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|  | **Industry/Sector:** | Overnight Accommodation | **Department/Job Position:** | Engineering/Building Operator |
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| **Common Tasks and Duties:** | * Performing routine maintenance checks * Repairing mechanical/electrical systems * Managing HVAC systems * Maintaining pool and spa systems * Inspecting rooftop equipment * Handling tools and heavy equipment * Responding to facility emergencies * Working in confined spaces (e.g. boiler room, tanks) * Working alone on night shift | **Reasonably Foreseeable or Common Hazards:** | * Musculoskeletal injuries (MSI) and ergonomics * Working alone or in isolation * Slips, trips and falls * Struck by/against incidents * Moving and rotating parts (e.g. tools and equipment) * Chemicals and high-pressurized gases and liquids * Electrical hazards * Noise and vibration hazards * Working from heights * Confined spaces (e.g. asphyxiation or entrapment) * Working with mobile equipment |

Employers are to review this HIRA document and customize to their location, job tasks and site-specific hazards. To edit a row, simply use Microsoft word to edit (e.g. edit text, change risk ratings, delete a row, or add a new row). When determining risk follow the Guidance Document - Assessing Risk for HIRA Tools. When identifying controls, be sure to use the [Hierarchy of Controls](https://www.go2hr.ca/explore-all-resources/health-safety/identify-hazards-manage-risk) to control risk through elimination, substitution, engineering controls, administrative controls and Personal Protective Equipment (PPE). Once complete, this should be reviewed by the JHSC or a Worker H&S Rep, and reviewed annually thereafter.

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|  | **Full Name** | **Job Position** | **Signature** | **Date** |
| **Completed By:** |  |  |  |  |
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| **Task** | **Hazards/Risks** | **Inherent (Before Controls) Risk** | | | **General Control Measures** | **Residual (After Controls) Risk** | | | **Additional Notes** |
| **Probability** | **Severity** | **Rating** | **Probability** | **Severity** | **Rating** |
| Performing routine maintenance checks | * MSI risks e.g. repetitive motion, overexertion, reaching, awkward postures (see more below) * Slips, trips and falls * Struck by/against incidents * Faulty or defective tools or equipment * Electrical hazards * Working from heights * Working alone or in isolation | Likely | Moderate | Med. Risk | * Only qualified and trained personnel to perform work * Follow safe work procedures and wear required PPE * Do not defeat or bypass safety guards or devices * Follow manufacturer’s instruction for safe use, pre-use inspection and maintenance * Inspect the area, remove objects that pose tripping hazards * Clean up spills immediately, and use “Wet Floor” signage * Wear slip-resistant footwear, safety footwear when required * Provide workers with information on hazards e.g. electricity, heights, mobile equipment, chemicals, moving parts etc. | Possible | Moderate | Med. Risk | Other tasks within this HIRA identify more specific risks and associated controls for work with increased risk e.g. electricity, working at heights, mobile equipment, chemicals, moving parts etc. |
| Operating and maintaining electrical systems | * Electric shock from exposed or faulty wiring * Burns from arc flash or hot components * Fire due to faults or overloads * Exposure to energized equipment during maintenance * Eye injuries from flash or sparks * Faulty tools or equipment * Building-related hazardous materials (e.g. asbestos, lead) | Likely | Critical | High Risk | * Only qualified electricians to perform electrical work * Provide workers with instruction and training * De-energize equipment before performing maintenance * Lockout/tagout (LOTO) procedures with individual locks/tags * Follow safe work procedures and wear required PPE * Use insulated tools rated for electrical work * Maintain clear access to panels and electrical rooms * Ensure proper labeling and SLDs of circuits and breakers * Conduct regular inspections and maintenance of electrical systems and equipment * Report and repair damaged cords, outlets, or equipment | Possible | Serious | Med. Risk | If contracting work with increased risk, ensure contractor safety is managed through controls such as pre-qualification, confirmation of valid insurance (including WSBC clearance letter), hazard assessments, verification of qualifications and training, safe work procedures and equipment, appropriate PPE |

