

## **RAC Risk Management Guide**

**Under paragraph 141(1)(f) of the Ozone and Synthetic Gas Management Regulations 1995 ('the Regulations'), all Refrigerant Trading Authorisations and RAC Equipment Manufacturing Authorisations require that licence holders put into effect a risk management plan for their premises. This Risk Management Guide is designed to assist risk management planners by providing eight key steps and a Risk Management Template. The key steps and the Template are advisory only, and should not be treated as mandatory requirements in relation to the format of your risk management plan. You may use an alternative format for your plan that specifies all the aspects of your specific business where there is a risk of refrigerant emission.**

# **RAC Risk Management Guide**

## **Summary:**

The Australian Refrigeration Council (ARC) in conjunction with the Department of the Environment and Heritage (DEH) has developed a Risk Management Guide (RMGuide) to assist Refrigeration and Air-conditioning businesses establish their own Risk Management Plan (RMP) in order to:

- Minimise emissions;
- Reduce the use of ozone depleting or synthetic greenhouse gas refrigerants;
- Increase environmental responsibility; and
- Raise industry standards

**The implementation of a RMP is a condition of Refrigeration and Air-Conditioning (RAC) authorisations.** The purpose of a RMP is to provide a simple emissions safety tool for RAC businesses to examine risks associated with particular work place activities and to assist in the consideration, implementation and monitoring of appropriate control measures.

***Risk management planning makes good business sense: lost refrigerant not only impacts on the environment, but also contributes to a net-business loss.***

## **Standards:**

Annex 3 outlines RAC authorisation obligations under the Ozone Protection and Synthetic Greenhouse Gas Management Regulations 1995.

RAC guides of good practices, developed by industry, include: *The Australian Refrigeration and Air Conditioning Code of Good Practice* (SAA HB40) and *The Australian Automotive Code of Practice for the Reduction of Emissions of a Refrigerant Gas in Motor Vehicle Air Conditioners* (MTAA 2000). In order to uphold high industry standards, it is a condition of all Refrigerant Handling Licences that RAC technicians become familiar with the appropriate Code and adhere to its recommendations. Further guidance may be obtained from referencing *Australian Standards* stipulated by Legislation and Codes of Authorities.

## Risk Management Guide

### What to remember about a RMP...

- it is only a written record and does not replace the need for management processes that ensure workers have the skills to complete business-related activities;
- it does not eliminate the need for workplace supervision, which can ensure that risk management control measures are completed as documented; and
- it should be completed by employees involved in each activity stage, not just the principal contractor or supervisor, and signed-off by the parties who have responsibility for the activities (eg managers or supervisors prior to activity).

### Suggested eight key STEPS:

*Please note that the following RMGuide is ONLY A SUGGESTION to give risk management planners an idea of how they might go about addressing risks in their establishments and find solutions, it is by no means prescriptive.*

*Annex 1 provides an example of a reporting worksheet, however, individuals are encouraged to use the clear template in Annex 2 (and modify it if desired) to document the risks specific to their establishments.*

#### 1. Document the activity

Break-down the activity (such as, the stages of business) into basic steps and record these on the RMP Worksheet.

#### 2. Identify the hazards & risks

Prior to each activity identified in stage 1 take a few minutes to look at each step in turn and identify all of the hazards (opportunities for emissions) that are present for each activity and the specific risks associated with these hazards. Since the success of the RMP at this stage relies on the ability of staff to identify **all** the hazards present, observing an activity with two or more people can be an ideal way to recognise all hazards.

*Key questions to ask* = where, when, why and how emissions might occur.

*(refer to Annex 1 for examples)*

#### 3. Rate the risk without control measures

Determine the risk of emissions occurring that may be present in the absence of control measures by using the rating scale: **Almost Certain, Likely, Unlikely, Rare**

*Key question to ask:* for each identified hazard, what is the likelihood that emissions will occur?

The outcome of the assessment should prioritise the list of hazards identified according to the likelihood that the hazard will cause emissions. For risks rated '**ALMOST CERTAIN**' or '**LIKELY**', a detailed assessment is required which may include the identification or development of detailed control measures to minimise these risks.

#### **4. Document the control measures**

For risks rated **RARE OR UNLIKELY** document the control measures that will be used to address the risks through existing processes, procedures and, if necessary, review. For risks rated **LIKELY**, describe and document in more detail the control measures identified or developed under step 3 required to eliminate or minimise those medium to high risks. Where communication or emergency response plans or standard operating procedures exist, a cross reference should be provided. Risks rated **ALMOST CERTAIN** require planning and action to remove or control the risk, as well as regular monitoring of progress.

#### **5. Rate the risk with control measures**

Reassess the identified risks (see step 3) after the control measures (identified in stage 4) have been implemented. Where the likelihood that the hazard will cause emissions is still high, further development of risk control measures will be required. .

