HVAC Cleaning Ductwork and Filter Replacement

Business Name:	ABN:	
Business Address:		
Contact Person:	Phone:	Email:

THIS RISK ASSESSMENT IS APPROVED BY THE PCBU OF THE PROJECT

Under the Work Health and Safety Regulation (WHS Regulation), a person conducting a business or undertaking (PCBU) is required to ensure that a RISK ASSESSMENT is prepared before the proposed work starts.

Full Name:		
Signature:	Title:	Date:

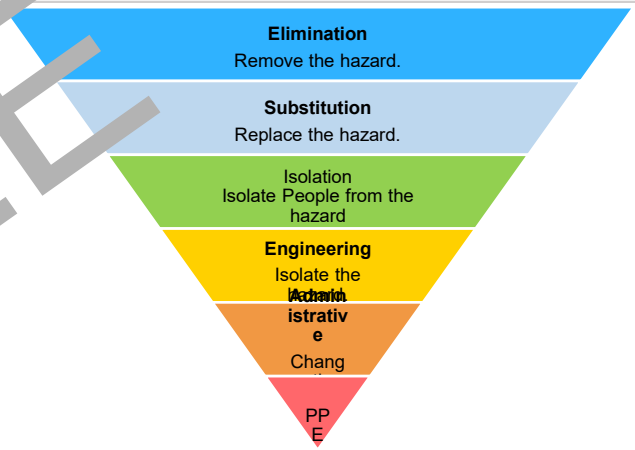
CLIENT OR PRINCIPAL CONTRACTOR DETAILS

Client:	SCOPE OF WORKS
Project Name:	
Project Address:	
Project Manager:	
Contact Phone:	
Date Risk Assessment supplied to Project Manager:	

RISK MATRIX

LIKELIHOOD	INSIGNIFICANT	MINOR	MODERATE	MAJOR	CATASTROPHIC	SCORE	ACTION
ALMOST CERTAIN	3 HIGH	3 HIGH	4 ACUTE	4 ACUTE	4 ACUTE		
LIKELY	2 MODERATE	3 HIGH	3 HIGH	4 ACUTE	4 ACUTE	4A ACUTE	DO NOT PROCEED
POSSIBLE	1 LOW	2 MODERATE	3 HIGH	4 ACUTE	4 ACUTE	3H HIGH	Rev before work
UNLIKELY	1 LOW	1 LOW	2 MODERATE	3 HIGH	4 ACU	2M MO RATE	Ensure control measures in place.
RARE	1 LOW	1 LOW	2 MODERATE	3 HIGH	3 H	1L LOW	Monitor and keep records.

HIERARCHY OF CONTROLS



Risk Rating & Required Action:

4A	Stop work. The risk is intolerable. E inate the hazar redesign the activity before proceeding. A Safe Work Method Statement (SWMS) or hi er-level authorisati is required.
3H	Review and approve additional c rols b ask arts. Senior supervisor sign-off needed.
2M	Ensure all nominated controls are in ace and effe ive. Proceed with caution; monitor conditions.
1L	Proceed, following standard operating procedures Monitor and keep records.

Consequence Scale:

Consequence	People (injury/illness)	Project / Assets	Compliance / Reputation
Catastrophic	Fatality or permanent total disability	project shutdown	Significant regulator intervention; criminal prosecution
Major	Serious injury/illness (hospital > 5 days)	critical delay	Improvement notice; major media coverage
Moderate	Medical-treatment injury; lost-time > 1 day	moderate delay	Minor breach; adverse client comment
Minor	First-aid only, no lost time	negligible delay	Isolated non-conformance
Insignificant	No injury	no schedule impact	Deviation caught and corrected on site

Notes on Hierarchy of Controls:
Remember to apply controls in the preferred order shown by the coloured pyramid:

1. **Eliminate**
2. Substitute
3. Isolate
4. Engineering
5. Administrative
6. PPE

Always document **why** a lower-order control is accepted if elimination or substitution is not reasonably practicable.

aligned with Safe Work Australia's Managing the risk of fatigue at work *(2023) and ISO 45001:2018 clauses 6–8.*