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| Operating and maintaining HVAC systems (e.g. cleaning coils, fans, and ductwork, air filter replacement etc.) | * Exposure to hot surfaces or steam burns * Cuts or abrasions from sharp edges or tools (hand injuries) * Electrical hazards * Working from heights * Using hazardous products * Building-related hazardous materials (e.g. asbestos, lead) * Biological agents (e.g. mould or legionnaires' disease exposure) * MSI risks e.g. repetitive motion, overexertion, reaching, awkward postures (see more below) | Likely | Critical | High Risk | * Only qualified and trained personnel to work with equipment * Provide workers with instruction and training on HVAC systems and related hazards * Follow safe work procedures and wear required PPE * Follow manufacturer’s instruction for safe use, pre-use inspection and maintenance * De-energize and LOTO equipment before servicing * Conduct regular inspections and maintenance of HVAC systems and equipment * Ensure adequate and good ventilation in working areas * Use safe lifting techniques and ergonomic tools * Keep work area clean and free of tripping hazards | Possible | Serious | Med. Risk | Should a hazardous material (e.g. building-related or biological agent) be identified as a risk, ensure an Exposure Control Plan (ECP), along with any applicable training and PPE, is in place as required by WorkSafeBC |
| Using chemicals and hazardous products (e.g. maintaining pool systems, fuels, chillers, lubricants etc.) | * Exposure to chemical hazards e.g. chemical burns, splashes to eyes, respiratory or skin irritation * Unlabelled or illegible containers * Spills and environment concerns | Possible | Serious | Med. Risk | * WHMIS training for staff using chemical products * Supplier and workplace labels in place and legible * Safe handling practices and PPE as required by label/SDS * Employer to assess products for hazards before procuring * Safety Data Sheets (SDS) referenced and available * Ensure adequate and good ventilation in working areas * Regular inspections for WHMIS compliance * Ensure proper storage of chemicals and hazardous products * Spill response procedures with SDS * First aid on site with emergency eyewash | Unlikely | Moderate | Low Risk | If contracting work with increased risk, ensure contractor safety is managed through controls such as pre-qualification, confirmation of valid insurance (including WSBC clearance letter), hazard assessments, verification of qualifications and training, safe work procedures and equipment, appropriate PPE |
| Working from heights (e.g. ladders inspecting rooftop equipment, gutter and drain repair, replacing lights and signage etc.) | * Slips or trips on uneven or slippery surfaces * Falling tools or materials posing risk to others below * Overreaching or loss of balance while working at heights * Contact with overhead hazards and electrical equipment * Severe weather * Faulty or defective equipment | Likely | Critical | High Risk | * Utilize the fall protection hierarchy (e.g. elimination, guardrails, fall/travel restraint and fall arrest) to eliminate or guard against fall hazards as the preferred methods * Only qualified and trained personnel to work from heights * Follow safe work procedures and wear required PPE * Fall protection plan including engineered anchor points, full-body harness, lanyards etc. * Ensure rescue plans in place as required by WorkSafeBC * Assess the area for overhead hazards (e.g. fans or electrical lines or equipment), maintain limits of approach * Conduct pre-use inspections of ladders and platform lifts * Maintain three points of contact when climbing * Set up work areas to prevent tools/materials from falling and use adequate work delineation (e.g. barriers, cones etc.) * Avoid working at heights in poor weather conditions * Use spotters or barricades to protect others below | Possible | Serious | Med. Risk | If contracting work with increased risk, ensure contractor safety is managed through controls such as pre-qualification, confirmation of valid insurance (including WSBC clearance letter), hazard assessments, verification of qualifications and training, safe work procedures and equipment, appropriate PPE |
| Working in confined spaces (e.g. cooling towers, boiler tanks) | * Asphyxiation (e.g. oxygen deficiency or toxic gas exposure) * Limited entry/exit complicating emergency response * Entrapment or moving parts * Building-related hazardous materials or biological agents * MSI risks e.g. repetitive motion, overexertion, reaching, awkward postures (see more below) | Possible | Critical | Med. Risk | * Only qualified and trained personnel to enter confined spaces * Use a confined space permit and entry checklist * Atmosphere tested for oxygen and toxic gasses * Wear required PPE, respirators require fit testing * Confined space entry procedures oxygen and gas detection * Ventilate the space before and during entry * Isolate energy sources (LOTO) before entry * Standby person with communication device and rescue plan | Possible | Serious | Med. Risk | If contracting work with increased risk, ensure contractor safety is managed through controls such as pre-qualification, confirmation of valid insurance (including WSBC clearance letter), hazard assessments, verification of qualifications and training, safe work procedures and equipment, appropriate PPE |

