

# NOTICE

## **Registration of Undertaking for Environmental Assessment ENVIRONMENT ACT**

This is to advise that on January 28, 2010, Refrigerant Services Inc. registered a Dangerous and Waste Dangerous Goods Handling Facility for environmental assessment, in accordance with Part IV of the Environment Act.

The purpose of the proposed undertaking is to relocate the Refrigerant Services Inc.'s Dangerous and Waste Dangerous Goods Handling Facility from its existing location at 105-D Akerley Blvd., Burnside Industrial Park, Dartmouth to a new location at 15 Williams Ave., Burnside Industrial Park, Dartmouth. Commencing April 1, 2010 and completion April 30, 2010.

Copies of the environmental assessment registration information may be examined at the following locations:

- Dartmouth North Public Library, 134 Pinecrest Dr., Dartmouth, N.S.
- Canada Post, 95 Akerley Blvd., Unit H, Dartmouth, N.S.
- Clean Nova Scotia, 126 Portland Street, Dartmouth, NS
- Ecology Action Centre, 2705 Fern Lane, Halifax, NS
- Nova Scotia Environment, Suite 224, 1595 Bedford Highway, Bedford, NS
- Nova Scotia Environment, 5th Floor Library, 5151 Terminal Road, Halifax, NS
- EA website (when available) <http://www.gov.ns.ca/nse/ea/>

The public is invited to submit written comments to:

Environmental Assessment Branch  
Nova Scotia Environment  
P.O. Box 442, Halifax, NS, B3J 2P8

on or before Feb. 27, 2010 or contact the department at (902) 424-3230, (902) 424-0503 (Fax), or e-mail at [EA@gov.ns.ca](mailto:EA@gov.ns.ca).

All submissions received, including personal information, will be made available for public review in the Nova Scotia Environment Library, 5<sup>th</sup> floor, Halifax Office, 5151 Terminal Road.

Published by: Refrigerant Services Inc., 105-D Akerley Blvd., Dartmouth, N.S.

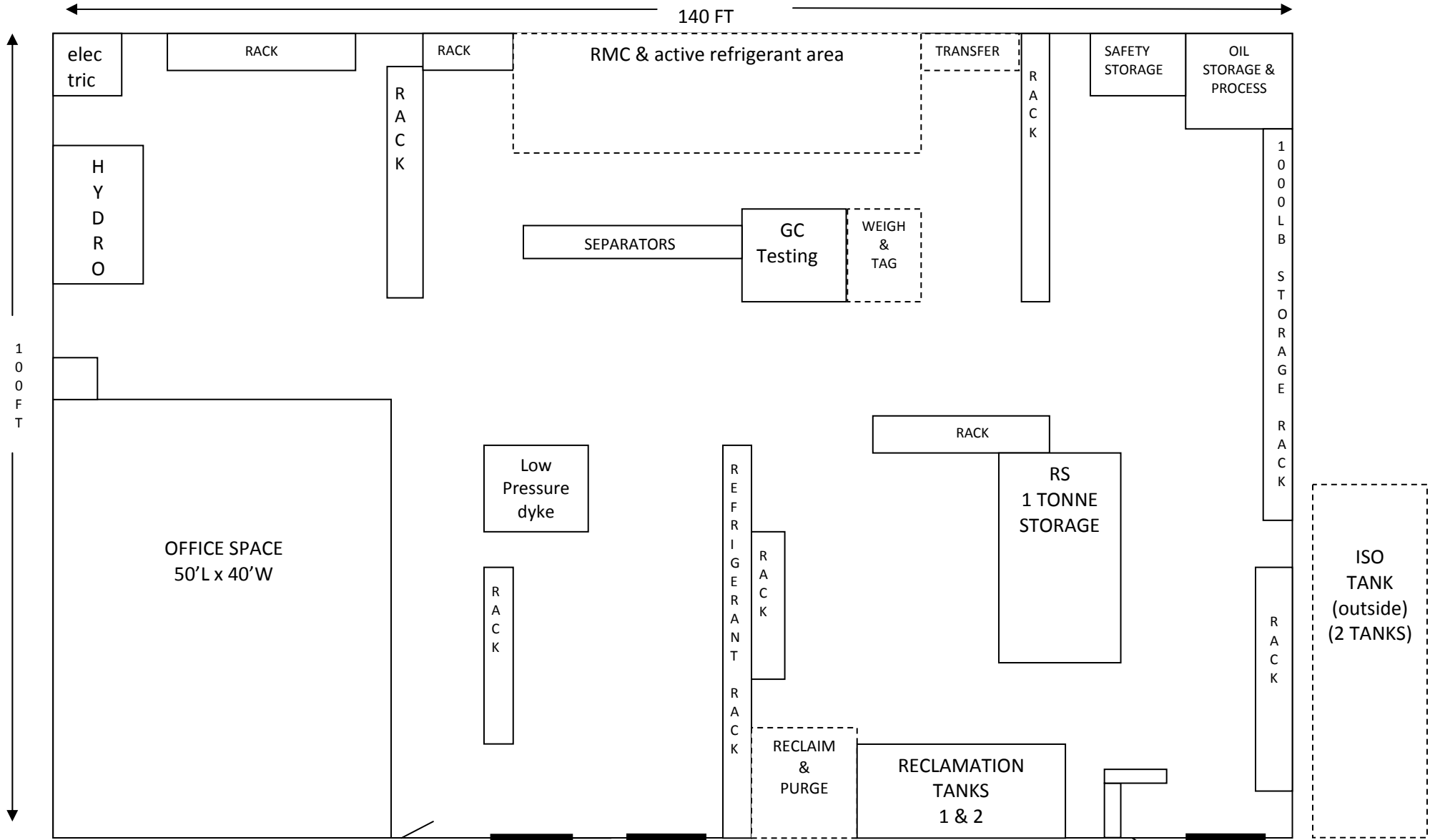
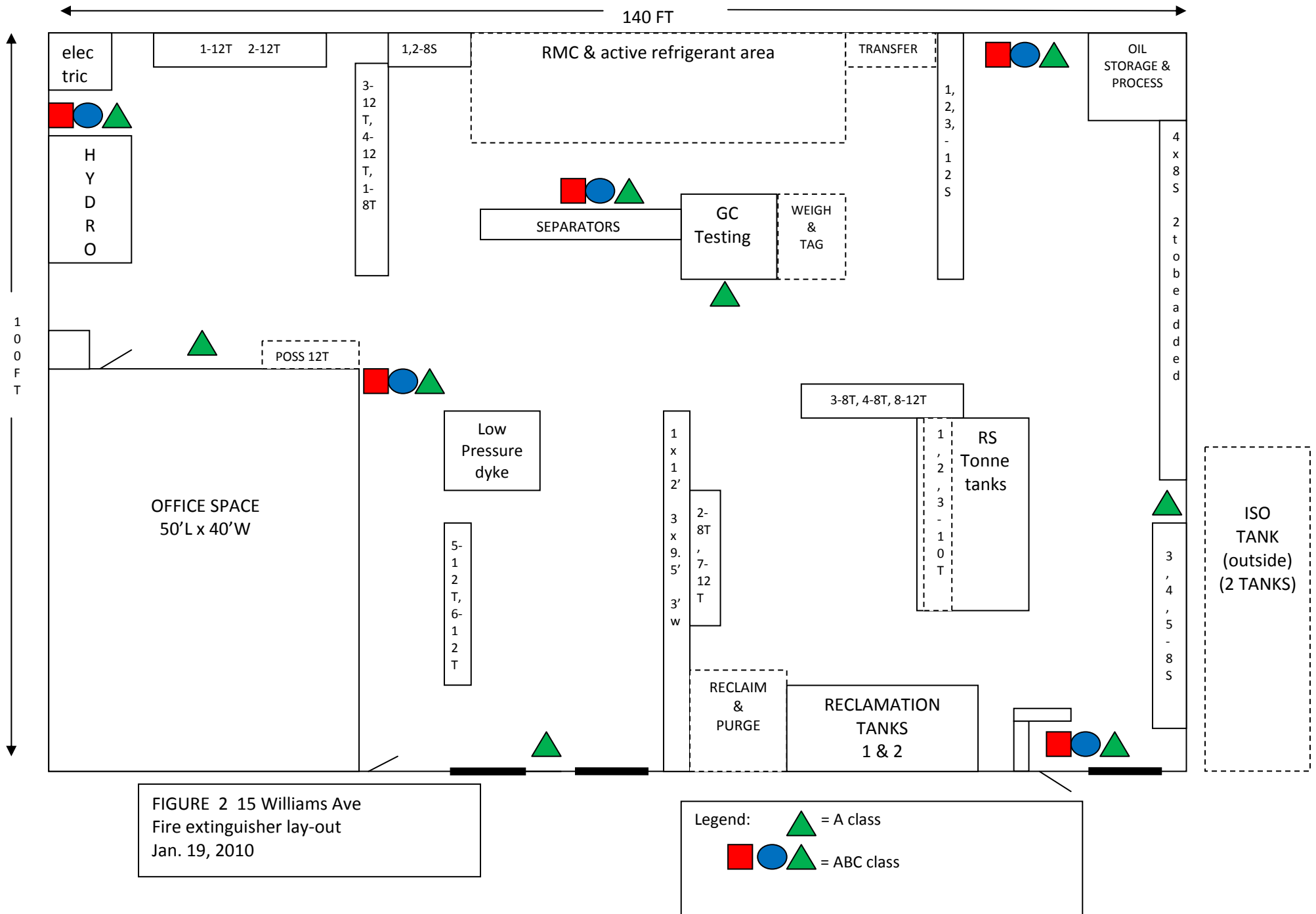


