JOB HAZARD ANALYSIS (JHA)

Business name

Document: JHA-001 Rev 1
Prepared: Nov 9, 2026
Review by: Dec 9, 2026
Highest risk after controls: Medium

1. BUSINESS AND JOB DETAILS

Job	Refrigerant leak repair and regas	**Start date**	Nov 9, 2026
Working hours	7:00 am to 3:30 pm	**Trade**	HVAC

2. JOB STEPS, HAZARDS AND CONTROLS

#	Job step	Hazards	Risk before	Controls	Risk after	Responsible
1	Hold the right refrigerant licence or certification for the work	Refrigerant leaks Rules: 40 CFR Part 82 Subpart F (Section 608)	**Medium Unlikely / Serious injury**	1.1 Recover refrigerant into an approved cylinder before opening the system. Never vent it. [Engineering (guarding)] 1.2 Ventilate closed spaces and use a leak detector during the work. [Engineering] 1.3 Refrigerant leaks: see step 3 for the full controls [Administrative]	**Low Rare / Serious injury**	Site supervisor
2	Isolate power, apply lockout/tagout	Electric shock from live wiring Rules: 29 CFR 1926 Subpart K	**Critical Possible / Fatality**	2.1 Isolate the power before any work. Do not work live. [Elimination] 2.2 Lock out and tag the disconnecting means with your own personal lock and tag so the circuit cannot be energized (29 CFR 1926.417). [Engineering (guarding)] 2.3 Test before you touch: prove dead at the point of work with a tested voltage tester. [Engineering] 2.4 Only qualified persons work on or near exposed energized parts. [Administrative] 2.5 Check for back feeds from solar, batteries and generators that can keep a circuit live after the main switch is off. [Administrative] 2.6 If energized work cannot be avoided, use an energized work permit, a safety observer and insulated tools, following NFPA 70E. [Administrative] 2.7 Wear insulated gloves, arc-rated clothing and a face shield when testing or working near live parts. [PPE]	**Medium Rare / Fatality**	Site supervisor
3	Recover refrigerant into a cylinder, never vent it	Refrigerant leaks Stored energy Rules: 40 CFR Part 82 Subpart F (Section 608)	**Medium Unlikely / Serious injury**	3.1 Recover refrigerant into an approved cylinder before opening the system. Never vent it. [Engineering (guarding)] 3.2 Ventilate closed spaces and use a leak detector during the work. [Engineering] 3.3 Only EPA Section 608 certified technicians handle refrigerants. [Administrative] 3.4 With flammable refrigerants (such as R32 or R290), remove ignition sources and use spark-free tools. [Administrative] 3.5 Wear cold-rated gloves and safety glasses or a face	**Low Rare / Serious injury**	Site supervisor

#	Job step	Hazards	Risk before	Controls	Risk after	Responsible
				shield. [PPE] 3.6 Release or block all stored energy before work: release the pressure in pipes, tanks and hoses, bleed hydraulics, release springs, lower loads. [Elimination] 3.7 Lock out and tag all energy sources with personal locks. [Engineering (guarding)] 3.8 Put mechanical blocks or props under raised parts like buckets, tipper bodies and doors. [Engineering] 3.9 Test that the system is dead and nothing can move before you start. [Administrative] 3.10 Follow the maker's procedure, for example for garage door and roller door springs. [Administrative] 3.11 Wear safety glasses and gloves. [PPE]		
4	Braze repairs under a hot work permit with nitrogen purge	Fire from hot works Burns from hot surfaces Confined space entry Rules: 29 CFR 1926.352 and NFPA 51B (35 ft rule also in 1910.252(a)); 29 CFR 1926 Subpart AA	**Critical Possible / Fatality**	4.1 Use cold work methods where you can, such as bolting, press fittings or cutting with a saw instead of a torch. [Elimination] 4.2 Move anything that can burn at least 35 feet away, or cover it with fire blankets. [Engineering (guarding)] 4.3 Use fire-resistant screens to stop sparks reaching people or gaps in walls and floors. [Engineering] 4.4 Get a hot work permit before starting. [Administrative] 4.5 Keep a charged fire extinguisher and fire blanket at the work spot. [Administrative] 4.6 Isolate heating systems and let parts cool before you touch them. [Elimination] 4.7 Fit guards or insulation on hot pipes and equipment. [Engineering] 4.8 Mark hot items with chalk or a "HOT" sign so others know. [Administrative] 4.9 Keep a first aid kit and cool running water nearby for burns. [Administrative] 4.10 Wear heat-resistant gloves and long sleeves. [PPE] 4.11 Do the work from outside the space where you can, using cameras or long-reach tools. [Elimination] 4.12 Isolate and lock out all pipes, power and moving parts going into the space. [Engineering (guarding)] 4.13 Test the air for oxygen, flammable and toxic gases before entry, and keep testing during the work. [Engineering] 4.14 Use forced ventilation to keep the air clean. [Engineering] 4.15 Use a permit-required confined space program with a written entry permit (29 CFR 1926 Subpart AA). Only trained workers enter. [Administrative]	**Medium Rare / Fatality**	Site supervisor
5	Pressure test, evacuate and recharge	Pressure testing Refrigerant leaks Rules: 40 CFR Part 82 Subpart F (Section 608)	**Medium Unlikely / Serious injury**	5.1 Test with water instead of air or gas where the system allows it. Never put water in refrigerant pipework, which is tested with dry nitrogen. [Substitution] 5.2 Keep people out of the test area with signs and barriers. [Engineering (guarding)]	**Low Rare / Serious injury**	Site supervisor

