Bicester, Oxfordshire

Risk Assessment and Method Statement (RAMS) for Refrigeration and Air Conditioning Servicing

RAMS Number:	
Project Reference:	
Client Name:	
Location:	
Prepared By:	
Date:	

Table Of Contents

Introduction

Purpose

The purpose of this RAMS document is to ensure the safe and controlled execution of tasks associated with Refrigeration and Air Conditioning Servicing.

It identifies the potential hazards, assesses the associated risks, and outlines the control measures necessary to minimise the risk of injury, ill health, fire or property damage during these activities. The document is intended to guide all employees involved, ensuring that the work is carried out in compliance with current health and safety legislation, industry best practice, and relevant British Standards.

All works described within this document will be undertaken in accordance with, but not limited to, the following legislation:

- Health and Safety at Work etc. Act 1974
- Management of Health and Safety at Work Regulations 1999
- Provision and Use of Work Equipment Regulations 1998 (PUWER)
- Regulatory Reform (Fire Safety) Order 2005
- Control of Substances Hazardous to Health Regulations 2002 (COSHH)

All operatives and contractors are required to read, understand, and adhere to the contents of this RAMS. Ongoing risk assessment and dynamic monitoring of conditions should be undertaken throughout the duration of the works to ensure that any emerging hazards are identified and appropriately controlled.

Scope of Works

The works covered by this RAMS include the servicing, inspection, testing, and maintenance of refrigeration and air conditioning systems and associated components. Activities may take place in plant rooms, roof areas, service corridors, or occupied commercial premises.

The work typically involves the following activities:

- Carrying out routine inspection and performance testing of refrigeration and systems to confirm correct operation and efficiency.
- Checking and tightening electrical and mechanical connections, replacing worn or damaged components.
- Leak detection, pressure testing, and evacuation of refrigeration systems in accordance with F-Gas regulations.
- Recharging systems with refrigerant and recording gas usage and recovery details as required by legislation.
- Cleaning and maintenance of condensers, evaporators, and fan coils, including safe use of cleaning chemicals and portable tools.
- Monitoring and adjusting system pressures, temperatures, and controls using calibrated instruments.
- Working at height where necessary to access roof-mounted condensers or high level fan coil units, using ladders, tower scaffolds, or MEWPs in accordance with a separate Working at Height RAMS.

- Implementing isolation and lock-off procedures before accessing electrical panels or pressurised systems.

This RAMS also considers interaction with other site operations, ensuring that all reasonable precautions are taken to protect operatives, other workers, and members of the public from risks arising during the servicing and maintenance of refrigeration and air conditioning systems.

Project Details

Site Location

The site where the Refrigeration and Air Conditioning Servicing will take place is:

Duration of Work

Estimated Duration is:

Start Date is:

End Date is:

Working Hours

Regular working hours for the works will be:

Start Time:

End Time:

Overtime & Weekends:

Key Contacts

Role	Name	Tel	Email
Owner/Site Supervisor	Daniel Adams	07801990860	cityfridge@outlook.com

Responsibilities

Role	Description	Responsibilities
Owner/Site Supervisor	Overall responsibility for the safe and efficient completion of all works, including supervision of employees and coordination with clients or other contractors. Acts as the competent person on site for all refrigeration and hot works activities.	• Has full responsibility for health, safety, and environmental compliance on site. • Ensures that all work is undertaken in accordance with the approved RAMS, legislation, and client requirements. • Conducts site-specific briefings and toolbox talks before work commences. • Confirms that hot works permits and fire safety measures are in place prior to commencement. • Monitors work standards, supervises employees, and intervenes immediately if unsafe acts or conditions are identified. • Maintains communication with clients, site management, and other trades to ensure safe coordination of work. • Ensures all plant, tools, and equipment are suitable, maintained, and used correctly. • Reports any incidents, near misses, or hazards in line with company procedures.
Employees	Carry out the practical aspects of the work under the supervision of the Site Supervisor. Responsible for following instructions, maintaining safe working practices, and using equipment correctly.	• Follow all safe systems of work and instructions provided by the Site Supervisor. • Use PPE and equipment correctly and report any defects immediately.

		• Carry out work in accordance with training, the RAMS, and site safety rules. • Stop work and report to the Supervisor if any unsafe conditions or hazards arise. • Assist in setting up safe work areas, including barriers, signage, and fire precautions during hot works. • Maintain good housekeeping and ensure tools and materials are stored safely. • Participate in toolbox talks, briefings, and ongoing safety discussions.

Risk Assessment

CITY & COUNTY REFRIGERATION & AIR CONDITIONING LTD

WORK/ACTIVITY:	DESCRIPTION:
Refrigeration and Air Conditioning Servicing	The purpose of this risk assessment is to identify and control hazards associated with the servicing, inspection, and maintenance of refrigeration and air conditioning systems. It considers risks arising from exposure to refrigerants, pressurised systems, moving parts, electrical energy, manual handling, and working at height when accessing equipment. The assessment also addresses the use of hand tools, testing instruments, and cleaning substances typically used during servicing operations.
Assessment Date:	
Assessment No:	
Completed By:	
Review Date:	

RISK MATRIX

SEVERITY				LIKELIHOOD 1 RARE	2 LOW	3 POSSIBLE	4 HIGH	5 CERTAIN
	1	VERY LOW	Negligible Injury	1	2	3	4	5
	2	LOW	Minor Injury requiring first aid	2	4	6	8	10
	3	MID	Injury requiring doctors visit or A&E visit	3	6	9	12	15
	4	HIGH	Injury requiring admission to hospital	4	8	12	16	20
	5	VERY HIGH	Death or permanently disabling injury	5	10	15	20	25

LOW	The level of risk is acceptable. Proceed with caution and stop if anything changes.	**MID**	The level of risk is acceptable if it cannot be reduced further following a review by a competent person.	**HIGH**	The level of risk is unacceptable and additional control measures are required to reduce the overall level of risk to an acceptable level.

