



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 Guarrin Sakagawa, Shop 69 Manager

Date: Apr 2021

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.

The baseline training requirements for this position are:

- Driver Safety and Awareness Online
 - Fire Extinguisher Hands On
 - First aid & CPR
 - Hepatitis B Vaccination (must be offered)
 - Monthly shop safety meetings on PPE, safety standard operating procedures and SDS
- Ergonomic Online training (optional)
 - Fire Extinguisher Online
 - HazCom/GHS
 - Bloodborne Pathogens for Non-Lab Online
 - Covid-19 Safety Training: Back to the Workplace

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

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

Job Tasks	Potential Hazard	Controls & Recommended Actions	Training and Personal Protective Equipment
<p>Operate/maintain/repair/troubleshoot pneumatic and DDC controls <50v – OR - not exposed to energized equipment in public/classroom/office areas.</p> <p>Operate/maintain/repair/troubleshoot air balance and water systems <50v – OR - not exposed to energized equipment in public/classroom/office areas.</p>	<ul style="list-style-type: none">• Airborne contaminants (such as occupant concerns, odors, mold)• Biological hazards (such as sanitary sewer leaks, legionella)• 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/hazards• Pedestrian traffic• Power/Hand tools• Regulated materials such as asbestos, lead, silica• Slip/trip/fall• Scaffolding• Vermin (such as bird or rodent feces)• Work off ladders	<ul style="list-style-type: none">• 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, LOTO locks & tags• 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	<p>Task Specific Training</p> <ul style="list-style-type: none">• Asbestos <1% & Lead Work Practices• Audiometric Hearing test• Back Protection & Lifting Safety Online• Confined Space Awareness• Department specific training• Fall Protection• Hearing Protection/Conservation Online• Ladder Safety Hands On• Ladder Safety Online• MEWP training with scissor & aerial evaluation• Lockout/Tagout Safety• Respirator training & Fit Test• Scaffold Safety• Supv LOTO Field Evaluation <p>PPE (as required unless noted as needed)</p> <ul style="list-style-type: none">• Bump cap - as needed• Dust mask - as needed• Electrically rated tools• Gloves – as needed• Hearing protection - as needed• Impact glasses/goggles – as needed• Personal fall restraint/arrest equipment• Respirator• Substantial footwear• Any other PPE as specified by the department

Job Tasks	Potential Hazard	Controls & Recommended Actions	Training and Personal Protective Equipment
<p>Operate/maintain/repair/troubleshoot pneumatic and DDC controls when working on exposed equipment that is >50v in public/classroom/office areas</p> <p>Operate/maintain/repair/troubleshoot air balance and water systems when working on exposed equipment that is >50v in public/classroom/office areas</p>	<ul style="list-style-type: none">• Airborne contaminants (such as occupant concerns, orders, mold)• Biological hazards (such as sanitary sewer leaks, legionella)• Confined spaces (such as crawl spaces, 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 / liquid lines))• Heat stress• Insufficient lighting• Noise• Overhead equipment• Pedestrian traffic• Power/Hand tools• Regulated materials such as asbestos, lead, silica• Slip/trip/fall• Scaffolding• Vermin (such as bird or rodent feces)• Work off ladders	<ul style="list-style-type: none">• 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)• Energized electrical work permit & work plan – as needed• Ensure work area is clear from spills and trip hazards• If hot, drink water and take necessary rest breaks• Lead work plan (if applicable)• Lockout procedure, LOTO locks & tags• Location of exits• Location of fire extinguisher• Location of first aid kit• Pest Contractor – as needed• Safety Data Sheets (SDS) for chemical and products• Understand and implement industry safety standards for operating power/hand tools• Understand and implement safe practices for lifting items exceeding 50 pounds, or is an awkward shape• Understand and implement industry safety standards for tool tethering and toe boards• Use temporary lighting (such as head lamps)• Water treatment plan	<p>Task Specific Training</p> <ul style="list-style-type: none">• Asbestos <1% & Lead Work Practices• Audiometric Hearing test• Back Protection & Lifting Safety Online• Confined Space Awareness• Department specific training• Fall Protection• Hearing Protection /Conservation Online• Ladder Safety Hands On• Ladder Safety Online• Lift Training• Lockout/Tagout Safety• NFPA 70E Arc Flash/Electrical Safety• Respirator Training & Fit Test• Scaffold Safety• Supv LOTO Field Evaluation <p>PPE (as required unless noted as needed)</p> <ul style="list-style-type: none">• Arc Flash rated: clothing, Tyvek coveralls, gloves, hard hat, head cover, impact glasses/goggles, electric hazard footwear• Bump cap -as needed• Dust mask -as needed• Electrically rated tools• Hearing protection -as needed• Impact goggles – as needed• Personal fall restraint/arrest equipment• Respirator• Substantial footwear• Any other PPE as specified by the department