FIGURE 1  
15 WILLIAMS AVE. FLOOR PLAN  
DEC. 16, 2009



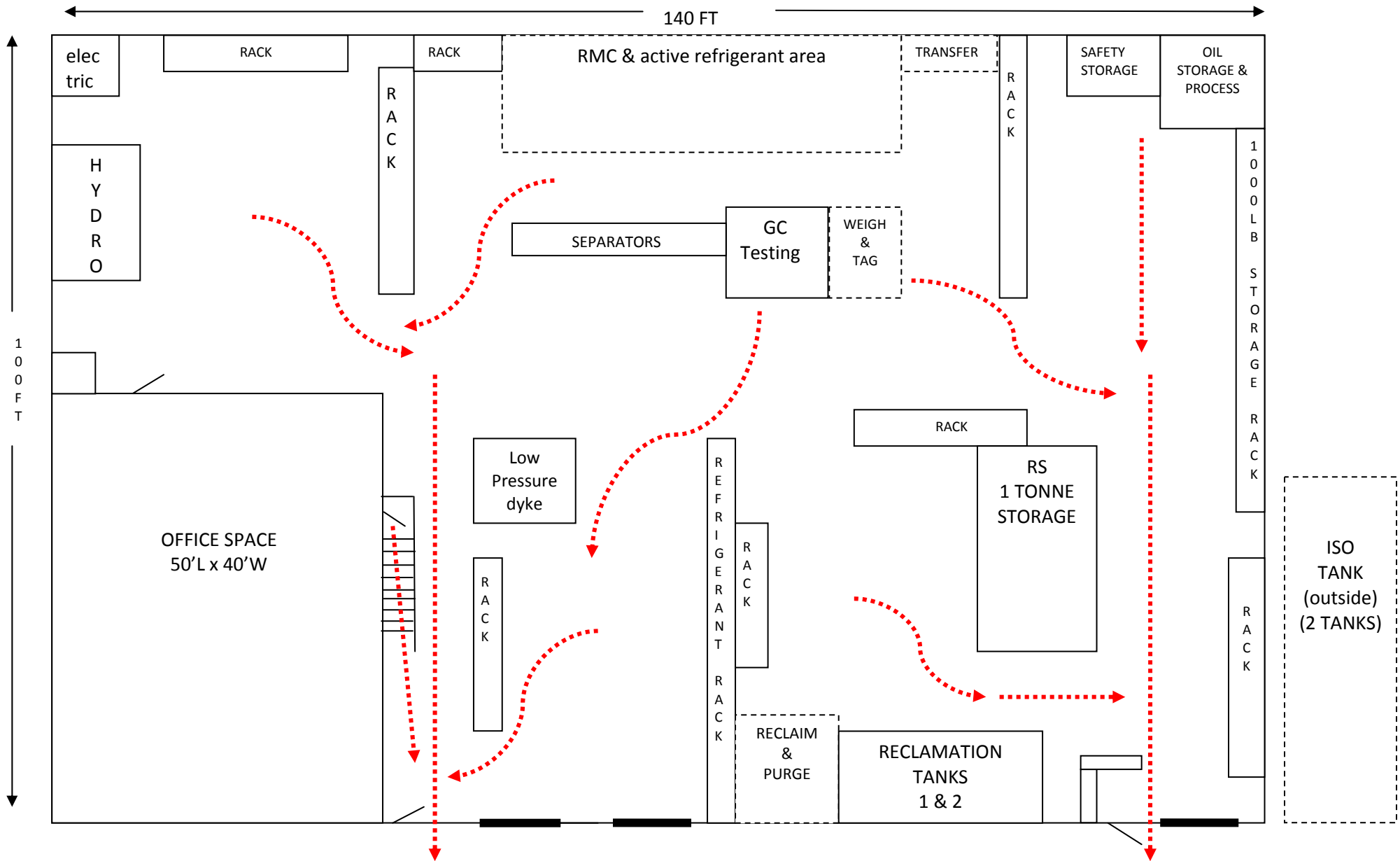
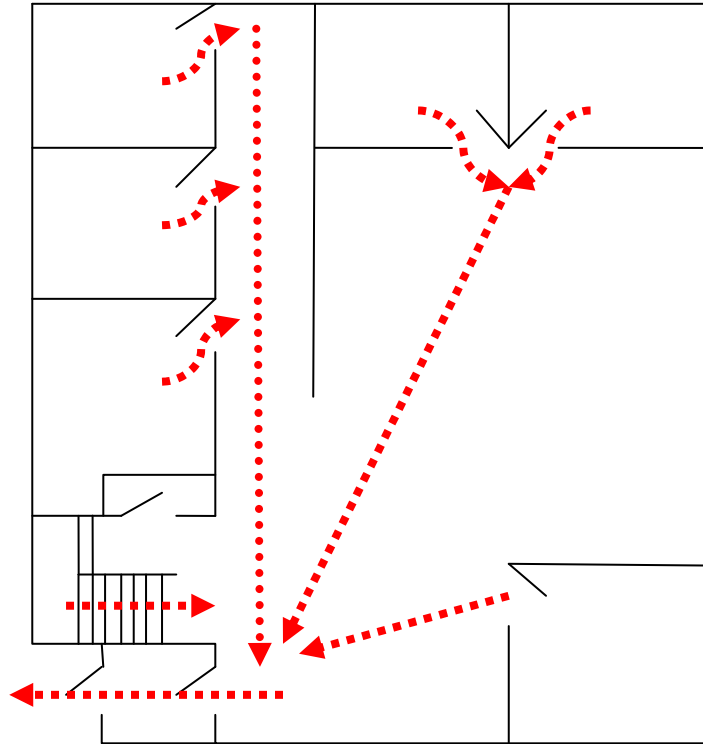


FIGURE 3  
15 Williams Fire Evacuation (shop)  
Jan. 19, 2010

1<sup>st</sup> FLOOR OFFICE



2<sup>nd</sup> FLOOR OFFICE

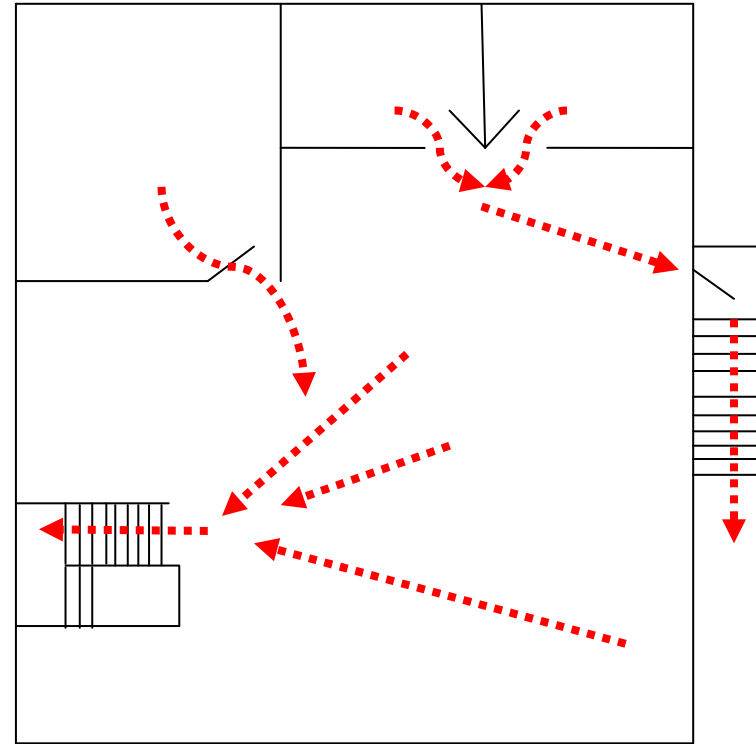


FIGURE 4  
1<sup>st</sup> & 2<sup>nd</sup> FLOOR Fire evacuation plan  
Jan. 19, 2010

**Refrigerant Services Inc.**  
**15 Williams Ave.**  
**Dartmouth, N.S.**

## **Fire Emergency Response Plan**

**January 2010**

**Purpose:**

To minimize injury and loss in the event of a fire.

**Location:** Refrigerant Services Inc.

15 Williams Ave., Dartmouth N.S., B3B 1X3

**Responsible Parties:**

All employees of RSI are required to be aware of the Fire Emergency plan and the locations of all fire exits, and fire extinguishers and to take prompt action to minimize injury and loss. The Safety Supervisor is responsible for directing all internal fire response procedures and activities.