The hazards and associated risks with this work/activity have been identified and given a scored rating using semi-quantitative risk assessment methodology. The risk assessment ratings are a subjective estimate based on the knowledge of the assessor and identify the level of risk without controls and the level of residual risk once the control measures have been implemented. To calculate risk rating and residual risk rating, you should multiply the Likelihood (1-5), by the Severity (1-5).

Hazard Description	Who might be harmed & how	Risk Rating			Control Measures	Residual Risk Rating		
		Severity	Likelihood	Score		Severity	Likelihood	Score
Manual Handling: Many tasks involve lifting, carrying, or maneuvering heavy or awkward items such as compressors, components, gas cylinders, and tools. Poor lifting techniques or excessive loads can lead to musculoskeletal injuries, strains, sprains, or crush injuries, particularly when working in confined spaces or awkward positions.	**Employees:** Risk of back injury, muscle strain, or crush injury from lifting or handling heavy or awkward objects. **Others on Site:** Could be struck by items being carried or dropped.	3	3	9	**Assessment:** Assess the weight, shape, and route before lifting. **Mechanical Aids:** Use trolleys, sack trucks, or lifting equipment where practicable. **Team Lifting:** For heavy or bulky items, carry out team lifts with clear communication. **Technique:** Train employees in safe lifting and handling techniques.	3	1	3

					Work Positioning: Plan works to avoid excessive reaching, bending, or twisting. **Staging:** Move materials closer to point of use to minimise carrying distances. **Rest Breaks:** Rotate manual tasks to prevent fatigue. **PPE:** Wear gloves and safety footwear to prevent crush and pinch injuries.			
Pressurised Systems and Leak Testing: Pressure testing and commissioning of refrigeration systems can expose workers to high-pressure gases or refrigerants. Sudden release of pressure from pipework, hoses, or fittings can cause impact injuries, frostbite, or eye damage. Incorrect testing procedures or faulty gauges may result in bursts or ruptures, posing serious safety risks.	**Employees:** At risk of impact injury, eye or skin damage, or exposure to high-pressure gas release. **Others on Site:** May be affected by gas release or noise from system failure.	**5**	**3**	**15**	**Equipment Inspection:** Check gauges, hoses, and fittings before use to ensure they are rated and in good condition. **Pressure Limits:** Never exceed manufacturer's recommended testing pressures. **Isolation:** Isolate the system being tested and ensure all personnel are clear before pressurisation. **Leak Detection:** Use approved leak detection fluids or electronic detectors — never naked flames. **PPE:** Wear eye protection and gloves to prevent injury from high-pressure release. **Venting:** Release pressure slowly and in a controlled manner. **Supervision:** Only trained and competent persons to carry out testing and commissioning. **Refrigerant Handling:** Follow F-Gas and environmental regulations when charging or recovering refrigerant.	**5**	**2**	**10**

Working at Height: Accessing roof-mounted plant, ceiling voids, or elevated pipework presents a risk of falls, slips, and dropped objects. Work may involve using ladders, podium steps, or mobile elevated work platforms (MEWPs). Falls from height can cause serious injury or fatality, and falling tools or materials can endanger others below.	**Employees:** Risk of falls resulting in serious injury or death; potential for hand or foot injuries from unstable working platforms. **Others on Site:** May be struck by falling tools or materials from above.	**5**	**3**	**15**	**Planning:** Assess all work at height in advance and use the safest access method available (avoid working at height where possible). **Equipment:** Use only certified access equipment such as ladders, podium steps, or MEWPs in good condition. **Competence:** Ensure all operatives using access equipment or MEWPs are trained and authorised. **Fall Protection:** Use harnesses and lanyards attached to secure anchor points when required. **Edge Protection:** Fit guardrails or barriers where open edges exist. **Tool Control:** Use tool tethers to prevent items from being dropped. **Exclusion Zones:** Establish and maintain exclusion zones beneath elevated work areas. **Weather Conditions:** Suspend work at height during high winds, rain, or icy conditions. **Supervision:** Continuous monitoring by the Site Supervisor to ensure safe practices are followed.	**4**	**2**	**8**
Moving Mechanical Parts: During the servicing and maintenance of refrigeration and air conditioning systems, engineers may be exposed to moving mechanical components such as condenser and evaporator fans, belts, pulleys, and compressor shafts. These parts can start automatically during testing, or may still rotate after power isolation due to stored energy or inertia. Contact with moving parts can result in serious injuries such as	**Employees:** Risk of entanglement, crushing, or lacerations from rotating components; impact injuries from fan blades; eye injury from flying debris; secondary falls or shocks from sudden contact or surprise movement. **Others on Site:** May be struck by debris or tools if present in close proximity during servicing or fan testing.	**5**	**3**	**15**	**Isolation and Lock-Off:** Ensure all power supplies are isolated and locked off before removing guards, covers, or accessing moving components. Confirm isolation using a proving unit or voltage tester. **Residual Motion:** Wait until all fans, rotors, and belts have come to a complete stop before working nearby. Never attempt to slow moving parts by hand.	**5**	**1**	**5**

