

Worksheet 3.9A

Refrigerant and equipment review

This is an example only – adapt this worksheet to suit your organisation's requirements.

Property name:

Property address:

Name of refrigerant/HVAC contractor:

Contractor's licence number:

Review date:

Review prepared by:

Review approved by:

1 Equipment details

What is the age of the plant?

What is the life expectancy of the plant?

What refrigerant is used?

What type of lubricant is used?

What type of elastomers (rubber/plastic seals, gaskets etc.) and metals are used?

Describe other system components:

What is the compressor type? (e.g. hermetic, semi-hermetic or open drive)

Can the existing compressor be converted?

What are the system operating pressures?

Are there alternative refrigerants available that are suitable for the existing system operating pressures?

Are there alternative refrigerants available that are chemically compatible with the existing system? What is the likely impact on type of lubricant, elastomers (rubber/plastic seals, gaskets etc.) and metals used?

What is each system's required cooling capacity?

What is each system's shortfall or surplus cooling capacity?

Is refrigeration equipment located in moderately air-tight enclosures? Describe.

Is the refrigerant containment system adequate?

Is there a refrigerant leak detection system, maintained in good working order?

Is there more than 100 kg of a refrigerant gas located within one chiller unit in areas where ventilation is likely to be poor?

Does the refrigerant leak detection system cover the high risk parts of HVAC plant such as chillers?

2 Refrigerant usage

What is the total quantity of each chlorinated and alternative refrigerant being stored on site in the existing system and equipment?

(Complete register in Worksheet 3.9B)

Is the system leaking refrigerant? (Refer to annual usage figures or leak detection system.)

What steps have been undertaken to stop leaks?

3 Management options



Continue to use existing plant

[Only an option if the system is leak free.]

A leak detection system is installed and an emergency plan is in place in case of system failure.



Leak reduction

A leak detection system is installed.

Equipment must be replaced if it leaks.



Refrigerant recovery and reuse

Refrigerants from old plant that has been decommissioned must be recovered.

Refrigerant should only be handled by a qualified refrigeration engineer or accredited technician.



Use alternative refrigerant

Replacement has low or zero ozone depletion potential (ODP) and low or zero global warming potential (GWP). Replacement refrigerant also has high efficiency and safety of use.

Source: Based on steps outlined in *Air Conditioning and Refrigeration Industry Refrigerant Selection Guide 2003*, Australian Institute of Refrigerants, Air Conditioning and Heating (AIRAH). For more information see www.airah.org.au