#### **6. Monitor and Review**

Ensure supervision of the activity is undertaken to confirm the documented process is followed and works. It is essential to review the RMP if there are any changes to the activity, process or personnel prior to undertaking the same activity again, or after a 12-month period (whichever occurs sooner).

#### **7. Responsibility**

Document the name of the person responsible for implementation of the risk control/s.

#### **8. Initial timeframe and re-evaluation date**

Document the date the treatment measure will be implemented, and if applicable when the control measure will be re-evaluated.

## Annex 1

### EXAMPLE RMP Worksheet

Please note that the following *planning worksheet* is incomplete and by no means exhaustive. Its purpose is to give risk management planners an idea of how they might go about addressing risks in their establishments and find solutions.

Risk Assessment Plan						
<i>Business name:</i>						
<i>ABN:</i>						
ACTIVITY STEPS (Step 1)	POTENTIAL HAZARDS/RISKS (Step 2)	RISK RATING (Step 3)	RISK CONTROL MEASURES (Step 4)	RISK RATING (Step 5) post control measures	PERSON RESPONSIBLE (Step 7)	TIME-FRAME (Step 8)
List the steps required to perform the activity in the sequence they are carried out.	Against each activity step list the hazards that could cause emission of refrigerant and describe the risk these hazards pose.	<ul style="list-style-type: none"> <li>• Rare;</li> <li>• Unlikely;</li> <li>• Likely;</li> <li>• Almost certain</li> </ul>	Describe the identified Risk Control measures.	<ul style="list-style-type: none"> <li>• Rare;</li> <li>• Unlikely;</li> <li>• Likely;</li> <li>• Almost certain</li> </ul>	Document the name of the person responsible for implementing risk controls	Document when <b>step 3</b> was conducted and when <b>step 6</b> is planned
<b>Purchase of refrigerant</b>	Loose or damaged cylinder caps	Likely	<ul style="list-style-type: none"> <li>• At time of purchase check that refrigerant cylinders are tightly capped</li> <li>• Keep purchase records</li> <li>• Document incidents of poor capping identified at store in a log-book etc</li> </ul>	Unlikely	John Reed	Step 3: 05/05/06 Step 6: 06/06/06
	Poor cylinder condition (rusted, corroded, damaged)	Likely	<ul style="list-style-type: none"> <li>• Check cylinder date markings/imprints – specifically that they are 'In Test'</li> <li>• Check for additional labels and accompanying records etc</li> </ul>	Unlikely	John Reed	Step 3: 05/05/06 Step 6: 06/06/06

<b>Transportation of refrigerant</b>	Damaged cylinder during transportation	Unlikely	<ul style="list-style-type: none"> <li>• Temperature controlled compartment</li> <li>• Safely stored/fixed when transporting</li> <li>• Fitted with safety equipment</li> <li>• etc</li> </ul>	Rare	Keith Snow	Step 3: 10/05/06 Step 6: 10/06/06	
	Damage to gas cylinders during handling (hand-moved, equipment moved)	Unlikely	<ul style="list-style-type: none"> <li>• Implement proper handling techniques</li> <li>• Report accidents immediately</li> <li>• etc</li> </ul>	Unlikely			
<b>Using equipment containing refrigerant</b>	Leakage of refrigerant during charging of equipment	Likely	<ul style="list-style-type: none"> <li>• Implement best practice procedure (as per...)</li> <li>• etc</li> </ul>	Unlikely	Keith Snow	Step 3: 08/05/06 Step 6: 08/06/06	
	Improper care of cylinders	Almost Certain	<ul style="list-style-type: none"> <li>• After each use check that refrigerant cylinders are tightly capped</li> <li>• etc</li> </ul>	...	...	...	
<b>Installation, service and maintenance of equipment containing refrigerant</b>	Lack of servicing of equipment containing refrigerant	Almost Certain	<ul style="list-style-type: none"> <li>• Adhere to manufacturers recommendations and relevant standards</li> <li>• Maintain recommended servicing frequency</li> <li>• Keep records of <ul style="list-style-type: none"> <li>i. Obtain and keep warranties on repairs</li> <li>ii. Keep record of each service to equipment</li> <li>iii. Check cylinder weight regularly</li> </ul> </li> <li>• etc</li> </ul>	Unlikely	Jack Smith	Step 3: 01/06/06 Step 6: 01/09/06	
	Infrequent testing of equipment containing refrigerant	Almost Certain	<ul style="list-style-type: none"> <li>• Check that all test equipment is in good working at least once every three months</li> <li>• Regularly monitor vacuum pump oil</li> <li>• etc</li> </ul>	...	...	...	
	Inadequate leak testing	Likely	<ul style="list-style-type: none"> <li>• Implement best practice procedure (as per...)</li> <li>• Check at least ever three months</li> <li>• Keep records of leak</li> <li>• etc</li> </ul>	...	...	...	...