Job Tasks	Potential Hazard	Controls & Recommended Actions	Training and Personal Protective Equipment
<p>Operate/maintain/repair/troubleshoot pneumatic and DDC controls <50v – OR - not exposed to energized equipment in mechanical areas</p> <p>Operate/maintain/repair/troubleshoot air balance and water systems <50v – OR - not exposed to energized equipment in mechanical areas</p>	<ul style="list-style-type: none">• Airborne contaminants (such as occupant concerns, odors, mold, refrigerant leak)• Asbestos exposure• Biological hazards (such as sanitary sewer leak, cooling tower – legionella)• 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• UV light (radiant energy – radio frequency)• Vermin (such as rats, birds, rodents’ feces)• Work off ladders	<ul style="list-style-type: none">• 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, LOTO locks & tags• 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	<p>Task Specific Training</p> <ul style="list-style-type: none">• Asbestos <1% & Lead Work Practices• Audiometric Hearing test• Back Protection & Lifting Safety Online• Confined Space Awareness• Confined Space Entry/Hands On (such as Columbia Lift) – as needed• Department specific training• Fall Protection• Hearing Protection /Conservation Online• Ladder Safety Hands On• Ladder Safety Online• Lift Training• Lockout/Tagout Safety• Monthly shop safety meetings on PPE and SDS• Radio-Frequency Radiation Safety Awareness• Refrigerant Monitoring• Respirator Training & Fit Test• Scaffold Safety• Supv LOTO Field Evaluation <p>PPE (as required unless noted as needed)</p> <ul style="list-style-type: none">• 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• Respirator• Substantial footwear• Any other PPE as specified by the department

Job Tasks	Potential Hazard	Controls & Recommended Actions	Training and Personal Protective Equipment
<p>Operate/maintain/repair/troubleshoot pneumatic and DDC controls when working on exposed equipment that is >50v in mechanical areas</p> <p>Operate/maintain/repair/troubleshoot air balance and water systems when working on exposed equipment that is >50v in mechanical areas</p>	<ul style="list-style-type: none">• Airborne contaminants (such as occupant concerns, odors, mold, refrigerant leak)• Asbestos exposure• Biological hazards (such as sanitary sewer leak, legionella)• Confined spaces• 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 / liquid lines))• Heat stress• Noise• Overhead equipment• Power/Hand tools• Regulated materials such as asbestos, lead, silica• Slip/trip/fall• Scaffolding• UV light (radiant energy – radio frequency)• Vermin (such as rats, birds, rodents’ feces)• Work off ladders	<ul style="list-style-type: none">• 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)• 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• If hot, drink water and take necessary rest breaks• Lead work plan (if applicable)• Lockout procedure, LOTO locks & tags• 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	<p>Task Specific Training</p> <ul style="list-style-type: none">• Asbestos <1% & Lead Work Practices• Audiometric Hearing test• Back Protection & Lifting Safety Online• Confined Space Awareness• Confined Space Entry/Hands On (such as Columbia Lift) – as needed• Department specific training• Fall Protection• Hearing Protection /Conservation Online• Ladder Safety Hands On• Ladder Safety Online• Lift Training• Lockout/Tagout Safety• NFPA 70E Arc Flash/Electrical Safety• Radio-Frequency Radiation Safety Awareness• Refrigerant Monitoring• Respirator Training & Fit Test• Scaffold Safety• Supv LOTO Field Evaluation <p>PPE (as required unless noted as needed)</p> <ul style="list-style-type: none">• Arc Flash rated: clothing, Tyvek coveralls, gloves, hard hat, head cover, impact glasses/goggles, electric hazard footwear• Bump cap (as needed)• Dust mask (as needed)• Electrically rated tools• Hearing protection (as needed)• Impact glasses/goggles – as needed• Personal fall restraint/arrest equipment• Respirator• Substantial footwear• Any other PPE as specified by the department

