Safety</td>
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<td>- Ergonomic problems such as lifting, repetitive motion, awkward posture</td>
<td>- Energized electrical work permit &amp; work plan – as needed</td>
<td>- Confined Space Awareness</td>
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<td>- Hazardous chemicals (such as chemicals in hydronic systems)</td>
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<td>- Hazardous energy (mechanical, heat, pressure (gas or liquid lines))</td>
<td>- Follow industry safety standards for operating power/hand tools</td>
<td>- Department specific training</td>
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<td>- Insufficient lighting</td>
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<td>- Ergonomic online training (optional)</td>
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<td>- Lockout procedure</td>
<td>- HazCom/GHS training</td>
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<td>- Power/Hand tools</td>
<td>- Location of exits</td>
<td>- Hearing Protection /Conservation Online</td>
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<td>- Regulated materials such as asbestos, lead, silica</td>
<td>- Location of fire extinguisher</td>
<td>- Ladder Safety Hands On</td>
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<td>- Slip/trip/fall</td>
<td>- Location of first aid kit</td>
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**PPE**
- Arc Flash clothing- as required per NFPA 70E
- Bump cap - as needed
- Dust mask - as needed
- Electrically rated tools
- Gloves – as required per NFPA 70E
- Gloves – as needed
- Head cover – as required per NFPA 70E
- Head light / temporary lighting
- Hearing protection (as needed)
- Impact glasses/goggles
- Impact glasses/goggles - as required per NFPA 70E
- LOTO locks or tags
- Substantial footwear
- Substantial leather footwear – as required per NFPA 70E
- Any other PPE as specified on the department / lab entry sign
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<td>- Location of fire extinguisher</td>
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<td>- Scaffolding</td>
<td>- Location of first aid kit</td>
<td>- Ladder Safety Hands On</td>
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<td>- Vermin (such as bird or rodent feces)</td>
<td>- Pest Contractor – as needed</td>
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<td>- Work off ladders</td>
<td>- Refrigerant leak work plan (if applicable)</td>
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<td>- Use portable refrigerant monitor where needed</td>
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**Potential Hazard:**
- Airborne contaminants (such as occupant concerns, odors, mold, refrigerant leak)
- Asbestos exposure
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- Compressed gasses (such as solder gun fuel)
- Confined spaces (such as crawl space, ceiling plenums)
- Electrically energized equipment
- Ergonomic problems such as lifting, repetitive motion, awkward posture
- Hazardous chemicals (such as chemicals in hydronic systems)
- Hazardous energy (mechanical, heat, pressure (gas or liquid lines))
- Insufficient lighting
- Noise
- Overhead equipment
- Power/Hand tools
- Regulated materials such as asbestos, lead, silica
- Slip/trip/fall
- Scaffolding
- Vermin (such as bird or rodent feces)
- Work off ladders

**Controls & Recommended Actions:**
- Aerial lift
- Asbestos work plan (if applicable)
- Avoid energized electrical work when possible
- Barricades/igns/spotter (if applicable)
- Building system shutdown
- Check-in with the construction contact person prior to work
- Confined space permit (if applicable)
- Energized electrical work permit & work plan – as needed
- Ensure work area is clear from spills and trip hazards
- Follow industry safety standards for operating power/hand tools
- Get help or use lifting tools for items exceeding 50 pounds, or is an awkward shape
- Hot Work Permit (ie soldering) if applicable
- Lead work plan (if applicable)
- Lockout procedure
- Location of exits
- Location of fire extinguisher
- Location of first aid kit
- Pest Contractor – as needed
- Refrigerant leak work plan (if applicable)
- Safety Data Sheets (SDS) for chemical and products
- Use portable refrigerant monitor where needed
- Use temporary lighting (such as head lamps)
- Water treatment plan
- Cooling tower work practice – if applicable

**Task Specific Training:**
- Asbestos <1% & Lead Work Practices
- Audiometric Hearing test
- Back Protection & Lifting Safety Online
- Bloodborne Pathogens for Non-Lab Online
- Compressed Gas Safety
- Confined Space Awareness
- Confined Space Entry/Hands On – as needed
- Construction site specific training
- Ergonomic Online training (optional)
- Fall Protection
- Fire Extinguisher Hands On
- Fire Extinguisher Online
- First aid & CPR – as required
- HazCom/GHS training
- Hearing Protection / Conservation Online
- Ladder Safety Hands On
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- Scaffold Safety
- Supv LOTO Field Evaluation

**PPE:**
- Arc Flash clothing- as required per NFPA 70E
- Dust mask - as needed
- Electrically rated tools
- Gloves – as required per NFPA 70E
- Gloves – as needed
- Hard hat
- Head cover – as required per NFPA 70E
- Head light / temporary lighting
- Hearing protection (as needed)
- Impact glasses/goggles
- Impact glasses/goggles- as required per NFPA 70E
- LOTO locks or tags
- Personal fall restraint/arrest equipment
- Safety vest
- Substantial footwear
- Substantial leather footwear – as required per NFPA 70E and construction site
- Any other PPE as specified on the construction site

(Rev 05/17)