**Procedures:**

If you see or hear a fire, or smell smoke take the following actions immediately:

1. Have all persons clear the area.
2. If the fire is small and you are confident in your ability to safely attempt to put out the fire use, the appropriate fire extinguishing equipment.
3. If you are unable to control the fire, or feel it is unsafe to continue, leave the area immediately and close all doors as you exit. If the fire is clearly out of control, evacuate all persons from the building and muster in the parking lot near the driveway entrance on Williams Ave or to an upwind location of the building if refrigerants become exposed to open flames. Employees should only re-enter the building when it is safe to do so.
4. Dial 911 from a safe location and give the operator the following information:
  - Your name and phone number
  - Your Location (RSI, 15 Williams Ave. Dartmouth)
  - Give a precise description of the fire, (i.e. chemical, electrical, fuel, building, grass fire, etc.)
  - Advise the operator which entrance the Fire truck should use and describe the location.
  - Advise the operator of any injuries and the number and extent of those injuries.
  - Remain on the line with the operator and dispatch an employee to the entrance to guide the fire truck to the fire area and advise the fire fighters of the types of dangerous goods on site.
5. Dispatch an employee to notify occupants of surrounding buildings of potential toxic fumes that may travel downwind from the site of the fire.
6. If it is safe to do so dispatch employees to move cylinders or drums of oil and refrigerant away from the fire area. Employees if possible should deploy water hoses to cool cylinders and drums that may be exposed to high temperatures as long as this activity does not endanger them in any way.

7. Oil Spill and Refrigerant spill emergency equipment should be readied if possible for deployment to minimize and contain leaks and spills which may be result of the fire or fire fighting activities. Refer to Emergency Oil Spill Contingency Plan and Emergency Refrigerant Leak or Spill plans for more information.
8. Refrigerants exposed to high temperatures or open flames will decompose and can form toxic chemicals. All personnel should remain upwind of any fire location at all times.

### **Fire Exit Locations:**

A number of Fire Exits are in place on the South wall of the building.  
Refer to attached Figure 3 and Figure 4 Fire Evacuation Routes.

### **Types of Fire Extinguishers & Locations**

Type A (Green triangle) – use for paper or wood

Type B (red square) – use for flammable liquids, such as gasoline, oil or paint.

Type C (blue circle) – use for electrical fires

Fire Extinguishers Types and Locations are noted on the attached Figure 2 Fire Extinguisher Lay-out.

### **Using a Fire Extinguisher**

1. Pull the safety pin at the top of the extinguisher
2. Aim the nozzle/hose at the base of the flames
3. Squeeze or press the handle
4. Sweep from side to side at the base of the fire until it is extinguished

### **Notification:**

The emergency response team leader, safety supervisor and management contact should be notified immediately. If after hours the contact numbers are located on a sign near the main entrance of the building.

Response team leader: Devin Thomas Office: 902-468-4997 Home: 902-463-4069

Safety Supervisor: Jason Burns Office : 902-468-4997 Home: 902-252-6562  
Cel: 902-222-7808

Management contact: Jim Thomas Office: 902-468-4997 Home: 902-861-1799  
Cel: 902-456-1848

### **Equipment Maintenance:**

All fire extinguishers will be inspected yearly by Micmac Fire Safety and records kept by the Safety Supervisor. All damaged or inoperative Fire Extinguishers will be replaced.



**Training:**

All employees will be trained on the types of fire extinguishers and their use. Training and procedures will be reviewed and updated on a yearly basis.

**Exercises:**

A simulated fire exercise involving all employees will take place on a yearly basis. The date and all relevant information on the exercise will be recorded and maintained by the designated safety supervisor.

**Updating:**

This plan will be reviewed and updated annually. Following an exercise or incident involving activation of the plan, there will be a debrief session to determine if the plan needs to be upgraded or modified.

# **REFRIGERANT SERVICES INC.**

**15 Williams Ave.,  
Dartmouth, N.S.**

## **EMERGENCY OIL SPILL**

## **CONTINGENCY PLAN**

**JANUARY 2010**

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## 1.1 PURPOSE

This plan contains the proper response procedures and contacts in the event of a spill of un-processed or processed refrigeration oil. This plan should provide a clear and accurate response to any situation that may arise.

## 1.2 POLICY STATEMENT

The president and senior management of RSI are committed to the protection of public health and safety, the environment and property. This plan will be implemented and maintained on an ongoing basis. All employees are expected to take all necessary precautions to prevent spills or emissions to the environment and take immediate action to minimize the affects of any accidental spills should they occur.

## 1.3 LOCATION & ACTIVITIES

This plan is designed to respond to an occurrence at:  
Refrigerant Services Inc  
15 Williams Ave.  
Dartmouth N.S., B3B 1X3

The activities at this site are as follows:  
Oil Processing  
Refrigerant testing & consolidation, processing and storage  
Refrigerant blending and packaging  
Cylinder Requalification

## 1.4 PLAN COMPLETION DATE

This plan was last reviewed and updated January 19, 2010

## 1.5 RESPONSIBLE PARTIES

Response team leader:	Devin Thomas
Response team members:	Jason Burns, Jonathan Coolen
Management Contact:	James Thomas
Emergency information:	Canutec

## 2. ACTIVATION & NOTIFICATION PROCEDURES

2.1 Criteria: The following activation and notification procedures are to be observed:

- (a) All oil spills of any size must be cleaned up immediately and all spills exceeding 100ml are considered to be an oil spill occurrence and must be reported by the operator and/or process technician to the supervisor and response team leader or management contact immediately.
- (b) In the event the spill is too large to be contained immediately with-in the building and the response team leader or management contact cannot be reached, contact Canutec and the clean-up contractor, Atlantic Industrial Cleaners.
- (c) In the event that the occurrence involves a third party, that party should be Notified.

2.2 Notification List:

Response team leader:	Devin Thomas	Office: 902-468-4997 Res: 902-469-4069
Management Contact:	James Thomas	Office: 902-468-4997 Res: 902-861-1799 Cell: 902-456-1848
CANUTEC		613-996-6666
FIRE / POLICE/MEDICAL		911
Environmental Emergencies Reporting Center		1-902-426-6030 or 1-800-565-1633
Clean-up Contractor:	Atlantic Industrial Cleaners	902-468-3331
	24 Hour Emergency Number	902-468-9011

## 3. RESPONSE TEAM LEADER

3.1 Authority & Responsibility

The response team leader (RTL) must be available for response 24 hours a day. He has the available contacts for response and has the authority to delegate tasks to the response team. The response team leader has first hand knowledge of the facility and expertise to implement the clean-up plan and is aware of potential health risks. The RTL is responsible for reporting the incident to higher authorities, including the Environmental Emergency Reporting Center, and is accountable for the manner in which the plan is carried out.

## 4. CONTAINMENT & CLEAN-UP

### 4.1 Products:

- Used refrigeration and vacuum pump oil (contaminated oil)
- Treated refrigeration and vacuum pump oil (waste oil)
  - Maximum oil quantities on site:
  - Treated Waste Oil : 500 Litres
  - In Process Oil: 800 Litres
  - Contaminated oil 700 Litres
- Ozone depleting substances (CFC', HCFC's absorbed in oil)
  - Maximum ODS on site in oil: 20 KG

### 4.2 Containment Equipment

- Contaminated oil stored in 205L steel drums specified for contaminated oil
- Treated oil stored in 205L drums specified for waste oil
- Processing equipment fully charged holds 800L of oil
- All drums, equipment stored in a containment dike designed to hold 110% of maximum capacity
- All above products and processing equipment are to be stored and operated within the containment dike located in the oil de-chlorination area in the northeast corner of the building as shown in drawing specified as Figure 1, RSI, 15 Williams Ave. Floor Plan.

### 4.3 Clean-up Equipment

The following equipment is stored in the safety storage area as shown in Figure 1, RSI, 15 Williams Ave. Floor Plan:

- 3 – 25lb bags of oil absorbent material
- 100 24”X24” Oil Spill Mat pads
- 200 42” Absorbent Socks
- 2 - 5 Ft. portable flexible temporary Dike sections
- 1 polyurethane drum to store used absorbent
- 2 spare 205L steel drums for temporary storage of recovered oil
- 1 flat bottom shovel
- 1 floor squeegee
- 1 wash bucket & mop, 1 gallon floor cleaning agent
- Refrigerant recovery unit
- Hand held electronic refrigerant leak detector
- TC approved 50lb recovery cylinder
- Variety of hand tools, hoses, etc.

#### 4.4 Potential health and environmental hazards

The used oil may contain small amounts of acidic material which could cause skin and eye irritation. Protective clothing should be worn during handling and clean-up. Even small amounts of oil can contaminate soil and groundwater. Every measure should be taken to avoid oil spills.

All drums are to be TC approved and stored in an upright position during handling and transport.