Job Tasks	Potential Hazard	Controls & Recommended Actions	Training and Personal Protective Equipment
Operate/maintain/repair/troubleshoot pneumatic and DDC controls <50v – OR - not exposed to energized equipment in animal areas Operate/maintain/repair/troubleshoot air balance and water systems <50v – OR - not exposed to energized equipment in animal areas	<ul style="list-style-type: none">• Airborne contaminants (such as occupant concerns, odors, mold)• Asbestos exposure• Biological hazards (such as sanitary sewer leaks, animal feces, legionella)• 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))• Heat stress• Insufficient lighting• Noise• Overhead equipment• Pedestrian traffic• Power/Hand tools• Regulated materials such as asbestos, lead, silica• Slip/trip/fall• Work off ladders	<ul style="list-style-type: none">• 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• If hot, drink water and take necessary rest breaks• Lead work plan (if applicable)• Lockout procedure, LOTO locks & tags• Location of exits• Location of fire extinguisher• Location of first aid kit• Safety Data Sheets (SDS) for chemical and products• Use portable refrigerant monitor where needed• Use temporary lighting (such as head lamps)• Water treatment plan	Task Specific Training <ul style="list-style-type: none">• Asbestos <1% & Lead Work Practices• Audiometric Hearing test• Back Protection & Lifting Safety Online• Biosafety–non-human primate areas• Confined Space Awareness• Confined Space Entry/Hands On (as needed)• Department specific training• Hearing Protection /Conservation Online• Ladder Safety Hands On• Ladder Safety Online• Lockout/Tagout Safety• Refrigerant Monitoring• Respirator Training & Fit Test• Supv LOTO Field Evaluation PPE (as required unless noted as needed) <ul style="list-style-type: none">• Animal Areas: head cover, shoe covers, gloves, coveralls, face shield• Bump cap - as needed• Dust mask - as needed• Head light / temporary lighting• Hearing protection -as needed• Impact glasses/goggles• Respirators• Substantial footwear• Any other PPE as specified by the department

Job Tasks	Potential Hazard	Controls & Recommended Actions	Training and Personal Protective Equipment
Operate/maintain/repair/troubleshoot pneumatic and DDC controls when working on exposed equipment that is >50v in animal areas Operate/maintain/repair/troubleshoot air balance and water systems when working on exposed equipment that is >50v in animal areas	<ul style="list-style-type: none">• Airborne contaminants (such as occupant concerns, odors, mold)• Asbestos exposure• Biological hazards (such as sanitary sewer leaks, animal feces, legionella)• 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))• Heat stress• Insufficient lighting• Noise• Overhead equipment• Pedestrian traffic• Power/Hand tools• Regulated materials such as asbestos, lead, silica• Slip/trip/fall• Work off ladders	<ul style="list-style-type: none">• 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)• 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• If hot, drink water and take necessary rest breaks• Lead work plan (if applicable)• Lockout procedure, LOTO locks & tags• Location of exits• Location of fire extinguisher• Location of first aid kit• Safety Data Sheets (SDS) for chemical and products• Use temporary lighting (such as head lamps)• Water treatment plan	Task Specific Training <ul style="list-style-type: none">• Asbestos <1% & Lead Work Practices• Audiometric Hearing test• Back protection & Lifting Safety Online• Biosafety–non-human primate areas• Confined Space Awareness• Confined Space Entry/Hands On - as needed• Department specific training• Hearing Protection /Conservation Online• Ladder Safety Hands On• Ladder Safety Online• Lockout/Tagout Safety• NFPA 70E Arc Flash/Electrical Safety• Respirator Training & Fit Test• Supv LOTO Field Evaluation PPE (as required unless noted as needed) <ul style="list-style-type: none">• Arc Flash rated: clothing, Tyvek coveralls, gloves, hard hat, head cover, impact glasses/goggles, electrical hazard footwear• Animal Areas: head cover, shoe covers, gloves, coveralls, face shield• Bump cap - as needed• Dust mask - as needed• Electrically rated tools• Gloves – as needed• Head light / temporary lighting• Hearing protection (as needed)• Impact glasses/goggles• Respirator• Substantial footwear• Any other PPE as specified by the department