lacerations, entanglement, crushing, or amputation. Loose clothing, gloves, or jewellery can be caught by rotating machinery, and airborne debris from fan blades may cause eye injuries.					**Guards and Covers:** Do not remove guards unless necessary for maintenance, and replace them immediately after inspection or cleaning. Verify all guards are secure before re-energising equipment. **Clothing and PPE:** Avoid wearing loose clothing, jewellery, or unsecured gloves near moving machinery. Use close-fitting workwear and ensure long hair is tied back. **Access Control:** Establish exclusion zones and prevent other personnel from entering the area during equipment testing or when panels are open. **Testing and Restarting:** Warn all personnel before re-energising plant. Stand clear of moving components during start-up. **Training:** Only trained and competent engineers to carry out servicing or mechanical adjustments. **Inspection:** Report any damaged guards, belt wear, or excessive vibration immediately and isolate the system until repaired. **Lighting and Visibility:** Provide adequate lighting in plant rooms or roof areas to ensure all moving parts are clearly visible.			
Electrical Hazards (Isolation, Tools & Temporary Power): The use of electrical tools, temporary lighting, and connection or disconnection of equipment during refrigeration works presents the risk of electric shock, burns, or electrical fire.	**Employees:** Risk of electric shock, arc burns, or secondary injuries caused by involuntary movement or falls following electrical contact. **Others on Site:** May be affected by	**5**	**3**	**15**	**Isolation and Lock-Off:** All electrical circuits must be isolated, locked off, and tested dead before any work commences. Tags and padlocks to be applied by authorised persons only. **Verification:** Use a proving unit and	**5**	**1**	**5**

Damaged cables, poor connections, or working near live circuits may result in arcing or accidental energisation. Moist or confined working environments increase the likelihood of contact with conductive surfaces. Inadequate isolation or failure to test before working can lead to severe injury or fatality.	damaged or exposed cables, or electrical fires resulting from overloaded or defective circuits.				calibrated voltage tester to confirm isolation before handling cables or connections. **Equipment Standards:** All electrical tools and lighting to be 110V where possible, PAT tested, and fitted with RCD protection. **Inspection:** Visually inspect plugs, cables, and tools for damage before each use. Damaged equipment to be removed from service immediately and clearly labelled “Do Not Use.” **Environment:** Keep electrical equipment clear of wet or damp surfaces and away from refrigerants or cleaning chemicals. **Temporary Power:** Route cables safely using cable ramps or overhead hooks to prevent damage and trip hazards. **Competence:** Only qualified and competent persons to carry out electrical work, testing, or fault-finding. **Housekeeping:** Maintain tidy work areas to prevent entanglement or strain on leads and connections. **Supervision:** The Site Supervisor will ensure isolation procedures and equipment checks are strictly followed throughout the task.			
Use of Cleaning Agents and Condensate Treatment Chemicals: Servicing of refrigeration and air conditioning systems often involves the use of chemical cleaning products such as coil cleaners, descalers, disinfectants, and condensate	**Employees:** Risk of skin or eye irritation, chemical burns, or respiratory issues due to direct contact, splashes, or inhalation of vapours or aerosols. **Others on Site:** May be exposed to	**4**	**3**	**12**	**COSHH Compliance:** All cleaning agents and condensate treatment chemicals to be used, stored, and disposed of in accordance with the manufacturer’s Safety Data Sheet (SDS) and company COSHH	**4**	**1**	**4**

drain treatments. These substances may be alkaline, acidic, or biocidal, and can cause skin or eye irritation, chemical burns, or respiratory discomfort if misused. Mixing incompatible chemicals or using them in poorly ventilated areas increases the risk of harmful vapours. Spills or overspray can damage surrounding surfaces, electrical components, or create slip hazards. Improper disposal may also cause environmental contamination.	vapours or residues if working nearby without adequate segregation. **Environment:** Potential for contamination of drains, ground, or surface water if chemicals are spilled or improperly disposed of.				assessments. **Selection of Products:** Use the least hazardous and non-corrosive products suitable for the task. Avoid mixing chemicals or using aerosols near ignition sources or electrical panels. **Ventilation:** Ensure adequate natural or mechanical ventilation when applying cleaning agents. Use portable extraction fans in enclosed plant rooms. **Application Controls:** Apply chemicals carefully using low-pressure sprayers or approved dosing equipment. Avoid overspray onto electrical equipment or nearby surfaces. **Personal Protective Equipment:** • Chemical-resistant gloves (nitrile or neoprene, EN374) • Safety goggles or face shield (EN166) • Long sleeves or coveralls to protect exposed skin • Respiratory protection (minimum FFP2) where ventilation is inadequate **Spill Control:** Keep absorbent granules, cloths, or spill kits nearby. In the event of a spill, isolate the area, contain the liquid, and clean up using appropriate PPE. **Storage:** Store all chemicals upright in clearly labelled containers within a bunded, well-ventilated area. Keep away from heat, direct sunlight, or			