CFC and HCFC refrigerants are non-flammable compressed gases. Contact with liquid refrigerant may cause frostbite and vapors are harmful if inhaled. Gloves and safety goggles should be worn when handling refrigerants.

All cylinders should be stored in an upright position and kept out of direct sunlight when storing, handling or transporting.

#### 4.5 Site and potential discharge area

Office, warehouse, processing facilities and parking lot area.(See attached Figure 1 Floor plan and Figure 5 Site Plan for 15 Williams Ave.)

#### 4.6 Transport release

In the event of a spill during transport. Immediate actions should be taken to minimize exposure to public and environment. Contact RTL and Destination site for area clean-up.

### 5. RESTORATION OF SITE

#### 5.1 Immediate measures:

- (a) Take steps to minimize losses to the environment (temporary dike, absorbent)
- (b) Take steps to isolate area of spill.
- (c) Use listed clean-up equipment to recover spilled oil and use absorbent to absorb oil residue.
- (d) In the event of a spill onto the paved parking area on the south side of the building deploy if needed a temporary dike around the storm drain near the bottom of the driveway to prevent oil from entering the storm drain system. Deploy absorbent pads and absorbent material to contain oil before it enters the storm drains on Williams Ave.
- (e) Use mop and cleaning agent to restore area to original condition.
- (f) Inspect storage drums and equipment for damage or defects. Repair if required.

#### 5.2 Corrective Action

- (a) Determine cause of spill and take necessary action to eliminate possible re-occurrence.
- (b) Repair or replace damaged or defective equipment.

## 6. DISPOSAL

6.1 Location of disposal site: Atlantic Industrial Cleaners  
(Oil and absorbent) 11 Brown Ave.  
Dartmouth, NS, Ph: 902-468-3331

6.2 Method of transportation: Road transport, RSI vehicle with appropriate documents

6.3 Waste contractor: Atlantic Industrial Cleaners  
11 Brown Ave.  
Dartmouth, N.S. Ph: 902-468-3331

6.4 Means of containment:  
ULC approved 205L steel drums

## 7. RESOURCES

Counter measure equipment: (see clean-up equipment)

Man power: 10 employees

Training: All response team members are trained in the following:

WHIMIS, TDG, CFC emissions control, First Aid.

Outside Contractor: Atlantic Industrial Cleaners, 902-468-3331, 24 Hr 902-468-9011

Communications: phone, cellular, email, fax

Emergency Information: CANUTEC 613-996-6666

## 8. PUBLIC RELATIONS

All public relations will be provided through a press release. All press releases will be coordinated through the office of James Thomas, President, Refrigerant Services Inc.

## 9. REPORTING

The RTL is responsible for drafting and filing a report of occurrence to the Nova Scotia Dept. of Environment and the Environmental Emergency Reporting Center. The report will contain the following information:

- Date and time of release
- Weather conditions at time of release and during response
- Cause of release (if known)
- Products involved
- Quantities involved
- Areas involved
- Identification of parties involved in response
- Any health tests conducted on individuals
- Containment used



- Clean-up technology used
- Disposal method including quantities and location
- Site remediation completes and planned
- Short and long term impacts
- Status of response
- Log of actions and associated time
- Measure taken to avoid re-occurrence

Reporting address: Nova Scotia Department of Environment & Labour  
 Central region office  
 Mezzanine Level, Suite 224  
 1595 Bedford Highway  
 Bedford, NS, B4A 3Y4  
 Ph: 902-424-7773 fax: 902-424-0597

Environmental Emergency Reporting Center: 902-426-6030

## 10. EQUIPMENT MAINTENANCE

Clean-up equipment will be inventoried, inspected and replaced if necessary every 6 months. Storage, processing and containment equipment will be inspected, repaired or replaced every 6 months. Any equipment in use found to be defective or damaged shall be replaced immediately. All TC approved cylinders will be re-qualified every 5 yrs as per TDG regulations.

## 11. ADMINISTRATIVE

### 11.1 Training

All employees of RSI responsible for responding to a spill under this plan must be thoroughly familiar with the company policy and procedures.

The response team leader will instruct all responders on the material hazards and on the proper response procedures for containment, mitigation, equipment use, and disposal methods when employees are assigned to the response team and whenever there are changes to the plan.

Training and procedures will be reviewed and updated on a yearly basis

### 11.2 Exercises

A simulated oil spill exercise will take place on a yearly basis with all responders and response team leaders identified in this plan. The date and all relevant information on the exercise will be maintained in an exercise record ledger maintained by the response leader.

### 11.3 Updating

This plan will be reviewed and updated annually. Following an exercise or incident involving activation of this plan there will be a debrief session to determine if the plan needs to be upgraded or modified.

**REFRIGERANT SERVICES INC**  
**15 Williams Ave.**  
**Dartmouth, N.S.**

**REFRIGERANT**  
**LEAK OR SPILL**  
**EMERGENCY**  
**RESPONSE PLAN**

Revised January 19, 2010

**REFRIGERANT SERVICES INC.**

**REFRIGERANT SPILL OR LEAK EMERGENCY RESPONSE PLAN**

January 19, 2010

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## **1. Introduction**

### **1.1 Policy Statement.**

The senior management of Refrigerant Services Inc. is committed to the protection of RSI employees, public health and safety, the environment and property.

### **1.2 Purpose**

This Plan contains the proper response procedures and contacts in the event of a refrigerant spill. This plan should provide a clear and accurate response to any refrigerant loss or spill situation that may arise.

### **1.3 Locations:**

This plan is designed to respond to an occurrence at the following Refrigerant Services Inc. locations:

Warehouse and Process areas of :  
15 Williams Ave., Dartmouth, N.S..

ISO Tank Parking Area at rear of 15 Williams Ave., Dartmouth, N.S.

Refer to attached Figure 1 Floor Plan and Figure 5 Site plan 15 Williams Ave.

A copy of this contingency plan will be kept on file in the office of the Operations Manager at the above location.

### **1.4 Site Activities:**

The following activities are carried out at this site:

- Refrigerant Storage
- Refrigerant analysis by Gas Chromatography
- Refrigerant transfer and consolidation
- Refrigerant Reclamation
- Refrigerant Packaging
- Refrigerant Cylinder Requalification
- Refrigeration Oil Processing

This plan was originally prepared in April , 2007 and last revised on January 19, 2010.

## 2. Planning

### 2.1 Hazard Assessment

The refrigerants on this site are fluorocarbon refrigerants and are non-flammable and low in toxicity. These products could be recovered, reclaimed and/or virgin fluorocarbon refrigerants including ozone depleting CFC's and HCFC's and non-ozone depleting HFC's. These refrigerants can further be classified as high and low pressure refrigerants.

#### High Pressure Refrigerants

High pressure refrigerants are defined as those normally held in cylinders under pressure. These refrigerants are highly volatile and in the case of a leak, or spill at normal ambient temperatures will instantly vaporize and escape into the atmosphere where they will quickly disperse and cannot be captured or recovered once they have entered the atmosphere.

#### Low Pressure Refrigerants

Low pressure refrigerants defined as those normally held in drums are not under pressure. These refrigerants are less volatile and in the event of a leak or spill will not immediately and completely vaporize but could stay in liquid form at normal ambient temperatures for sometime. In the liquid state it is possible to capture and recover these products.

The hazards associated with these products are as follows:

Contact with liquid refrigerant may cause frostbite and eye irritation.  
Exposure to high concentrations of vapour may cause Asphyxiation.  
May decompose and form toxic gases when exposed to open flame.

### 2.2 Dangerous Goods On Site

#### Ozone Depleting Substances

R-11	Non DG
R-113	Non DG
R-114	UN1958
R-12	UN1028
R-123	Non DG
R-22	UN1018
R-500	UN 2602
R-502	UN1973

#### Non-Ozone Depleting Substances

R-134a	UN3159
R-404A	UN3337
R-410A	UN3163
R-424A	UN3163
R-426A	UN3163
R-428A	UN3163
R-434A	UN3163
R-410A	UN3163

### **2.3 Potential emergency situations.**

Sudden large release of refrigerant caused by a failure of containment devices such as cylinders and drums, valves, hoses and piping.

Sudden release of refrigerant from relief valves due to over pressurization or exposure to extreme high temperatures.

Fires in electrical equipment connected to process equipment

Fires in vehicles on site

Fires in warehouse or storage spaces

Due to the volatility of these products no liquid discharge to low lying points would be expected. The major hazard would be high concentrations of vapor in enclosed spaces in the building and at exit points of the building and in down wind locations of the ISO tank storage area.