Job Tasks	Potential Hazard	Controls & Recommended Actions	Training and Personal Protective Equipment
Operate/maintain/repair/troubleshoot pneumatic and DDC controls <50v – OR - not exposed to energized equipment in laboratory areas Operate/maintain/repair/troubleshoot air balance and water systems <50v – OR - not exposed to energized equipment in laboratory areas	<ul style="list-style-type: none">Airborne contaminants (such as occupant concerns, odors, mold, refrigerant leak)Asbestos exposureBiological hazards (such as sanitary sewer leaks, legionella)Confined spaces (such as crawl space, ceiling plenums)Ergonomic problems such as lifting, repetitive motion, awkward postureHazardous chemicals (such as chemicals in hydronic systems)Hazardous energy (mechanical, heat, pressure (gas or liquid lines))Insufficient lightingNoiseOverhead equipmentPedestrian trafficPower/Hand toolsRegulated materials such as asbestos, lead, silicaSlip/trip/fallVermin (such as bird or rodent feces)Work off ladders	<ul style="list-style-type: none">Asbestos work plan (if applicable)Barricades/signs/spotter (if applicable)Avoid energized electrical work when possibleBuilding system shutdownCheck-in with the department contact person prior to workConfined space permit (if applicable)Ensure work area is clear from spills and trip hazardsFollow industry safety standards for operating power/hand toolsGet help or use lifting tools for items exceeding 50 pounds, or is an awkward shapeHot Work Permit (ie soldering) if applicableLead work plan (if applicable)Lockout procedure, LOTO locks & tagsLocation of exitsLocation of fire extinguisherLocation of first aid kitPest Contractor – as neededSafety Data Sheets (SDS) for chemical and productsUse temporary lighting (such as head lamps)Water Treatment Plan	Task Specific Training <ul style="list-style-type: none">Asbestos <1% & Lead Work PracticesAudiometric Hearing testBack protection & Lifting Safety OnlineConfined Space AwarenessConfined Space Entry/Hands On – as neededDepartment specific trainingHearing Protection /Conservation OnlineLadder Safety Hands OnLadder Safety OnlineLockout/Tagout SafetyRespirator Training & Fit TestSupv LOTO Field Evaluation PPE (as required unless noted as needed) <ul style="list-style-type: none">Bump cap - as neededDust mask - as neededGloves – as neededHead light / temporary lightingHearing protection -as neededImpact glasses/gogglesRespiratorSubstantial footwearAny other PPE as specified on the department lab entry sign

Job Tasks	Potential Hazard	Controls & Recommended Actions	Training and Personal Protective Equipment
Operate/maintain/repair/troubleshoot pneumatic and DDC controls when working on exposed equipment that is >50v in laboratory areas Operate/maintain/repair/troubleshoot air balance and water systems when working on exposed equipment that is >50v in laboratory areas	<ul style="list-style-type: none">Airborne contaminants (such as occupant concerns, odors, mold, refrigerant leak)Asbestos exposureBiological hazards (such as sanitary sewer leaks, legionella)Confined spaces (such as crawl space, ceiling plenums)Electrically energized equipmentErgonomic problems such as lifting, repetitive motion, awkward postureHazardous chemicals (such as chemicals in hydronic systems)Hazardous energy (mechanical, heat, pressure (gas or liquid lines))Insufficient lightingNoiseOverhead equipmentPedestrian trafficPower/Hand toolsRegulated materials such as asbestos, lead, silicaSlip/trip/fallVermin (such as bird or rodent feces)Work off ladders	<ul style="list-style-type: none">Asbestos work plan (if applicable)Avoid energized electrical work when possibleBarricades/signs/spotter (if applicable)Building system shutdownCheck-in with the department contact person prior to workConfined space permit (if applicable)Energized electrical work permit & work plan – as neededEnsure work area is clear from spills and trip hazardsFollow industry safety standards for operating power/hand toolsGet help or use lifting tools for items exceeding 50 pounds, or is an awkward shapeHot Work Permit (ie soldering) if applicableLead work plan (if applicable)Lockout procedure, LOTO locks & tagsLocation of exitsLocation of fire extinguisherLocation of first aid kitPest Contractor – as neededSafety Data Sheets (SDS) for chemical and productsUse temporary lighting (such as head lamps)Water Treatment Plan	Task Specific Training <ul style="list-style-type: none">Asbestos <1% & Lead Work PracticesAudiometric Hearing testBack protection & Lifting Safety OnlineConfined Space AwarenessConfined Space Entry/Hands On – as neededDepartment specific trainingHearing Protection /Conservation OnlineLadder Safety Hands OnLadder Safety OnlineLockout/Tagout SafetyNFPA 70E Arc Flash/Electrical SafetyRespirator Training & Fit TestSupv LOTO Field Evaluation PPE (as required unless noted as needed) <ul style="list-style-type: none">Arc Flash rated: clothing, Tyvek coveralls, gloves, hard hat, head cover, impact glasses/goggles, electrical hazard footwearBump cap - as neededDust mask - as neededElectrically rated toolsHead light / temporary lightingHearing protection (as needed)Impact glasses/gogglesRespiratorSubstantial footwearAny other PPE as specified on the department / lab entry sign