					incompatible substances. **Disposal:** Dispose of waste liquids and containers in accordance with site waste-management procedures and environmental regulations, never pour to drain unless authorised. **Training and Supervision:** Only trained operatives to handle and apply cleaning chemicals. Toolbox talks to reinforce correct use and PPE requirements. **Hygiene:** Wash hands and forearms thoroughly after use and before eating, drinking, or smoking. Remove contaminated clothing immediately.			
Confined / Restricted Spaces and Ventilation: Refrigeration and pipework activities may be carried out in confined or restricted areas such as plant rooms, ceiling voids, risers, or service ducts. These environments often have limited ventilation, restricted movement, and few escape routes. The use of hot works or refrigerants in such areas can lead to oxygen depletion, build-up of fumes, or accumulation of flammable gases. Access and egress can be difficult in an emergency, and communication with those outside the space may be limited.	**Employees:** Risk of respiratory irritation, dizziness, or asphyxiation from fume or gas build-up, and difficulty evacuating in an emergency. **Others on Site:** May be affected by gas or fume migration from the confined area or exposure during rescue attempts.	**5**	**2**	**10**	**Pre-Assessment:** Evaluate each work area before entry — identify confined spaces or restricted access zones and determine if entry is essential. **Ventilation:** Provide adequate natural or mechanical ventilation to remove heat, fumes, or gases. Use portable fans or extraction units where necessary. **Hot Works Control:** Avoid carrying out brazing or soldering in confined spaces wherever possible. If unavoidable, keep cylinders outside the space and use extended hoses. **Monitoring:** Continuously monitor the atmosphere if there is any risk of oxygen deficiency or gas accumulation. **Communication:** Maintain clear communication with persons outside the confined area at all times (e.g. radios or buddy system).	**4**	**1**	**4**

					Access Control: Ensure entry and exit points are kept clear and well-lit. Do not block escape routes with tools or materials. **Supervision:** A standby person must remain outside the confined space whenever works are taking place inside. **Emergency Preparedness:** Establish a rescue plan before entry. Ensure first aid, extinguishers, and retrieval equipment are readily available. **Training:** Only trained and competent operatives to work in confined or restricted areas.			
Slips, Trips & Falls / Housekeeping: Refrigeration and air conditioning servicing often involve the use of gas hoses, electrical leads, hand tools, and components spread across confined or cluttered work areas. Poor housekeeping or inadequate lighting can lead to slips, trips, and falls, which may result in musculoskeletal injuries, cuts, or fractures. The presence of flux, oil residues, or condensate on the floor can create additional slip hazards. Trip hazards also increase the likelihood of secondary incidents, such as falling into hot equipment or striking sharp pipe ends.	**Employees:** Risk of slips, trips, or falls leading to strains, sprains, fractures, or contact with hot or sharp surfaces. **Others on Site:** May trip over hoses or tools when passing through or adjacent to the work area.	**3**	**3**	**9**	**Work Area Setup:** Arrange tools, hoses, and materials to minimise clutter; maintain clear walkways at all times. **Cable & Hose Management:** Route hoses and leads away from walkways using hooks, guards, or overhead supports. Avoid crossing pedestrian routes. **Cleanliness:** Keep work areas free from flux, oil, water, and debris. Clean spillages immediately using absorbent materials. **Storage:** Secure gas cylinders upright and store tools or components in designated areas when not in use. **Lighting:** Provide adequate lighting in all work areas, including ceiling voids and plant rooms. **Footwear:** All operatives must wear safety footwear with slip-resistant soles.	**2**	**2**	**4**

					Supervision: The Site Supervisor will conduct regular housekeeping inspections throughout the working day. **End of Shift:** Ensure all waste materials, tools, and offcuts are removed at the end of each shift to leave the area clean and safe.			
Exposure to Refrigerants, Chemicals and COSHH Substances: During refrigeration and air conditioning works, engineers may be exposed to hazardous substances such as refrigerant gases, fluxes, brazing fumes, cleaning solvents, and leak detection sprays. These materials can cause respiratory irritation, dizziness, chemical burns, frostbite, or dermatitis following skin contact or inhalation. Accidental release of refrigerant gases may also cause environmental harm or oxygen displacement in confined spaces. Poor storage, handling, or disposal of chemicals can further increase risks to personnel and the environment.	**Employees:** Risk of inhalation of harmful vapours or fumes, skin or eye irritation, burns, or frostbite from refrigerants and fluxes. **Others on Site / Environment:** Risk of exposure to leaking gases, environmental contamination, or secondary contact with hazardous residues.	**4**	**3**	**12**	**COSHH Compliance:** All substances to be used, stored, and disposed of in accordance with the manufacturer's Safety Data Sheet (SDS) and relevant COSHH assessment. **Ventilation:** Ensure good general and local ventilation when handling refrigerants, fluxes, or cleaning products. Avoid working in enclosed spaces without extraction. **PPE:** Provide and wear suitable PPE — chemical-resistant gloves, safety goggles or face shield, flame-retardant clothing, and respiratory protection where necessary. **Handling Refrigerants:** Use recovery units and charging hoses designed for the specific gas type. Never vent refrigerants to atmosphere. **Storage:** Store all chemicals and gases upright in secure, well-ventilated areas, away from heat or ignition sources. **Spillage Procedures:** Keep absorbent materials and spill kits on site; isolate and ventilate area in event of leak or spill. **Environmental Protection:** Comply with F-Gas Regulations and	**4**	**1**	**4**