### **2.3 Resources**

Countermeasure equipment (see containment and clean-up equipment list)

Manpower: RSI employees

Training: All response team members are trained and certified for the following:  
WHMIS, T.D.G., and CFC emission control

Communications: Phone, cellular, fax

Emergency information: Canutec 613-996-6666

Clean Up Contractor: Atlantic Industrial Cleaners 902-468-3331

24 Hour Emergency Number: 902-468-9011

### **2.4 Roles and Responsibilities**

Response Team Leader: Devin Thomas

Response Team Members: Jason Burns

Jonathan Coolen

Management Contact: Jim Thomas

Emergency Information System: Canutec

### **2.5 Response Team Leader(RTL)**

The Response Team Leader (RTL) is responsible for having available contacts for response and has the authority to commit financial resources, delegate tasks and direct the response team. The RTL has first hand knowledge of the facility and expertise to implement the containment and clean-up plan and is aware of the potential environmental and health risks. The RTL is responsible for communicating with the appropriate governmental agencies, reporting the incident to management and the authorities, and is accountable for the manner in which the containment and clean-up plan is carried out.

## **2.6 Command Centre**

The RTL will determine if an incident command center is necessary for the incident and if so will establish the center at the Operation Manager's office or another location as determined by the RTL depending on the nature and location of the incident.

## **2.7 Public Relations**

All public announcements and comments will be provided through a press release. All press releases will be co-ordinated by senior management of RSI.

# **3. Implementation and Operation**

## **3.1 Activation**

All employees must report refrigerant releases or emissions which cannot be immediately contained to their immediate supervisor and the operations manager as soon as they are discovered.

Plant Supervisor: Jason Burns    Office . 902-468-4997  
Res. 902-252-6562  
Cel. 902-222-7808  
Operations Manager: Devin Thomas    Office: 902-468-4997  
Res: 902-469-4069

## **3.2 Notification Procedures**

When responding to an occurrence the following criteria should be observed:

- (a) Report occurrence immediately and accurately to the supervisor and response team leader and/or management representative.
- (b) In the event the response team leader or management representative cannot be reached contact Canutec.
- (c) In the event the occurrence involves product owned by a third party that party should be notified.

The RTL will notify the Environmental Emergencies Reporting System.



### 3.3 Notification Contact List

Response Team Leader :	Devin Thomas	Off: 902-468-4997 Res: 902-469-4069
Management Representative:	Jim Thomas	Off: 902-468-4997 Res: 902-861-1799 Cel: 902-456-1848
Environmental Emergencies Reporting Center		902-426-6030 1-800-565-1633
Canutec:	613-996-6666	
Fire, Police, Medical:	911	
Clean Up Contractor:	Atlantic Industrial Cleaners	902-468-3331 24 Hour Emergency Number 902-468-9011

### 3.4 Response Procedures

#### (A) Containment & Recovery Equipment (Low Pressure)

- 205, 80 and 40 liter drums
- Mops buckets and mop ringers and floor squeegee
- Membranes and dike timbers
- Neoprene rubber gasket material
- Hose clamps, ty-raps and nylon line
- Service tools

#### (B) Containment & Recovery Equipment (High Pressure)

- 454, 90, 42, 27,13 KG DOT approved recovery cylinders
- Refrigerant recovery unit
- Electronic leak detector, liquid soap leak detector
- Hoses, gauge manifolds, fittings and gasket materials
- Service tools

#### (C) Clean Up Equipment

- Bags of oil absorbent materials
- 200 L drum to store used oil absorbent
- Flat bottomed shovel
- Floor squeegee
- Wash bucket & mop
- Floor cleaning agent
- Wet Vacuum System

**(D) Potential Health Hazards**

Vapors may cause dizziness or asphyxiation without warning.  
Vapors are initially heavier than air and will spread along the ground.  
Contact with liquid may cause burns, severe injury and/or frostbite.  
Exposure to open flame may produce irritating, corrosive and toxic gases.

**(E) Potential Environmental Hazards**

CFC's and HCFC's are ozone depleting substances and HFC's are green house gases. Emissions of all these products must be kept to a minimum and everything possible should be done to prevent the release of these products to the atmosphere.

**(F) Spill or leak:**

- Attempt to stop the leak if you can do so with-out risk
- If possible turn leaky containers so that gas escapes rather than liquid
- Prevent entry into sewers, basements, or confined spaces
- Ventilate the area
- Wear appropriate safety equipment such as safety glasses and gloves and
- Ventilate closed spaces before entering.
- If the leak cannot be stopped in a short period of time prepare to remove the refrigerant from the leaking tank.
- Deploy as much of the response equipment and personnel as is available to remove the refrigerant as quickly as possible

**(G) Fire: (Refer to Fire Emergency Response plan for more information)**

- Use extinguishing agent suitable for surrounding fire
- Use dry chemical or CO2 on small fires.
- Use water spray, fog or regular foam on large fires

**(H) Fire involving tanks or cylinders**

**(Refer to Fire Emergency Response plan for more information).**

- Fight fire from maximum distance
- Cool containers with water spray until well after fire is out
- Do not direct water to source of leak or safety devices, icing may occur
- Withdraw immediately in case of rising sound from venting devices or discoloration of tank.
- Always stay away from tanks or cylinders engulfed in fire

**(I) First Aid:**

- Move victim to fresh air – call 911 or emergency medical service
- Give artificial respiration if victim is not breathing
- Administer oxygen if breathing is difficult
- Remove and isolate contaminated clothing and shoes
- In case of contact with liquid refrigerant, thaw frosted parts with lukewarm water.
- Keep victim warm and quiet
- Ensure that the medical personnel are aware of materials involved and take precautions to protect themselves.

**(J) Public Safety Immediate Measures**

Location: ISO parking and storage area at rear of 15 Williams Ave.

As an immediate precautionary measure, isolate the leak area for at least 20 meters in all directions. For large leaks from ISO tanks, isolate the area in all directions for at least 200 meters (1/8 mile). Consider initial evacuation for at least 500 meters (1/3 mile).

Stay upwind.

Vapors are heavier than air so keep out of low areas.

Keep unauthorized personnel away.

Location: RSI building 15 Williams Ave., Dartmouth, N.S.

As an immediate precaution clear all personnel from the area.

Ventilate the area if possible or move the leaking container to a ventilated area or to the outside of the building.

If there is a risk of vapors entering the areas of neighboring buildings notify these occupants.

**(K) Disposal**

Emissions of high pressure refrigerants will disperse in the atmosphere and cannot be captured for disposal.

Spills of low pressure refrigerants once captured should be reclaimed if possible or destroyed by incineration if surplus.

This material will be added to RSI's on-going disposal program.

## **(L) Reporting**

The response team leader is responsible for drafting and filing a report of occurrence to RSI management and the Nova Scotia Department of Environment. The report will contain the following information:

- Date and time of release
- Weather conditions at time of release and during response
- Cause of release
- Products involved
- Quantities involved
- Areas impacted
- Identification of parties involved in the response or exposed to the product or by -
- Products of combustion.
- Any health tests conducted on individuals or any health and safety concerns
- Containment employed
- Clean up and recovery technology used
- Disposal method including quantities and location
- Site remediation completed and planned
- Short and long term impacts
- Status of response
- Log of actions and associated time
- Measures taken to prevent re-occurrence

Reporting Address: Nova Scotia Department of Environment  
Central Region Office  
Mezzanine Level, Suite 224  
1595 Bedford Highway  
Bedford, N.S., B4A 3Y4  
Att: Regional Manager  
Ph: 902-424-7773  
Fax: 902-424-0597

Environmental Emergencies Reporting Center 902-426-6030  
Or 1-800-565-1633

### **3.5 Administrative**

#### **Training**

Senior management requires all employees to be sufficiently trained so they are thoroughly familiar with the company policies and procedures for responding to emergencies.

Minimum External Training requirements:

RTL: CFC Emission Control , WHMIS, Level 1 CPR First Aid, Transportation of Dangerous Goods, Forklift Operation

Senior responders: CFC Emission Control Course, WHMIS, Transportation of Dangerous Goods, Forklift Operation

General Responders: CFC Emission Control Course, WHMIS

Minimum internal training requirements:

RTL and all responders: RSI Emergency Response Training Course

#### **Training Frequency**

All external training requirements must be kept current as per government regulations.

All internal training requirements are mandatory for members of the response team with reviews and refresher courses minimum every two years

#### **Curriculum and exercise procedures, review and update.**

RTL and senior management will develop and review curriculum for the RSI Emergency Response Training Course and develop and schedule response exercises.

#### **Exercises**

Response exercises will be held annually and consist of a combination of administrative and operational exercises involving responses to typical emergencies identified in Section 2.2 of this plan.

Records of all exercises will be maintained and include the following:

Date and time of exercise.

List of all RSI staff and local, Provincial and/or Federal Authorities, community groups. and others involved in the exercise.

Effectiveness of the response training.

Comments on improvements that could be made to training and procedures.

Ideas developed for future exercises.

## **Maintenance of Equipment**

Clean up and response equipment will be inventoried, inspected and replaced or repaired as necessary every 3 months.

## **Updating**

This plan will be reviewed annually and also at anytime there is a change in company policy or applicable standards, codes or legislation.

A record of amendments and changes to the plan will be kept, sequentially in the front of the plan document.

Following an exercise or an incident involving the activation of the plan, there will be a debrief session to determine if the plan needs to be upgraded or modified.