Job Tasks	Potential Hazard	Controls & Recommended Actions	Training and Personal Protective Equipment
<p>Operate/maintain/repair/troubleshoot pneumatic and DDC controls <50v – OR - not exposed to energized equipment in construction areas</p> <p>Operate/maintain/repair/troubleshoot air balance and water systems <50v – OR - not exposed to energized equipment in construction areas</p>	<ul style="list-style-type: none">• Airborne contaminants (such as occupant concerns, odors, mold, refrigerant leak)• Asbestos exposure• Biological hazards (such as sanitary sewer leaks, cooling tower -legionella)• 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• Scaffolding• UV light (radiant energy – radio frequency)• Vermin (such as bird or rodent feces)• Work off ladders	<ul style="list-style-type: none">• Aerial lift• Asbestos work plan (if applicable)• Barricades/signs/spotter (if applicable)• Avoid energized electrical work when possible• Building system shutdown• Check-in with the construction 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, LOTO locks & tags• 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	<p>Task Specific Training</p> <ul style="list-style-type: none">• Asbestos <1% & Lead Work Practices• Audiometric Hearing test• Back Protection & Lifting Safety Online• Confined Space Awareness• Confined Space Entry/Hands On – as needed• Construction site specific training• Fall Protection• Hearing Protection /Conservation Online• Ladder Safety Hands On• Ladder Safety Online• Lift Training• Lockout/Tagout Safety• Radio Frequency Radiation Safety Awareness• Refrigerant Monitoring• Respirator training & Fit Test• Scaffold Safety• Supv LOTO Field Evaluation <p>PPE (as required unless noted as needed)</p> <ul style="list-style-type: none">• Construction – hard hat, impact glasses/goggles, safety vest, gloves, substantial footwear• Dust mask - as needed• Head light / temporary lighting• Hearing protection (as needed)• Personal fall restraint/arrest equipment• Respirator• Footwear required by construction site• Any other PPE as specified on the construction site
Job Tasks	Potential Hazard	Controls & Recommended Actions	Training and Personal Protective Equipment
<p>Operate/maintain/repair/troubleshoot pneumatic and DDC controls when working on exposed equipment that is >50v in construction areas</p> <p>Operate/maintain/repair/troubleshoot air balance and water systems when working on exposed equipment that is >50v in construction areas</p>	<ul style="list-style-type: none">• Airborne contaminants (such as occupant concerns, odors, mold, refrigerant leak)• Asbestos exposure• Biological hazards (such as sanitary sewer leaks, cooling tower -legionella)• 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• UV light (radiant energy – radio frequency)• Vermin (such as bird or rodent feces)• Work off ladders	<ul style="list-style-type: none">• 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 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, LOTO locks & tags• 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	<p>Task Specific Training</p> <ul style="list-style-type: none">• Asbestos <1% & Lead Work Practices• Audiometric Hearing test• Back Protection & Lifting Safety Online• Confined Space Awareness• Confined Space Entry/Hands On – as needed• Construction site specific training• Fall Protection• Hearing Protection /Conservation Online• Ladder Safety Hands On• Ladder Safety Online• Lift Training• Lockout/Tagout Safety• NFPA 70E Arc Flash/Electrical Safety• Radio Frequency Radiation Safety Awareness• Refrigerant Monitoring• Respirator training & Fit Test• Scaffold Safety• Supv LOTO Field Evaluation <p>PPE (as required unless noted as needed)</p> <ul style="list-style-type: none">• Arc Flash rated: clothing, Tyvek coveralls, gloves, hard hat, head cover, impact glasses/goggles, electrical hazard footwear• Construction – hard hat, impact glasses/goggles, safety vest, gloves, substantial footwear• Dust mask - as needed• Electrically rated tools• Head light / temporary lighting• Hearing protection (as needed)• Personal fall restraint/arrest equipment• Respirator• Substantial footwear• Any other PPE as specified on the construction site