					Environmental Protection guidelines when handling or disposing of refrigerants. **Training:** Only competent and trained personnel to handle hazardous substances or carry out charging/recovery operations. **Health Surveillance:** Monitor for any signs of dermatitis or respiratory irritation in operatives regularly exposed to chemicals or fumes.			
Site Interaction and Shared Work Areas: Refrigeration and air conditioning servicing is often undertaken in busy commercial environments or on multi-contractor sites where other trades, site personnel, and members of the public may be present. Poor coordination or lack of communication can lead to collision, distraction, exposure to fumes or sparks, or being struck by moving plant or vehicles. The risk is heightened when hot works, lifting, or pressurised testing occur near walkways, delivery bays, or occupied spaces.	**Employees:** Risk of being struck by moving plant or vehicles, distracted during hot works, or injured by other trades' activities. **Others on Site:** May be harmed by heat, sparks, tools, or materials from refrigeration work zones.	**4**	**2**	**8**	**Planning & Coordination:** Engage with site management and other contractors before work begins. Define work areas and agree on sequencing to prevent overlap of incompatible activities. **Segregation:** Erect physical barriers, cones, and warning signage to mark out work zones and prevent unauthorised access. **Traffic Management:** Maintain safe separation between vehicles and pedestrians. Use banksmen when moving vehicles or lifting gas cylinders. **Communication:** Establish clear communication channels between trades (radios, daily coordination meetings, toolbox talks). **Timing:** Schedule hot works or high-risk tasks during quieter site periods to minimise exposure to others. **PPE Enforcement:** All personnel entering active work zones must wear appropriate PPE, including eye and head protection.	**3**	**1**	**3**

					Supervision: The Site Supervisor to remain present during critical operations and ensure exclusion zones are maintained. **Emergency Routes:** Keep all escape routes clear and ensure all personnel are aware of alarm signals and muster points.			
Noise and Vibration: Use of power tools, vacuum pumps, compressors, and gas equipment can generate noise levels that may exceed safe limits. Prolonged exposure can lead to hearing damage or fatigue, while vibration from power tools can contribute to hand-arm vibration syndrome (HAVS). Noise may also cause distraction, increasing the risk of errors or accidents in shared work areas.	**Employees:** Risk of hearing loss or HAVS from prolonged tool use; distraction and communication difficulties in noisy environments. **Others on Site:** May experience discomfort or hearing damage if exposed to high noise levels nearby.	**3**	**3**	**9**	**Assessment:** Evaluate potential noise and vibration exposure before work. Follow Control of Noise at Work Regulations and HSE guidance on vibration exposure. **Engineering Controls:** Use quieter or lower-vibration equipment where available. Fit vibration-damping handles and maintain tools to reduce resonance. **Work Practices:** Limit tool use duration; implement job rotation to avoid prolonged exposure. **PPE:** Provide and wear suitable hearing protection (ear defenders or plugs) when noise exceeds safe levels. **Monitoring:** Carry out periodic noise monitoring if work is prolonged or repeated at similar sites. **Training:** Inform employees of the risks and correct use of PPE; encourage reporting of any symptoms (numbness, tinnitus, fatigue). **Communication:** Use hand signals or radios if verbal communication is impaired by noise.	**2**	**2**	**4**

Use of Hand and Power Tools: The use of powered drills, grinders, saws, and hand tools during installation or repair poses risks of cuts, punctures, entanglement, impact, flying debris, or electric shock. Defective or poorly maintained tools can lead to severe injuries, while misuse or incorrect PPE increases the likelihood of harm. Vibration and repetitive use may also contribute to fatigue and reduced control.	**Employees:** Risk of lacerations, eye injuries, or entanglement; potential for electrical shock or vibration injuries.	**5**	**2**	**10**	**Tool Selection:** Use only tools suitable for the task; ensure guards and safety devices are in place and functional. **Inspection & Maintenance:** Inspect tools before use; remove any damaged or defective items from service immediately. **Training:** Only trained personnel to operate power tools; refresher training provided as needed. **PPE:** Wear safety goggles, gloves, and hearing protection where applicable. Use dust masks if drilling or cutting materials that generate dust. **Control of Leads:** Route electrical leads safely to prevent trip hazards or damage. **Vibration Control:** Limit exposure through rotation of tasks and regular tool maintenance. **Housekeeping:** Keep tools organised when not in use; return to storage after work. **Supervision:** The Site Supervisor to verify correct use of tools and adherence to safety practices.	**4**	**1**	**4**
Working Alone / Out-of-Hours Activities: Refrigeration and air conditioning engineers may be required to attend breakdowns, maintenance, or emergency repair works outside of normal working hours, often working alone or with limited supervision. Lone working increases the risk of harm if an incident occurs, as immediate assistance or first aid may not be available. Additional risks include	**Employees:** Risk of injury or illness without prompt assistance; increased risk of fatigue-related errors, falls, or entrapment when working in isolation. **Others on Site:** Colleagues or security staff may be affected when responding to emergencies or assisting a lone worker.	**3**	**3**	**9**	**Planning:** Avoid lone working wherever possible. Where unavoidable, carry out a lone working risk assessment before attending site. **Communication:** Ensure the lone worker maintains regular contact with the Owner/Site Supervisor or designated contact via phone, text, or lone-worker app. Set agreed check-in times and escalation procedures.	**2**	**2**	**4**