**1.0 Undertaking****1.1 Name of Undertaking**

Relocation of Refrigerant Services Inc.'s Dangerous and Waste Dangerous Goods Handling Facility

**1.2 Existing Location of the Operations**

Refrigerant Services Inc.  
105 D Akerley Blvd.  
Burnside Industrial Park  
Dartmouth, N.S., B3B 1R7

**1.3 Proposed New Location of the Undertaking**

Refrigerant Services Inc.  
15 Williams Ave.  
Burnside Industrial Park  
Dartmouth, N.S., B3B 1X3  
PID# 40638843

**2.0 Proponent Description**

Name of Proponent: Refrigerant Services Inc.  
Postal Address: 105-D Akerley Blvd.  
Dartmouth, N.S., B3B 1R7  
Telephone: 902-468-4997  
Fax: 902-468-5102  
e-mail: [info@rscool.com](mailto:info@rscool.com)  
Web-site: [www.rscool.com](http://www.rscool.com)

Contact Person: Jim Thomas, President  
Telephone: 902-468-4997 E-mail: [jthomas@rscool.com](mailto:jthomas@rscool.com)

**2.1 Company Overview**

Refrigerant Services Inc. established Canada's first refrigerant reclamation facility in Dartmouth, Nova Scotia in 1993. The Company has since developed a number of patented and patent pending technologies for the reprocessing of refrigerants. The company has partnered with industry leaders in a number of joint ventures and licensing agreements around the globe. The Company has also provided equipment and consulting services to many World Bank and United Nations projects throughout the world.

In Canada the company provides refrigerant collection, reclamation and disposal of surplus refrigerants and maintains a large inventory of refrigerant recovery cylinders. In addition, Refrigerant Services Inc. is a Transport Canada approved cylinder inspection and recertification facility providing visual and hydrostatic cylinder testing for cylinders in sizes up to and including 1000 lb(454kg). RSI's facility in Dartmouth, Nova Scotia, manages the collection, storage and destruction of surplus CFC and HCFC refrigerants collected across Canada. The company is a leading service provider for Refrigerant Management Canada, an award winning, non-profit, extended producer responsibility program funded by the Refrigeration and Air Conditioning industry in Canada.

The Company has also developed the RS Series of non-ozone depleting replacement refrigerants. RS-24(R-426A) replaces CFC-12, RS-44(R-424A) replaces HCFC-22, and RS-52(R-428A) replaces CFC-502. These products are non-flammable and are compatible with existing oils and require no retrofitting.

The Company is a member in good standing of the following organizations:

HRAI - Heating Refrigeration and Air Conditioning Institute of Canada  
CAPSC – Safety Services Nova Scotia

### **3.0 Nature of the Undertaking**

#### **3.1 Purpose/Reason**

Refrigerant Services Inc. wishes to move it's Dangerous and Wastes Dangerous Goods Handling Facility from the current location at 105-D Akerley Blvd., Burnside Industrial Park, Dartmouth, N.S. to a proposed new location at 15 Williams, Ave. Burnside Industrial Park, Dartmouth, N.S.. The proposed location is larger and the floor plan and shipping and receiving doorway arrangements are more suitable to the current operations of the company. The proposed location is less than one kilometer from the existing location and with-in the same boundaries of the Burnside Industrial Park.

The company has detailed emergency response contingency plans in place for unforeseen issues and has been operating this type of facility since 1993. The company is and has always been fully compliant with all Federal, Provincial and Municipal regulations and guide lines and has never had a spill or an incident in regard to negative compliance issues.

In 1997 the company received an Environmental Award from the Province of Nova Scotia for outstanding contribution to the enhancement and preservation of Nova Scotia's environment. In 2004 the company received the Canadian Innovation Award for Environmental Technology for the Atlantic and Nunavut Region from the National Research Council Canada and Canadian Manufacturers and Exporters.



## **4.0 Description of the Undertaking**

### **4.1 Site Location**

Please see attached Figure 5 Site Plan and Figure 1 Floor Plan for site location and facility plans. The proposed facility is located at 15 Williams Avenue in the Burnside Industrial Park, Dartmouth, Nova Scotia. Access to the site is from Highway 118 via Akerley Boulevard and Highway 111 via Wright Avenue. The site and surrounding properties are zoned Commercial/Industrial. One building exists on the subject site, and several on the adjacent properties. Properties bordering the site are industrial in nature (i.e. construction companies, wholesale distributors, manufacturers). Residential areas are not present within 300 meters of the site. The nearest residential areas are located in Bedford (approximately 2 km to the northwest) and Highfield Park (approximately 3 km to the southeast).

Historical land use of the area has been for industrial activity beginning in the early 1990's. Aerial photographs taken in 1973 show all land in the area to be undeveloped east of Burnside Drive. Aerial photos taken in 1992 show a few buildings in the area and the property at 15 Williams cleared with no buildings present. The building was constructed in the mid 1990's and has been in use as a warehouse from that time to the present.

The site itself slopes toward the street with the building sitting on a slight rise of approximately 2 meters. The area to the North is on a similar elevation as the building, the area to the South is approximately one meter higher elevation. The area to the west (Williams Ave.) is slightly lower and the area to the east is slightly higher. Several commercial and industrial properties are present surrounding the site. The drainage from the property is generally towards the street and away from surrounding properties and buildings. There is a storm drain located on the property in the center of the driveway about 20 meters from the street at an elevation slightly lower than the street. The driveway is sloped to form a catchment area around this drain. The storm drain on the property is connected to the storm drain system on Williams Ave. which directs run-off to the Wright's Cove area of Bedford Basin.

The facility is currently occupied by AMJ Campbell Van Lines a moving and storage company that will be relocating in March, 2010. Refrigerant Services Inc. will be the lone occupant of the building after March 2010.

### **4.2 Construction Details**

No new construction is required at the site as all storage and processing operations will take place with-in the existing building. The fencing in the area to the rear of the building will be modified to enclose the Transportable ISO Tank Parking area.

### 4.3 Operation

The company receives recovered surplus refrigerant and used oil in cylinders & drums in sizes from 11 KG to 90 KG by the following methods:

Common Carrier( Straight trucks and Tractor Trailers)

Couriers( Panel Vans)

Contractor Vehicles(Vans and ½ tons)

Refrigerant Services Inc.'s company owned ½ ton truck

Used oil received is consolidated in 205 L drums and then transferred to a de-chlorination system with a capacity of 800L where it is treated to remove chlorine based refrigerants and then transferred back to ULC Approved 205L drums for delivery to a local waste oil recycler.

Recovered refrigerants received are tested and identified and then consolidated in larger cylinders (454 KG) for either reclamation to industry standards or for disposal.

Refrigerant for reclamation is processed to industry standards using proprietary technology developed by the company and then packaged in 11 KG or 45 KG cylinders for resale to the industry.

Refrigerant for disposal is consolidated from the 454 Kg storage cylinders to a 13,500 KG transportable ISO tank and then transported for thermal treatment (incineration) at facilities located in Swan Hills, Alberta, Canada or Port Arthur, Texas, USA.

In addition to the above the company receives new refrigerant in 1000 KG cylinders from Europe and packages these products in 11 KG or 45 KG cylinders for sale to wholesale distributors throughout Canada.

The following is a list of the Dangerous Goods processed and stored on site:

#### **Used, Reclaimed and Surplus Fluorocarbon Refrigerants**

R-11	Non DG
R-113	Non DG
R-123	Non DG
R-114	UN1958 Class 2.2
R-12	UN1028 Class 2.2
R-22	UN1018 Class 2.2
R-134a	UN3159 Class 2.2
R-404A	UN3337 Class 2.2
R-410A	UN3163 Class 2.2
R-500	UN2602 Class 2.2
R-502	UN1973 Class 2.2
R-507	UN1078 Class 2.2

**New Replacement Refrigerants**

R-424A (RS-44) UN 3163 Class 2.2

R-426A (RS-24) UN 3163 Class 2.2

R-428A (RS-52) UN 3163 Class 2.2

R-434A (RS-45) UN 3163 Class 2.2

**Description of Oil De-chlorination Process**

The oil de-chlorination process developed by Refrigerant Services Inc. is a proprietary technology and a complete detailed description of the process would have to be protected under a confidentiality agreement. The following is a general description of the process and if more details are required please contact the undersigned.

The oil-de-chlorination process is a low temperature thermodynamic batch process that reduces the ability of the oil to hold volatile substances. 100 to 500 litres of contaminated oil is loaded into the processing chamber where temperatures and pressures are controlled. The vapors generated from the oil pass through a collection device where less than 0.5% of the volatiles are emitted to the atmosphere along with non-condensable gases(air) which may be present. The process consumes on average about 3KW of electricity during the processing cycle which varies from 2 to 7 days. The volatiles collected are a mixture of different fluorocarbon refrigerants which are then separated and reclaimed for use in a separate process. The process continues until the chlorinated halogens are reduced to well below the allowable 1000 mg/kg. There are no other consumables or waste products generated by the process and there is no decomposition of any of the original components.