#	Job step	Hazards	Risk before	Controls	Risk after	Responsible
				5.3 Use a calibrated gauge and a relief valve set to protect the system. [Engineering] 5.4 Test to the pressure the system calls for and hold it for the set time. Never go over. [Administrative] 5.5 Release the pressure fully before tightening anything or fixing leaks. [Administrative] 5.6 Wear safety glasses or a face shield. [PPE] 5.7 Refrigerant leaks: see step 3 for the full controls [Administrative]		
6	Record refrigerant used and clean up	Poor housekeeping and waste	**Medium Likely / Minor injury**	6.1 Order materials to size and send packaging back where you can. [Elimination] 6.2 Put dumpsters and waste chutes close to the work. [Engineering] 6.3 Clean as you go, and do a full clean up at the end of each day. [Administrative] 6.4 Keep exits, stairs and walkways clear at all times. [Administrative] 6.5 Stack materials neatly on level ground, away from edges. [Administrative] 6.6 Wear gloves when handling waste. [PPE]	**Low Unlikely / Minor injury**	Site supervisor

Risk key: risk = likelihood x consequence on a 5 x 5 matrix. Low, Medium, High, Critical. Work must not start while the risk after controls is high or above. Controls are listed in order of the hierarchy of controls: Elimination, Substitution, Engineering (guarding), Engineering, Administrative, PPE.

3. PPE AND PERMITS

Required PPE	Permits and plans
Safety glasses (ANSI Z87.1) Work gloves Safety-toe boots (ASTM F2413) Face shield (ANSI Z87.1) Rubber insulating gloves Arc flash PPE (NFPA 70E) Welding gloves Coveralls	Lockout/tagout (1926.417) Hot work permit (fire watch at least 60 minutes after, NFPA 51B)

4. PLANT AND EQUIPMENT

Plant / equipment	License or training needed	Inspection needed	Rego / ID	Last inspected	Certificate / report
Hand tools					
Electrical test meter		Rated for the voltage and category (CAT III or IV), inspected before each use, and checked on a known source before and after testing (NFPA 70E)			

Plant / equipment	License or training needed	Inspection needed	Rego / ID	Last inspected	Certificate / report
Propane torch					

5. TRAINING REQUIRED FOR THIS WORK

- Qualified person training for work on or near exposed energized parts (29 CFR 1926.416, NFPA 70E)
- Confined space training for entrants, attendants and entry supervisors (29 CFR 1926.1207); respirator fit test and medical evaluation (29 CFR 1910.134)

6. CREW TRAINING AND CERTIFICATIONS

Crew listed at sign-on below, with ticket and licence numbers.

7. EMERGENCY ARRANGEMENTS

Emergency number	911	**First aid kit**	In the work vehicle
Fire extinguisher	In the work vehicle	**Alarm and evacuation**	Shout for help and stop work. Make the area safe and go to the assembly point. Call the emergency number and send someone to meet the ambulance.
Reporting incidents	Report a fatality to OSHA within 8 hours, and an in-patient hospitalization, amputation or eye loss within 24 hours.		

8. MONITORING, REVIEW AND LEGAL BASIS

A competent person inspects the job site, materials and equipment before work each day and as conditions change (29 CFR 1926.20(b)(2)). Any time this JHA is revised, the affected crew is re-briefed and signs again.

Legal basis: OSH Act Section 5(a)(1) and 29 CFR 1926, Safety and Health Regulations for Construction (incl. 1926.20 and 1926.21). OSHA requires employers to find and fix hazards and to train workers on them. A JHA breaks the job into steps, lists the hazards in each step and the controls that protect the crew. General contractors often require one before you start.

Keep this JHA on site during the job, and keep it with the training and inspection records for at least 1 year after the job (longer if your state plan or general contractor requires it). OSHA does not set a retention period for JHAs themselves.

9. REVISION HISTORY

Rev	Date	By	What changed
1	Nov 9, 2026		First issue

10. SIGN-OFF

	Name	Signature	Date	
Prepared by				
Supervisor				
General contractor review				Accepted for use: Yes / No

By signing below, each crew member confirms they were trained on the hazards and controls in this JHA before work started, and will follow it. Stop work and tell the supervisor if conditions change.

Name	Role / company	Tickets / licences	Signature	Date

Name	Role / company	Tickets / licences	Signature	Date