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| Handling tools and heavy equipment (e.g. hand and power tools, carpentry, mobile equipment etc.) | * Cuts, punctures, or abrasions from hand or power tools * Rotating and moving parts * Faulty or defective equipment * Noise exposure from loud equipment * Electric shock from improperly maintained tools * Falls from working at heights * MSI risks e.g. repetitive motion, overexertion, reaching, awkward postures (see more below) | Likely | Serious | High Risk | * Only qualified and trained personnel to work with equipment * Follow safe work procedures and wear required PPE * Follow manufacturer’s instruction for safe use, pre-use inspection and maintenance * Use proper lifting techniques or mechanical aids * Wear PPE (e.g., gloves, safety glasses, hearing protection) * Store tools securely to prevent slips, trips, or drops * Keep cords and hoses organized and out of walkways * Set up work areas to prevent tools/materials from falling and use adequate work delineation (e.g. barriers, cones etc.) * Assess the area for overhead hazards (e.g. fans or electrical lines or equipment), maintain limits of approach * Avoid using mobile equipment in poor weather conditions * Use spotters or barricades to protect others below | Possible | Serious | Med. Risk | If contracting work with increased risk, ensure contractor safety is managed through controls such as pre-qualification, confirmation of valid insurance (including WSBC clearance letter), hazard assessments, verification of qualifications and training, safe work procedures and equipment, appropriate PPE |
| Responding to facility emergencies (e.g. severe weather, power outages, leaks etc.) | * Power loss affecting lighting, equipment, and safety systems * Increased risk of injuries due to rushing or working under stress * Disruption to business operations * Failure of critical systems (e.g. elevators, HVAC, alarms) | Likely | Serious | High Risk | * General control measures listed throughout HIRA * Emergency plans in place with procedures for responding to reasonably foreseeable emergency events * Escalate calls to service techs and emergency services * Provisions for debriefing and psychological safety and mental health supports for workers involved in or witnessed critical/traumatic incidents | Possible | Moderate | Med. Risk | Business continuity planning for emergency service techs and equipment is recommended |
| Musculoskeletal injuries (MSI) and ergonomics | * Repetitive motions such as using hand tools, or turning valves * Awkward postures when working in tight spaces, reaching, or accessing equipment * Overexertion when lifting or maneuvering heavy tools, parts, or mechanical components * Pushing or pulling maintenance equipment, carts, or building systems (e.g. HVAC units) * Improper lifting techniques when handling supplies and materials | Likely | Serious | High Risk | * Training on MSI prevention, ergonomics and safe lifting * Reminders during pre-shift briefings on MSI prevention * Warm-up, stretch and take breaks * Use proper lifting techniques or mechanical aids * When possible, use ergonomic tools * Use carts, dollies or lifting aids for transporting materials * Push carts instead of pulling to reduce risk of strain * Keep carts maintained and organized to avoid overloading * Rotate tasks throughout the shift to reduce repetitive motions * Report and replace worn or broken equipment * Store heavier items at waist height to avoid unnecessary lifting | Possible | Serious | Med. Risk | See resources for employers from WorkSafeBC and go2HR on MSI prevention |
| Entering guest rooms | * Unexpected occupants or pets * Aggressive guests, violence and harassment * Slips, trips and falls * Struck by/against incidents | Possible | Serious | Med. Risk | * Written procedure for guest room entry * Pet policy with guest education and signage * Work in pairs or groups, rather than working alone * Work with guest room door open * Ensure adequate lighting for work tasks * Violence/harassment policies, risk assessments and training * Maintain situational awareness, avoid distractions * Devices for immediately summoning assistance e.g. radios, apps, panic button, whistles etc. | Unlikely | Serious | Low Risk | Generally, engineering and building operators would enter guest rooms when vacant and unoccupied |
| Working alone or in isolation | * Personal safety risks * Delayed response to medical and H&S incidents or emergencies | Possible | Serious | Med. Risk | * Working Alone Policy with established check-in procedures * Ensure adequate lighting for work tasks * Violence/harassment policies, risk assessments and training * Maintain situational awareness, avoid distractions * Devices for immediately summoning assistance e.g. radios, apps, panic button, whistles etc. | Unlikely | Serious | Low Risk | Avoid work with increased risk when working alone. When possible, have staff work in pairs or groups, particularly in locations or at times with increased risk |