The processed oil, when reduced to below the 1000mg/kg of chlorinated halogens is then considered a waste oil and can be delivered to a waste oil processor for further recycling.

The approval of this process will allow us to treat on site the contaminated oil which is now a waste bi-product of our existing refrigerant reclamation process. This will avoid the transport and eventual destruction of the contaminated oil and will also allow the recycling of this valuable resource. Secondly, we can offer this service to our existing refrigeration and air conditioning contractor customers. This will allow them to dispose of the contaminated oil generated by their activities in a convenient and cost-effective manner, thus encouraging the proper disposal of these products.

The estimated maximum amount of contaminated oil to be processes at our location is as follows:

Generated on site by RSI :	45 litres/week	2340 litres/year
Generated off-site by others	70 litres per week	3640 litres /year

The estimated maximum amount of contaminated oil and waste oil that would be stored on site would be as follows:

Treated Waste Oil :	500 Litres
In Process Oil:	800 Litres
Contaminated oil	700 Litres

The total space required to carry out these activities which would include the processing area and small storage area for the processes and unprocessed oil, would be less than 200 sq. ft.

The process and storage area will be diked with a spill holding capacity of at least 1400 litres. In addition special containment pallets will be employed to store oil awaiting processing or disposal.

There are no raw materials or water used in this process.

There are no liquid effluents discharged from the process.

There are no solid wastes generated or associated with the process.

The equipment used in the process has been designed and constructed by employees of the company. These employees are certified refrigeration and air conditioning trades people. The employees who operate this equipment are trained in the handling of dangerous good and ozone depleting substances.

There are air emissions from the process only during the final stages of the process cycle. These small amounts and low concentrations of hazardous components would not require a stack or vent from the process area. These emissions would consist of a mixture of air and fluorocarbons. The fluorocarbons would include CFC's, HCFC's and HFC's. The CFC's and HCFC's are ozone depleting substances and are regulated in Nova Scotia under the Ozone Layer Protection Act. The HFC's are not currently regulated in Nova Scotia. The total emissions of ozone depleting substances that would be emitted to the atmosphere from this process are estimated to be less than 20 Kg per year.

## Description Of Refrigerant Processes

### A: Used Refrigerant Reclamation and Destruction

In 1993 Refrigerant Services Inc. established Canada's first refrigerant reclamation facility. Currently RSI collects used fluorocarbon refrigerant from HVACR wholesale distributors located across Canada. The refrigerant arrives in a variety of cylinder and drum sizes from 12 kg to 454 kg. each container is analyzed and consolidated for either, reclamation and resale by RSI or for destruction by incineration at other facilities. Surplus refrigerant for destruction is consolidated in 454 kg cylinders and then transferred to 15,000 kg Iso tanks for transportation to destruction facilities in Canada or the USA.

Used Refrigerant suitable for reclamation is processed and repackaged in a variety of cylinders and drums in sizes 12kg to 100 Kg for resale to HVACR wholesalers in Canada.

There are no raw materials or water used in the collection or reclamation process. There are no discharges or emissions as a result of the collection and reclamation process other than a very small amount of fugitive emissions from connecting and disconnecting hoses etc.

All used and surplus fluorocarbon refrigerants processed at the facility are non-flammable and low in toxicity and classed as 2.2 Compressed gas non-flammable under TDG regulations.

Average yearly volumes for collected refrigerants are as follows:

Used Refrigerants for reclamation:	70,000 kgs
Surplus Refrigerants for destruction:	150,000 kgs
	-----
Total:	220,000 kgs

Average volume of stored used or surplus refrigerants on site are as follows:

Used Refrigerants before reclamation:	20,000 kgs
Reclaimed refrigerants	20,000 kgs
Surplus refrigerants before consolidation	15,000 kgs
Surplus Refrigerant after consolidation	70,000 kgs
	-----
Total:	125,000 kgs

**B: New Refrigerant Packaging**

RSI imports new Replacement Refrigerant Blends from the UK in one ton bulk tanks and packages these products in cylinders from 12 kg to 45 kg for re-sale through HVACR wholesalers across Canada

There are no raw materials or water used in the packaging process other than cylinders and packaging material.

There are no discharges or emissions as a result of the packaging process other than a very small amount of fugitive emissions from connecting and disconnecting hoses etc.

All new refrigerants on site are Hydrofluorocarbons and are non-ozone depleting, non-flammable and low in toxicity and classified as 2.2 Compressed Gas Non-Flammable under TDG regulations. Average yearly volumes of new refrigerants: 30,000 kg

Average volume of stored new refrigerants on site is as follows:

Bulk Storage Tanks : 12,000 kgs  
Packaged products : 13,000 kgs

-----  
Total: 25,000 kgs

**4.4 Geographical Locations Served**

The Dangerous goods and Waste Dangerous goods Handling Facility will be receiving for processing or disposal recovered refrigerants from Air Conditioning and Refrigeration wholesalers and contractors from most major cities in Canada. It will also be receiving new unused refrigerants from Europe, Asia and the USA for redistribution to Refrigeration and Air Conditioning wholesalers in Canada and the USA.

**4.5 Surplus Refrigerant Disposal Sites**

1. Veolia ES Technical Solutions  
Hwy 73, Taylor's Bayou  
Port Arthur, Texas, USA, 77640
2. Earth Tech  
Swan Hills Treatment Center  
P.O. Box 1500  
Swan Hills, Alberta, Canada, T0G 2C0

#### **4.6 Waste Oil Disposal Site**

Atlantic Industrial Cleaners  
11 Brown Ave.  
Dartmouth, N.S., Canada, B3B 1Z7

#### **4.7 Quantities stored and in process on site**

The maximum used oil stored on site including oil in process would be 2000 L.

The average used oil stored on site is expected to be 1200 L.

The maximum Dangerous Goods class 2.2 compressed gas non-flammable stored on site including material in process would be 200,000 KG.

The average Dangerous Goods class 2.2 compressed gas non-flammable stored on site is expected to be 150,000 KG.

#### **4.8 Hours of Operation**

Normal Business hours for the proposed facility will be the same as the current operation:  
Monday to Friday 7.30 AM to 5 PM

#### **5.0 Description of the Environment**

The local terrain is described as flat to rolling with boulders and bedrock outcrops. There are no wetlands or water supply wells within 300 meters of the proposed site. A municipal water supply, as well as storm and sanitary sewer systems service the site. The nearest water body is Black Lake and its tributaries to the west of the property approximately ½ kilometer. This lake is at a higher elevation to the proposed site. The nearest lake at a lower or similar elevation would be Enchanted Lake approximately ¾ km to the northwest of the property. There is a wetland area north of Akerley Blvd. near the Burnside Drive intersection which is approximately ½ km from the proposed site and at a similar elevation. There is drainage ditch approximately 175 meters west of the property and at right angles to the property. Berms along the side of the ditch are at a slightly higher elevation than Williams Ave. This ditch feeds into the wetland area on the north side of Akerley Blvd.. The surface geology of the area consists of silty, compact material derived from both local and distant sources. Bedrock is of the Halifax Formation and is primarily comprised of slate, siltstone and sandstone. Topography in the area slopes gently to the west. ( See attached topography map of the area.)

**5.1 Expected negative environmental impacts on the Environment from the project.**

Considering the precautions and mitigation measures taken by the company, the experienced and highly trained staff, the monitoring equipment, maintenance programs, and the type of products to be stored and processed on site there should be no negative impacts on the Environment.

**5.2 Expected positive environmental impacts on the Environment from the project.**

The proper handling, recycling and disposal of hundreds of tons of ozone depleting substances and used refrigeration processed at the facility over the life of the project will have a major positive effect on reducing ozone depletion and green house gases emissions.

The company offers free disposal of ozone depleting refrigerants through the Refrigerant Management Canada program. This activity prevents the intentional release of these products to the atmosphere and provides a simple, easy solution for the disposal of these surplus refrigerants to contractors across Canada.

**6.0 Mitigation Measures****6.1 Oil Mitigation Measures**

Oil is a liquid, with the potential to contaminate ground, groundwater and surface water.

Surface water should not be affected as any spills would have to cross and travel approximately ½ km north along Williams Ave. to reach the nearest wetlands. In the event of a large spill the street itself should act as a catchment area where recovery equipment and absorbent materials could be deployed

The following precautions will be observed:

1. All oil drums and containers received will be stored inside a dike with-in the building.
2. The oil will be transferred to ULC Approved steel drums with-in a dike to await processing.
3. The oil will be processed with-in a dike.
4. The processed oil will be stored in ULC approved steel drums with-in a dike inside the building.
5. The processed oil will then be transported in a company owned ½ ton truck to a local waste-oil recycler.
6. In the event of a significant spill portable dike systems would be deployed to prevent the spill from entering the storm drain on the property and the catchment area around the drain would be used to contain and recover the spill..



Note: In the unlikely event of a spill or release of oil there is absorbent materials and clean-up equipment kept available in the area. A detailed emergency Oil Spill Contingency Plan and a Fire Emergency Response Plan have been developed by the company. (See copies attached)

All spills and releases will be promptly contained, cleaned up and reported to the 24 hour emergency reporting system (1-800-565-1633).