JOB STEP	POTENTIAL HAZARDS	IR	CONTROL MEASURES	RR
SPECIFIC WORK STEPS	HAZARDS THAT MAY ARISE	INITIAL RISK	SPECIFIC MEASURES TO BE PUT IN PLACE TO ELIMINATE OR CONTROL THE RISKS	RESIDUAL RISK
1. WHS Governance, Roles and Legal Compliance	• Lack of clear WHS responsibilities for HVAC cleaning activities and filter change programs • WHS Act 2011 and WHS Regulation non-compliance regarding plant, hazardous chemicals and working environment • Inadequate consultation with workers and health and safety representatives on HVAC cleaning risks • Absence of documented WHS objectives, KPIs and review processes specific to HVAC maintenance activities • Failure to ensure PCBUs, subcontractors and host workplaces understand shared duties for HVAC work	4A	• Establish and document a WHS management system aligned with WHS Act 2011, WHS Regulation and relevant Codes of Practice, explicitly covering HVAC cleaning ductwork and filter replacement • Define and communicate WHS roles, responsibilities and accountabilities for managers, supervisors, technicians and contractors involved in HVAC maintenance • Implement a formal WHS governance structure (e.g. WHS committee, toolbox meetings) with standing agenda items for HVAC cleaning risks, incidents and corrective actions • Ensure consultation, operation and coordination arrangements are documented with building owners, facility managers and subcontractors for shared HVAC plant and areas • Schedule periodic legal compliance audits to verify adherence to WHS Act 2011, Regulations, Australian Standards (e.g. AS 1668, AS 3666, AS/NZS 3666 series, AS/NZS 5141) and any relevant industry guidelines • Include HVAC cleaning, filter changes and chemical use in the organisation's WHS policy, risk registers and continuous improvement plans	3H
2. HVAC Asset Design, Procurement and Lifecycle Management	• Poorly designed or inaccessible HVAC systems creating manual handling, fall and confined space risks during cleaning and filter replacement • Use of non-compliant or incompatible filters, duct materials and components leading to poor air quality or system failure • Lack of lifecycle planning resulting in ageing plant, corrosion and increased likelihood of leaks and failures • Inadequate provision for isolation points, access panels and safe working platforms at design stage • Inconsistent asset data records leading to missed maintenance for rooftop units, DX coils and condensers	4A	• Adopt a formal HVAC design and procurement standard that requires safe access for maintenance, compliant duct materials and provision for coil, condenser and filter cleaning • Specify Australian Standard–compliant filters, ductwork and components, including appropriate filtration levels for the building's use and contaminant profile • Require designers and suppliers to provide safe access solutions (e.g. fixed ladders, walkways, anchor points, access hatches) documented in O&M manuals • Implement an asset lifecycle management plan that includes replacement timeframes, condition monitoring and decommissioning processes for HVAC plant and ducting • Maintain a centralised asset register with accurate locations, access requirements, filter types, cleaning frequencies and criticality ratings for all HVAC equipment • Require formal design risk assessments for new or modified HVAC systems, with documented consideration of future cleaning and filter replacement tasks	2M
3. Contractor and Worker Competency, Training and Licensing	• Inadequate technical competency for coil cleaning, duct cleaning and filter replacement tasks • Lack of awareness of WHS duties, risk controls and emergency procedures	4A	• Implement a competency framework defining mandatory qualifications, licences and experience for HVAC cleaners, filter technicians and supervisors • Verify and record trade qualifications, high risk work licences, working at heights training and VOCs (verification of competency) before allowing workers on site • Provide regular WHS training covering WHS Act duties, hazard identification, risk assessment and incident reporting specific to HVAC maintenance	2M

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	• Use of unlicensed or unqualified personnel for tasks involving refrigerants and restricted electrical work • Insufficient training in hazardous chemical handling, SDS interpretation and safe use of cleaning systems • No verification of competency for work at height, rooftop access or use of specialised equipment		• Deliver task-specific training in chemical coil cleaning, duct cleaning systems, negative air machines, and safe handling of contaminated filters and debris • Conduct periodic refresher training and field comp[illegible]ncy assessments focusing on work at height, plant isolation and emergency response • Include contractor prequalification proces[illegible] that assess[illegible]VHS performance, training systems and evidence of competency for HVAC cleaning [illegible]ivities	
4. Safe Work Procedures, SWMS and Permit-to-Work Systems	• Absence of documented procedures for HVAC duct cleaning, DX coil cleaning and filter replacement on rooftop units • Inconsistent use of SWMS for higher-risk activities such as work at height, confined spaces or hazardous chemical use • Failure to control overlapping work through permits and isolation procedures, leading to unauthorised energisation • Procedures not reflecting site-specific[illegible] constraints, resulting in [illegible] improvisation • Lack of periodic [illegible]view of proc[illegible]ures following incidents [illegible]cha[illegible]in pl[illegible] and equipment	4A	[redacted]	2M
5. Planning, Scheduling and Coordination of HVAC Cleaning Activities	• Poor planning leading to rushed [illegible]ork, fatigue and shortcuts du[illegible] changes and coil cleaning • Inadequate coordination with building occupants causing unexpected shutdowns or exposure to cleaning residues • Simultaneous operations (SIMOPS) creating interference with other contractors, e.g. roof works, electrical maintenance • Failure to schedule maintenance in line with manufacturer recommendations, contamination levels and regulatory requirements	3H	[redacted]	2M