fatigue, reduced visibility, increased potential for slips or falls, violence or aggression when accessing client premises, and delays in emergency response due to site access restrictions or isolation.					**Access Arrangements:** Confirm safe site access and lighting before attending. Obtain security or client contact details in advance. **Emergency Preparedness:** Ensure the lone worker has access to first aid supplies, fire extinguishers, and an operational mobile phone. **Work Restrictions:** No hot works or confined-space activities to be undertaken when working alone. **Location Sharing:** Workers must notify the Site Supervisor of their location, expected duration, and completion time before starting. **Fatigue Management:** Schedule out-of-hours works to minimise consecutive long shifts. Encourage adequate rest periods before and after callouts.			

Method Statement

This Method Statement outlines the systematic approach for carrying out Refrigeration and Air Conditioning Servicing safely and efficiently. It details the preparation, sequence of operations, control measures, and emergency arrangements to be followed.
All personnel involved must understand the contents of this document and adhere to the procedures described to ensure safe working practices are maintained throughout the duration of the works.

Materials And Equipment

Materials Required	Equipment Required
• Replacement filters, fan belts, seals, and gaskets • Refrigerant (as specified for the system) • Leak detection spray or electronic leak detection fluid • Cleaning agents and coil cleaner (non-corrosive) • Condensate tablets or drain cleaner (where required) • Insulation materials, cable ties, and tapes • Lubricants and system oils (as specified by manufacturer) • Replacement sensors, switches, and small electrical components	• Manifold gauges and refrigerant recovery unit • Vacuum pump and electronic leak detector • Digital thermometers and pressure/temperature probes • Portable electrical test instruments (multimeter, clamp meter, insulation tester) • Hand tools – spanners, screwdrivers, wrenches, pliers, etc. • Portable battery-powered drill/driver and small power tools • Recovery cylinders and charging hoses (for refrigerant handling) • Portable lighting and extension leads • Ladders, steps, or mobile tower scaffold (for access where required) • Tool tethers and lanyards (for work at height) • Safety harness and restraint lanyard (if using MEWP) • Portable fire extinguisher

Hazardous Materials

Hazardous Material	Pictogram	Use Required (tick)
Acute Toxicity		

Explosive		
Oxidising		
Flammable		
Corrosive		
Gas Under Pressure		
Serious Health Hazard		
Health Hazard		
Hazardous to the Environment		
Other (please specify)		

PPE Requirements

PPE Item	Symbol	Required (tick)
Safety Helmet/Hard Hat BS EN 397		
Safety Glasses BS EN 166		
Tinted Brazing/Hot Work Eye Protection (if hot works included)		

Protective Gloves BS EN 388 (Cut resistance)		
Safety Boots BS EN ISO 20345		
High-Visibility Vest BS EN 471		
Hearing Protection BS EN 352		
Dust Mask BS EN 149 (FFP3 for dust)		
Fall Restraint Harness and Lanyard EN361 (Harness) + EN354 (Restraint Lanyard)		

Sequence Of Works

1. **Site Setup and Induction**
   - Arrive on site and sign in with the client or site representative.
   - Attend a site-specific induction covering emergency procedures, welfare arrangements, site hazards, and PPE requirements.
   - Establish a safe work area using barriers, cones, or signage to segregate it from pedestrians, vehicles, and other trades.
   - Identify safe access and egress routes for personnel, tools, and equipment.
   - Confirm all required permits (e.g. Work at Height, Electrical Isolation) are issued and valid.
   - Ensure all operatives wear appropriate PPE, including safety footwear, gloves, high-visibility clothing, and eye protection.
2. **Delivery and Preparation of Equipment**
   - Deliver service tools, testing instruments, and materials to site safely using mechanical aids where required.
   - Store equipment and refrigerant cylinders upright in designated areas on firm, level ground away from heat sources and traffic routes.
   - Inspect all tools, gauges, hoses, and electrical leads for defects before use.
   - Verify all portable electrical equipment has a current PAT test.
   - Maintain good housekeeping within the work area, ensuring walkways and access routes remain clear.

3. **Review Documentation and Isolate Systems**
   - Review service reports, maintenance schedules, and manufacturer instructions before starting work.
   - Identify and verify isolation points for electrical and mechanical systems.
   - Apply isolations and lock-off/tag-off where required before accessing panels or components.
   - Confirm system pressure status prior to opening service ports or connecting gauges.
   - Conduct a site-specific dynamic risk assessment to confirm conditions remain safe for work.

