

Environmental Standard Operating Procedure			
Originating Office: MCAS Miramar Environmental Management Department	Revision: Original	Prepared By: Waste Management Division	Approved By: William Moog
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Title: Recovery / Replacement Refrigerant

1.0 PURPOSE

The purpose of this Standard Operating Procedure (SOP) is to provide environmental guidelines for refrigerant recovery and/or replacement.

2.0 APPLICATION

This guidance applies to those individuals who recover and/or replace refrigerant onboard Marine Corps Air Station (MCAS) Miramar.

3.0 REFERENCES

- 40 CFR (Code of Federal Regulations)
- 22 CCR (California Code of Regulations)
- H&SC Chapter 6.5 Section 25211
- Public Resources Code Chapter 3.5, Section 42160
- Hazardous Waste Management Plan
- Spill Contingency Plan (SCP)
- Business Plan (BP)
- CIWMB (California Integrated Waste Management Board) Appliance Recycling Guide

4.0 PROCEDURES

4.1 Discussion:

Proper procedures must be followed when replacing and/or recovering refrigerants. Refrigerants are hazardous materials and may pose serious danger to human health and the environment if not handled and stored properly. Use and handling of these hazardous materials may expose personnel and the environment to gases that can cause serious damage. Hazards associated with refrigerant inhalation include chronic negative effects to the respiratory system and even death.

When storing refrigerants and other hazardous materials, it is critical that each hazardous material be stored

separately from other materials to avoid dangerous chemical reactions. Only store hazardous materials in separate, approved and appropriately labeled containers authorized for use aboard MCAS Miramar. Units should contact the Environmental Management Department, Waste Management Division for additional information replacement, recycling, or disposal of refrigerants.

4.2 Operational Controls:

The following procedures apply:

1. All refrigerators must be delivered to the Recycling Center and disposed of as scrapped metal regardless if the refrigerant and oil has been recovered. All major appliances are recycled through a Certified Appliance Recycler (CAR) IAW the Health and Safety Code Section 25211.
2. Individuals who are not trained to recover/replace the refrigerant or certified IAW 40 CFR Section 608 should not attempt to perform the recovery/replacement of the refrigerant.
3. When recovering or replacing refrigerant, obtain the current MSDSs to be readily available for use.
4. Ensure clamp is properly fitted to tube to ensure no gases escape or leak during the recovery process.
5. Properly drain each type of refrigerant into a separate approved container for recycling.
6. Once collection of refrigerant is complete, ensure that testing is performed on used refrigerants to determine if they are contaminated or suitable for recycling.
7. Properly drain the oil from the compressors and recycled IAW the waste protocol sheet for used oil.
8. Properly label, store, and dispose/recycle hazardous waste in approved containers and in accordance with the MCAS Miramar's Hazardous Waste Management Plan.
9. If a refrigerant or oil leak occurs during recovery/replacement procedures, follow the emergency response procedures identified in the unit's Business Plan and the installation's Spill Contingency Plan.
10. Keep fire extinguisher near potential flammable material.
11. Keep PPE (Personal Protective Equipment) such as respirators near potential health hazard areas.
12. Ensure appropriate signage is posted (e.g., "Inhalation Hazard, or Cryogenic Hazard", etc.)
13. Ensure internal logbook is maintained recording the amount and type of refrigerant collected.
14. Turnover folder information must be maintained for this Standard Operating Procedure.
15. If there are any specific situations or other concerns not addressed by this procedure, contact MCAS Miramar Environmental Management Department (S-7).

4.3 Documentation and Record Keeping:

The following records must be maintained:

- 1. MSDSs for Hazardous Material being stored.
- 2. Refrigerant recovery logbook.
- 3. Inspection and training records.

4.4 Training:

All affected personnel must be trained in this Standard Operating Procedure and the following:

- 1. Hazard Communication training.
- 2. General Environmental Awareness training.
- 3. Section 608/609 Recovery/Replacement Refrigerant Certification Program.

4.5 Emergency Preparedness and Response Procedures:

Refer to the Business Plan Emergency Response Procedures and Spill Contingency Plan

4.6 Inspection and Corrective Action:

The Environmental Compliance Coordinator (ECC) shall designate personnel to perform inspections. The ECC shall ensure deficiencies noted during the inspections are corrected immediately. Actions taken to correct each deficiency shall be recorded on the inspection sheet.

Recovery/Replacement Refrigerant – Inspection Checklist	
Date:	Time:
Installation:	Work Center:
Inspector's Name:	Signature:

Inspection Items	Yes	No	Comments
1. Are all MSDSs readily available and current?			

<i>(29 CFR 1910)</i>			
2. Are personnel who recover and/or replace refrigerant certified/trained with "Section 608" certification? <i>(40 CFR 82; 29 CFR 1910; H&SC 25211)</i>			
3. When recovering or replacing refrigerant, are proper procedures for recovery and/or replacement of refrigerant being followed? <i>(40 CFR 82; H&SC 25211; CIWMB Appliance Recycling Guide)</i>			
4. Is testing of recovered refrigerant performed to determine if it is contaminated or suitable for recycling? <i>(40 CFR 82; HWMP)</i>			
5. Are compressors drained and disposed of as scrap metal? <i>(40 CFR; H&SC 25211; CIWMB Appliance Recycling Guide)</i>			
6. Is compressor oil collected and disposed of properly? <i>(40 CFR; HWMP_)</i>			
7. If refrigerant leaks occur during recovery or replacement procedures, are emergency response procedures being followed? <i>(40 CFR; BP; SCP)</i>			
8. Are spill kits kept near potential spill hazardous areas? <i>(29 CFR 1910)</i>			
9. Are fire extinguishers kept near potential flammable materials? <i>(29 CFR 1910)</i>			
10. Is PPE kept near potential health hazard areas? <i>(29 CFR 1910)</i>			
11. Is proper signage posted (e.g., "No Smoking")? <i>(29 CFR 1910)</i>			
12. Are training and inspection records maintained and available for inspection? <i>(MCO P5090.2A 9104.1(k)(5)- inspection only)</i>			

ADDITIONAL COMMENTS:

CORRECTIVE ACTION TAKEN:

Environmental Compliance Coordinator

Name: _____

Signature: _____

Date: _____