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	• Inaccurate or outdated maintenance schedules resulting in neglected rooftop units or hard-to-access ductwork		[redacted]	
6. Working at Height, Rooftop Access and Fall Prevention Systems	• Uncontrolled risk of falls from height when accessing rooftop units and external plant • Inadequate or non-compliant roof access systems, ladders, walkways and guardrails • Unprotected skylights, brittle roofing or trip hazards near HVAC units • Inconsistent use and inspection of fall arrest systems and anchor points • Poor planning for access to elevated ductwork, particularly in voids or plant rooms	4A	[redacted]	2M
7. Hazardous Chemicals and Coil Cleaning Agent Management	• Exposure to hazardous chemicals used for chemical cleaning of coils, condensers and D coils (e.g. corrosive, irritant or sensitising agents) • Lack of chemical risk assessments and inadequate review of Safety Data Sheets (SDS) • Improper storage, labelling or decanting of chemicals leading to spills, mixing or incompatible use • Insufficient training on dilution, application, neutralisation and disposal requirements • Release of fumes, aerosols or residues into occupied spaces through HVAC systems	4A	[redacted]	2M
8. Indoor Air Quality, Biological	• Accumulation of dust, mould and biological contaminants in ductwork,	4A		2M

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Contamination and Dust Control	coils and filters leading to poor indoor air quality (IAQ) • Inadequate negative pressure and capture methods during duct cleaning causing spread of contaminants into occupied areas • Failure to manage contaminated filters and waste resulting in secondary exposure to workers and cleaners • Lack of IAQ monitoring or complaint handling procedures related to HVAC systems • Inappropriate cleaning methods that damage filters or duct linings, releasing fibres or particulates		[redacted]	
9. Electrical, Mechanical and Isolation Systems Safety	• Uncontrolled energisation of fans, blowers or associated plant during cleaning or filter replacement • Contact with live electrical componer in air handling units, rooftop package units or control panels • Unexpected start-u om automated controls or BMS d g maintenance • Lack of clear isol n poi d procedures for HVA pment • Failure to verify zero energy stat r moving parts such as fan lts d drives		[redacted]	2M
10. Manual Handling, Ergonomics and Access to Components	• Musculoskeletal strain from handling large or awkward filters, access panels and duct cleaning equipment • Repetitive movements and sustained postures when working in ceiling spaces, plant rooms or on ladders • Poor access to filters and coils in cramped AHUs or ceiling voids leading to overreach and unsafe body positions	3H	[redacted]	2M

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	• Lack of equipment for mechanical assistance during movement of heavy components or waste bags • Insufficient assessment of manual handling risks during project design and planning		[redacted]	
11. Contractor Management, Site Induction and Access Control	• Contractors undertaking HVAC duct cleaning and filter replacement without adequate understanding of site-specific hazards • Uncontrolled access to rooftops, plant rooms and ceiling spaces by uninducted personnel • Poor coordination between principal contractor, building management and HVAC contractors • Failure to verify contractor WHS systems, insurances and performance history • Lack of clarity on supervision arrangements for subcontracted technicians	3H	[redacted]	2M
12. Emergency Preparedness, Incident Response and First Aid	• Delayed or ineffective response to chemical exposure, falls from height, electric shock or respiratory incidents during HVAC cleaning • Lack of first aid resources and trained personnel in rooftop or remote plant locations • Inadequate emergency communication methods for workers in ceiling spaces or on roofs • Failure to report, investigate and learn from incidents and near misses • Confusion about responsibilities between building management and contractors in emergencies	3H	[redacted]	1L

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13. Health Monitoring, PPE Standards and Exposure Control	• Uncontrolled exposure to airborne contaminants, mould, dust and chemical residues during duct and coil cleaning • Inconsistent PPE selection, issue and use across different sites and contractors • No health monitoring or baseline assessments for workers regularly exposed to cleaning agents or biological contaminants • Reliance on PPE as the primary control instead of engineering and administrative measures • Inadequate laundering or disposal of contaminated PPE	3H	[redacted]	2M
14. Documentation, Recordkeeping and Continuous Improvement	• Incomplete or inaccurate records of HVAC maintenance, duct cleaning and filter changes • Inability to demonstrate compliance with WHS Act 2011, Regulations and Australian Standards due to poor documentation • Loss of organisational knowledge when staff change, leading to repeated mistakes or overlooked risks • Failure to track corrective actions from inspections, audits and incident investigations • No structured review of HVAC cleaning performance and emerging risks	3H	[redacted]	1L