4. **Inspection and Servicing Tasks**

- Conduct a visual inspection of all system components, including compressors, condensers, evaporators, pipework, insulation, electrical connections, and fixings. Check for oil stains, corrosion, vibration, or mechanical damage.
- Isolate power to all systems before opening access panels or handling internal components. Confirm isolation using an approved voltage tester.
- Clean condenser and evaporator coils using approved non-corrosive cleaning agents and low-pressure water or air. Ensure electrical components and control boxes are protected from spray or moisture ingress.
- Remove and replace filters, belts, seals, or strainers as required by manufacturer's recommendations or site-specific schedules. Verify correct belt tension and alignment to prevent vibration or bearing wear.
- Inspect fans and motors for free rotation, bearing condition, and vibration. Lubricate bearings where applicable and tighten all fixings and guards securely.
- Check refrigerant pipework for signs of chafing, rubbing, or deterioration of insulation. Replace damaged insulation and support brackets as necessary.
- Inspect all valves and service ports for tightness, signs of leaks, or damaged caps. Tighten and replace sealing caps to manufacturer torque where applicable.
- Examine electrical panels and terminals, confirming secure connections and no evidence of overheating or discolouration. Test fuses, relays, and contactors for correct operation.
- Verify sensor and thermostat operation, ensuring accurate temperature readings and control response.
- Check condensate drains and pumps for blockages or poor flow; clear as needed and confirm correct drainage to prevent water damage.
- Test safety and protection devices such as high-pressure switches, low-pressure cut-outs, and overloads. Any defective safety device must be replaced before the system is left operational.
- Ensure adequate ventilation is maintained during servicing, especially in confined plant rooms or indoor spaces where refrigerant or cleaning chemical vapours may accumulate.
- Keep the work area clean and organised, with all tools and parts placed safely to avoid trip hazards or dropped items.
- Record all findings, maintenance actions, and readings on the company service sheet or digital reporting system for traceability and compliance.

5. Refrigerant Handling and Leak Detection

- Check system pressures using calibrated manifold gauges and digital instruments.
- Conduct leak detection using electronic sensors or approved detection spray.
- Recover refrigerant using an F-Gas compliant recovery unit and correctly labelled cylinders — never vent to atmosphere.
- Record type and quantity of refrigerant recovered, recharged, or disposed of in accordance with F-Gas Regulations and Environmental Protection Act.
- Ensure all refrigerant handling is performed by trained and F-Gas certified personnel only.
- Maintain good ventilation during recovery and charging operations.

6. System Testing and Adjustment

- Re-evacuate and recharge the system as required, using correct refrigerant and oil type per manufacturer specification.
- Perform operational checks on compressors, fans, controls, and sensors.

- Measure and record pressure and temperatures readings to verify correct performance.
- Adjust settings where necessary to optimise efficiency and reliability.
- Ensure electrical panels are closed and secured before re-energising systems.

7. Functional Testing and Verification

- Run the system under normal load conditions to confirm correct operation.
- Inspect all joints, valves, and components for leaks, vibration, noise, and signs of overheating.
- Verify correct operation of safety controls, thermostats, and pressure switches.
- Check condensate drainage and confirm all covers, guards, and insulation are reinstated.
- Record all readings, test data, and service findings on the company service sheet or digital record system.

8. Completion, Cleanup and Demobilisation

- Confirm all equipment and tools have been removed from site and that the work area is clean, tidy, and free of waste.
- Ensure all isolations are removed and systems are left in a safe operational condition.
- Dispose of waste materials, filters, and any recovered refrigerant through approved waste channels.
- Return completed service documentation to the client or site representative for review and signature.
- Report any defects, unsafe conditions, or follow-up recommendations to management or the client before leaving site.

Emergency Procedures

First Aid	
First Aider Details	Daniel Adams
First Aid Location	The fully stocked first aid kit is located in the Company Van. It must be regularly inspected to ensure it meets HSE guidelines for workplace first aid, including items such as bandages, sterile wipes, dressings, eye wash, and gloves.

Procedure and Responsibilities:

- The appointed First Aider is responsible for providing immediate assistance in the event of injury or illness and ensuring professional medical help is sought if required.
- All accidents, near misses, and injuries, no matter how minor, must be reported immediately to the Site Supervisor and recorded in the company accident book.
- In serious cases, the Site Supervisor will contact emergency services by dialling 999, clearly stating the site address, nature of the incident, and any hazards present (e.g. gas cylinders, hot works).
- When working on client premises, the location of on-site first aid facilities and trained personnel must be identified during the site induction.
- The first aid kit must be checked monthly and restocked as soon as any items are used or found to be out of date.
- All operatives will be briefed on the first aid arrangements, kit location, and emergency contacts before work commences.

Accident Reporting

Accident reporting is a critical component of workplace safety and compliance. All accidents, no matter how minor, must be reported immediately. The reporting process should begin with notifying the Site Supervisor, who will then take immediate action to secure the area and provide necessary first aid or medical assistance. Following the initial response, a detailed accident report should be completed, documenting the circumstances of the incident, the individuals involved, any injuries sustained, and the actions taken.

In cases of severe accidents, these must be reported under the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations (RIDDOR). These include work-related accidents that result in death or serious injury, diagnosed cases of certain industrial diseases, and dangerous occurrences that could have resulted in significant harm. Reporting under RIDDOR is mandatory and must be completed through the Health and Safety Executive (HSE) online portal or by telephone.

Fire Safety

Fire safety is a critical consideration during servicing works, particularly where hot works, brazing, or the use of oxy-acetylene/MAPP gas equipment is undertaken. The combination of flammable gases, electrical tools, and confined spaces can significantly increase the risk of ignition. All personnel must be aware of potential fire hazards, preventive measures, and emergency procedures before starting work.