<b>Recovery and recycling of refrigerant</b>	Improper filling of cylinders	Almost Certain	<ul style="list-style-type: none"> <li>Fill bulk refrigerant cylinders inline with manufacturers recommendations</li> <li>etc</li> </ul>	...	...	...
	Poor cleaning and flushing	Likely	<ul style="list-style-type: none"> <li>Never charge refrigerant into equipment with identified leaks</li> <li>etc</li> </ul>	...	...	...
	Venting	Rare	<ul style="list-style-type: none"> <li>Never vent fluorocarbon refrigerant where its release is avoidable</li> <li>etc</li> </ul>	...	...	...
<b>Storage of refrigerant</b>	Poor storage of cylinders on premises	Likely	<ul style="list-style-type: none"> <li>Ensure all cylinders are stored in a safe and secure location               <ol style="list-style-type: none"> <li>climate controlled (cool place, removed from direct sources of heat)</li> <li>free of obstacles</li> <li>separate from reclaimed gas containers</li> </ol> </li> <li>etc</li> </ul>	...	...	...
	Inadequate seals	Likely	<ul style="list-style-type: none"> <li>Closed valves</li> <li>etc</li> </ul>	...	...	...
	Mixing refrigerant types	Likely	<ul style="list-style-type: none"> <li>Single refrigerant stored in any container at any one time</li> <li>Store reclaimed refrigerant separately</li> <li>etc</li> </ul>	...	...	...
	Lack of labelling	Almost certain	<ul style="list-style-type: none"> <li>The refrigerant type</li> <li>Lubricant type</li> <li>Name service person, licence number and service organisation</li> <li>Date of service</li> <li>etc</li> </ul>	...	...	...
	Equipment that cannot be repaired	Likely	<ul style="list-style-type: none"> <li>Document and keep records of reasons why</li> <li>Establish a retirement plan of action</li> <li>Return refrigerant contaminated to supplier for disposal (Reclaim Australia: <a href="http://www.refrigerantreclaim.com.au">www.refrigerantreclaim.com.au</a>)</li> <li>etc</li> </ul>	...	...	...

**\*\* Please note: step 6 (monitor and review) should be specified in the last column of the table (timeframe/step 8)**

## Annex 2

### Risk Management Planning Template

Individuals are encouraged to modify the template to fit their individual businesses needs.

Risk Assessment Plan							
Business name:							
ABN:							
ACTIVITY STEPS (Step 1)	POTENTIAL HAZARDS/RISKS (Step 2)	RISK RATING (Step 3)	RISK CONTROL MEASURES (Step 4)	RISK RATING (Step 5) post control measures	PERSON RESPONSIBLE (Step 7)	TIME-FRAME (Step 8)	
List the steps required to perform the activity in the sequence they are carried out.	Against each activity step list the hazards that could cause emission of refrigerant and describe the risk these hazards pose.	<ul style="list-style-type: none"> <li>Rare;</li> <li>Unlikely;</li> <li>Likely;</li> <li>Almost certain</li> </ul>	Describe the identified Risk Control measures.	<ul style="list-style-type: none"> <li>Rare;</li> <li>Unlikely;</li> <li>Likely;</li> <li>Almost certain</li> </ul>	Document the name of the person responsible for implementing risk controls	Document when <b>step 3</b> was conducted and when <b>step 6</b> is planned	
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\*\* Please note: step 6 (monitor and review) should be specified in the last column of the table (timeframe/step 8)

## Annex 3

### Licence obligations:

Regulation 141 of the *Ozone Protection and Synthetic Greenhouse Gas Management Regulations 1995* states that:

- (1) A refrigerant trading authorisation or RAC equipment manufacturing authorisation is granted subject to the conditions that the holder:
  - (a) keeps up-to-date records showing the amounts of refrigerant bought, sold and recovered during each quarter; and
  - (b) 14 days or less after receiving a request in writing by the relevant authority, sends to the authority copies of the records mentioned in paragraph (a); and
  - (c) ensures that each item of the holder's equipment that is necessary to prevent avoidable emissions of refrigerant is operating correctly; and
  - (d) has, and maintains, equipment that is adequate for the holder's activities, including 1 or more of each of the following:
    - (i) leak detectors;
    - (ii) vacuum pumps;
    - (iii) recovery units; and
  - (e) at least every quarter, checks any refrigerant container at the premises for leaks; and
  - (f) puts into effect a risk management plan for the premises; and
  - (g) ensures that, at the premises, any refrigerant is:
    - (i) handled in accordance with each applicable standard set out in Table 135; and
    - (ii) handled only by, or under the supervision of, the holder of an appropriate licence granted under regulation 133; and
  - (h) ensures that destruction of any refrigerant is carried out only by the operator of a refrigerant destruction facility.
- (2) It is also a condition of a refrigerant trading authorisation that the holder accepts any surrendered refrigerant or scheduled substance that appears to be intended for use in RAC equipment.
- (3) The relevant authority may specify that an authorisation is subject to a condition and must set out the condition on:
  - (a) the authorisation document; or
  - (b) a written notice given by the authority to the holder.
- (4) A notice for paragraph (3) (b) may be given at any time.