EMERGENCY RESPONSE – CALL 000 FOR EMERGENCIES

Ensure to have an Emergency Management Plan in place as well as adequate numbers of trained first aid staff with easy access to fully stocked first aid kits, rescue equipment, material safety data sheets, adequate access to emergency communication equipment and fire-fighting equipment suitable for all classes of fire and ignition sources.

LEGISLATIVE REFERENCES

RELEVANT LEGISLATION AND CODES OF PRACTICE. DELETE THE LEGISLATIVE REFERENCES FOR ANY STATE THAT ARE NOT APPLICABLE

Queensland & Australian Capital Territory
Work Health and Safety Act 2011
Work Health and Safety Regulations 2011
Legislation QLD: https://www.worksafe.qld.gov.au/laws-and-compliance/work-health-and-safety-laws
Codes of Practice QLD: https://www.worksafe.qld.gov.au/laws-and-compliance/codes-of-practice
Legislation ACT: https://www.worksafe.act.gov.au/laws-and-compliance/acts-and-regulations
Codes of Practice ACT: https://www.worksafe.act.gov.au/laws-and-compliance/codes-of-practice

New South Wales
Work Health and Safety Act 2011
Work Health and Safety Regulations 2025
Legislation NSW: https://www.safework.nsw.gov.au/legal-obligations/legislation
Codes of Practice NSW: https://www.safework.nsw.gov.au/resource-library/list-of-codes-of-practice

Northern Territory
Work Health and Safety (National Uniform Legislation) Act 2011
Work Health and Safety (National Uniform Legislation) Regulations 2011
Legislation NT: https://worksafe.nt.gov.au/laws-and-compliance/workplace-safety-laws
Codes of Practice NT: https://worksafe.nt.gov.au/forms-and-resources/codes-of-practice

South Australia
Work Health and Safety Act 2012 (SA)
Work Health and Safety Regulations 2012 (SA)
Legislation for SA: https://www.safework.sa.gov.au/resources/legislation
Codes of Practice for SA: https://www.safework.sa.gov.au/workplaces/codes-of-practice#COPs

Tasmania
Work Health and Safety Act 2012
Work Health and Safety (Transitional and Consequential Provisions) Act 2012
Work Health and Safety Regulations 2012
Work Health and Safety (Transitional) Regulations 2012
Legislation for TAS: https://worksafe.tas.gov.au/topics/laws-and-compliance/acts-and-regulations
Codes of Practice for TAS: https://worksafe.tas.gov.au/topics/laws-and-compliance/codes-of-practice

Details of permits, licenses or access required by regulatory bodies (add or delete as required):

- Permits from local council
- Authorisation to commence work
- Any required documents.

Victoria
Occupational Health and Safety Act 2004
Occupational Health and Safety Regulations 2017
Legislation VIC: https://www.worksafe.vic.gov.au/occupational-health-and-safety-act-and-regulations
Codes of Practice VIC: https://www.worksafe.vic.gov.au/compliance-codes-and-codes-practice

Western Australia
Work Health and Safety Act 2020
Work Health and Safety Regulations 2022
Legislation Western Australia: https://www.commerce.wa.gov.au/worksafe/legislation
Codes of Practice WA: https://www.commerce.wa.gov.au/worksafe/codes-practice

Safe Work Australia Links
Law and Regulation (All States): https://www.safeworkaustralia.gov.au/law-and-regulation
Model Codes of Practice: https://www.safeworkaustralia.gov.au/resources-publications/model-codes-of-practice

Model Codes of Practice

- Managing noise and preventing hearing loss at work
- Confined spaces
- Labelling of workplace hazardous chemicals
- Managing risks of hazardous chemicals in the workplace
- Welding processes
- First aid in the workplace
- Managing the risk of falls at workplaces
- Hazardous manual tasks
- Managing the risk of falls in housing construction
- Managing electrical risks in the workplace
- Demolition work
- Excavation work
- Work health and safety consultation, cooperation and coordination
- Managing the work environment and facilities
- How to manage work health and safety risks
- Managing risks of plant in the workplace
- Construction work