Preventive Measures

- All hot works must be controlled under a valid Hot Works Permit, issued and authorised by the Site Supervisor or client representative prior to commencement.
- Combustible materials within 5 metres of the work area must be removed or protected using fire blankets, welding mats, or metal shields.
- Oxy-acetylene and MAPP gas equipment must be fitted with flashback arrestors on both oxygen and fuel lines and checked for leaks before each use.
- All electrical equipment and tools will be inspected and maintained in good condition to prevent overheating, arcing, or electrical faults.
- Fire extinguishers (minimum CO_2 and Dry Powder) will be located within immediate reach of hot works and clearly visible at all times.
- Extinguishers will be serviced and maintained in accordance with BS 5306 and checked before use.
- A Fire Watch will be maintained during hot works and for a minimum of 30 minutes after completion to identify any smouldering materials or delayed ignition.
- Work areas must be kept clean and free of combustible waste, including insulation, packaging, and rags.
- Cylinders must be stored upright and secured, away from heat sources, direct sunlight, and ignition points.
- No smoking, vaping, or naked flames are permitted within the work area or near stored gases and chemicals.

Emergency Procedures

- If a fire is discovered, the alarm must be raised immediately by shouting “FIRE” and activating the site alarm if available.
- All personnel must cease work immediately, shut down hot works equipment if safe to do so, and evacuate to the designated assembly point.
- Do not attempt to fight a fire unless it is safe and the person is trained and competent to use the correct extinguisher.

- The Site Supervisor will contact emergency services by dialling 999, providing the site address, nature of the fire, and any hazards present (e.g., gas cylinders, refrigerants).
- Designated fire wardens or the Site Supervisor will be responsible for accounting for all personnel at the assembly point.
- Gas cylinders should be closed at the valve, if safely accessible, and removed from the area only when authorised by emergency personnel.
- Do not re-enter the area until cleared by the fire service or responsible authority.
- All incidents and near misses must be reported and investigated to prevent recurrence.

Waste Management

Disposal of Waste Materials

- All waste will be segregated on-site into appropriate categories: metal offcuts, general waste, packaging, recyclables, and hazardous waste (where applicable).
- Recyclable materials such as copper pipe, brass fittings, steel, cardboard, and plastics will be collected separately and taken to an authorised recycling facility.
- General waste (non-recyclable materials) will be disposed of via licensed waste carriers in accordance with local authority requirements and the Waste (England and Wales) Regulations 2011.
- Hazardous waste, including spent flux, contaminated wipes, and refrigerant residues, will be disposed of through an approved waste contractor under the Hazardous Waste (England and Wales) Regulations 2005.
- Refrigerants will be recovered and recycled or disposed of in accordance with the F-Gas Regulations and the Environmental Protection Act 1990: under no circumstances will gases be vented to atmosphere.
- All waste containers (bins, skips, or recovery cylinders) will be clearly labelled to identify waste type and emptied regularly to prevent overflow or contamination.
- The Site Supervisor will be responsible for ensuring that waste is stored securely, disposed of correctly, and that no waste materials are left on site after completion.

Environmental Considerations

- Material use will be planned carefully to minimise waste generation and offcuts, in line with the Waste Hierarchy — Reduce, Reuse, Recycle, Dispose.
- All recyclable materials will be handled in a way that avoids unnecessary landfill disposal.
- Spillages of oil, flux, or refrigerant will be contained immediately using absorbent materials or spill kits; contaminated waste will be treated as hazardous.
- Non-hazardous waste and debris will be prevented from entering drains, soil, or watercourses in compliance with the Water Resources Act 1991.
- Site housekeeping will be maintained to a high standard, ensuring work areas remain clean, safe, and environmentally responsible at all times.
- Periodic environmental checks will be carried out by the Site Supervisor to verify compliance with waste and spill prevention measures.

Monitoring and Review

To maintain a safe and compliant working environment, City & County Refrigeration & Air Conditioning Ltd carries out regular monitoring and review of all safety procedures and control measures.

Daily Inspections

The Site Supervisor or another nominated employee will conduct daily visual inspections of the work area to ensure all activities are being performed safely and in accordance with this RAMS. Any issues identified will be rectified immediately, and records of inspections maintained where required.

Ongoing Risk Assessments

Risk assessments will be an ongoing process throughout the project, not a one-time activity. As work progresses, new hazards may emerge, and existing risks may change. Therefore, the Site Supervisor or another nominated employee will regularly revisit the risk assessments, evaluating the effectiveness of control measures and adjusting them as necessary.

Feedback and Reporting Mechanisms

All employees are encouraged to report hazards, near misses, or safety concerns directly to the Site Supervisor. Regular safety discussions or toolbox talks will be used to share feedback and promote continual improvement. Reported issues will be investigated promptly, and corrective actions implemented to prevent recurrence.

Approval and Acknowledgement

This section provides a record of the individuals responsible for preparing, checking and authorising this RAMS document, as well as a record of who the document has been read and understood by. It also includes a log of any revisions made.

Approved By:		**Signed:**		**Date:**	

Revision Number:	Initial Revision

Revision Number	Review Date	Remarks	Signed

Acknowledgement

By signing below, I acknowledge that I have read, understood, and agree to adhere to the contents of this Risk Assessment and Method Statement (RAMS) document. I recognise the importance of following the outlined procedures and safety measures to ensure a safe working environment for myself, my colleagues, and all stakeholders. I commit to implementing the guidelines provided by City & County Refrigeration & Air Conditioning Ltd and will seek clarification on any aspects of this document if required.

Name	Date	Signed