## **6.2 Refrigerant Mitigation Measures**

Approximately 90 % of the refrigerants handled at the facility are high pressure refrigerants and their volatility would prevent contamination of ground, groundwater or surface water.

All refrigerant process and transfer equipment are tightly enclosed and there are no emissions to the atmosphere during these processes. Accidental spills or releases would dissipate quickly in the atmosphere with no direct effect on the Environment.

The remaining 10% are low pressure refrigerants with the potential to contaminate ground, groundwater and surface water.

Surface water should not be affected as any spills would have to cross and travel approximately ½ km along Williams Ave. to reach the nearest wetlands. In the event of a large spill the street itself should act as a catchment area where recovery equipment and absorbent materials could be deployed.

The following precautions will be observed.

1. All refrigerants will be stored inside the building in DOT approved cylinders and drums. The company is approved by Transport Canada to re-qualify by hydrostatic pressure testing, compressed gas cylinders used to contain refrigerants.
2. All low pressure refrigerants will be stored and transferred in a diked area inside the Building and on special containment pallets.
3. All employees have been trained and certified in emission control measures for ozone depleting substances.
4. All cylinders and drums will be inspected regularly for damage and corrosion and are re-certified by hydrostatic pressure testing every 5 years. All transfer equipment, hoses, pumps, etc., will be inspected and leak tested regularly as part of a planned maintenance program.

5. The building will be equipped with a refrigerant leak monitoring system and an intruder alarm system monitored 24 hours per day. These systems will be installed and tested prior to relocating any Dangerous Goods to the new site. In the event of an emergency during working hours, site staff will notify one of two senior Refrigerant Services Inc. managers. For after hours emergencies contact numbers will be posted near the front main entrance to the building.
6. In the event of a significant spill of low pressure refrigerants portable dike systems would be deployed to prevent the spill from entering the storm drain on the property and the catchment area around the drain would be used to contain and recover the spill.

Note: In the unlikely event of a spill or release of refrigerant, there is refrigerant recovery and containment equipment kept on site at all times. A detailed emergency refrigerant leak or spill contingency plan and a Fire Emergency Response Plan have been developed by the company. (See copies attached)

All spills and releases will be promptly contained, cleaned up and reported to the 24 hour emergency reporting system (1-800-565-1633).

Refrigerant Services Inc follows the following regulations; Transport Canada Transportation of Dangerous Goods Act, Nova Scotia Used oil Regulations, Nova Scotia Ozone Protection Act, Nova Scotia Environment Act and Environmental Assessment Regulations.

### **7.0 Wetland Disturbance**

There are no wetlands as a part of this under taking, therefore no wetland disturbance will occur.

### **8.0 Project-Related Approvals and Permits**

The following is a list of existing Approvals and Permits which will also need to be in place at the proposed new site.

1. Approval to operate-Used Oil Collection & Storage:  
Approval Number 2008-060807-R02
2. Approval for Operation and Reclamation of a Dangerous and Waste Dangerous Goods Handling Facility:  
Approval Number 2009-065722
3. Transport Canada Certificate of Registration for the requalification of cylinders by the hydrostatic water jacket method and visual examination.  
Certificate Number ASD 4067-26-6-583

Note: Local Emergency response agencies such as HRM EMO and HRM Fire Services will be notified of the change in location and provided with an up to date description of all Dangerous Goods to be stored at the new location.

### **9.0 Schedule**

Relocation of existing equipment and Dangerous Goods inventory is scheduled to begin April 1, 2010 or earlier and scheduled for completion no later than April 30, 2010.

### **10.0 Funding**

No public or other government funding is involved in the execution of this undertaking. All costs are borne by the proponent Refrigerant Services Inc.

### **11.0 Public and Aboriginal People Interests**

No public consultation has been undertaken, outside of the 30 day legislated comment period during the EA process, since the site is located in an Industrial Park and as such has a low potential impact to the public or aboriginal interests.

### **12.0 Signature of CEO and Date**

Date:

Signature of CEO:

Jim Thomas  
President

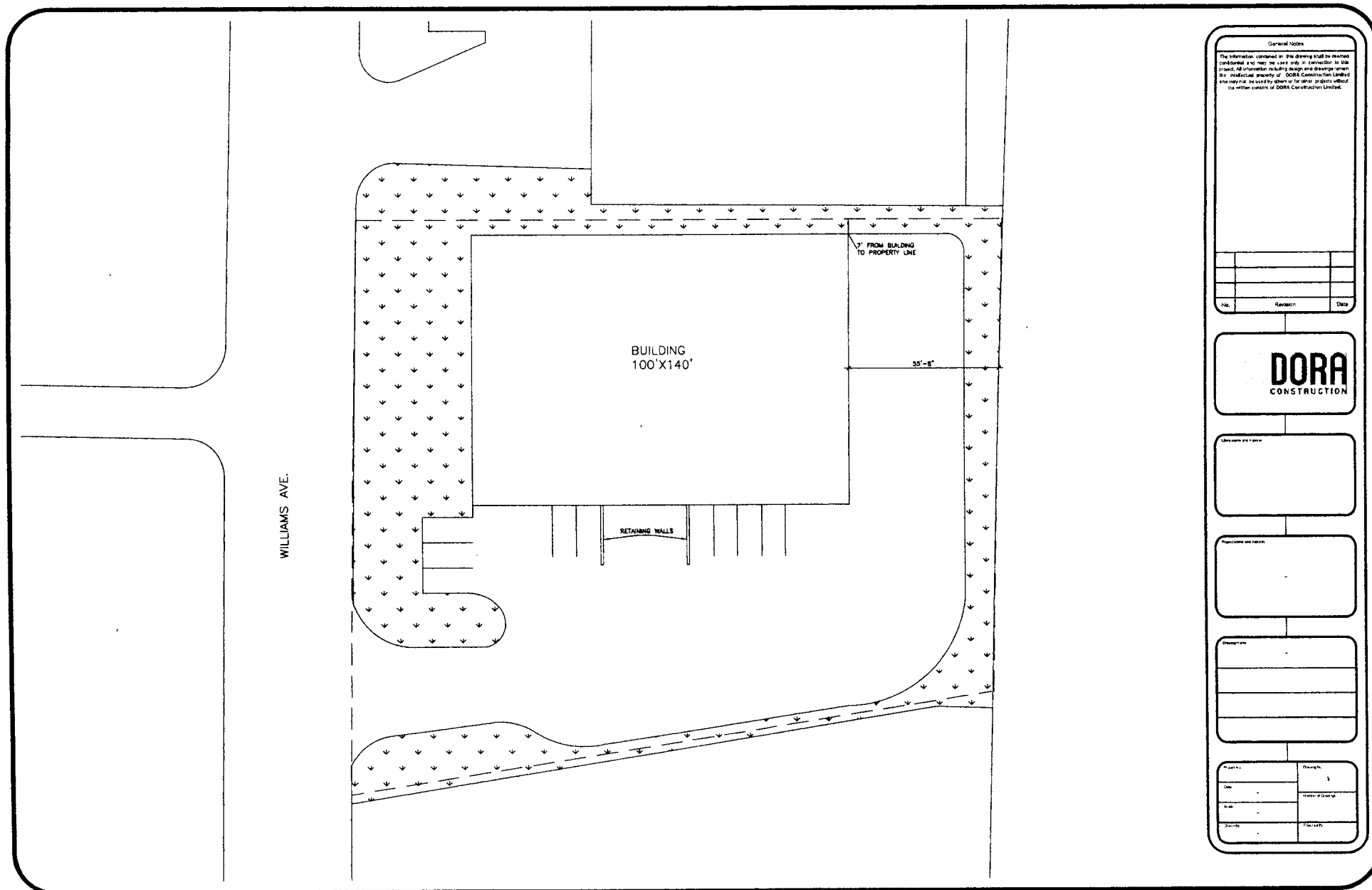


FIGURE 5 SITE PLAN 15 WILLIAMS AVE.



## Why should I join?

Contractors who participate in the RMC program will receive benefits in the following areas:

### Environmental Responsibility

Ozone depleting substances can seriously affect the ozone layer. By actively participating in the RMC program, you will be helping to:

- Eliminate harmful chemicals that contribute to ozone depletion;
- Reduce skin cancer rates; and
- Preserve important land and ocean ecology.

### Competitive Advantage

Becoming a part of this award-winning program will bring the competitive edge of RMC into your value proposition! You will be joining a global commitment to action that has the backing of the EcoLogo<sup>CM</sup> Program.

### Collaboration

Participating in the RMC Program provides you with the opportunity to work with the refrigerant industry's most dynamic and innovative firms.

*“ The RMC program is important because it makes it very easy to dispose of surplus refrigerants. The great support and care that RMC provides help to increase participation and bring together everyone who is interested in making a difference. ”*

Jim Thomas,  
Refrigerant Services Inc.

Contact us:



REFRIGERANT  
MANAGEMENT  
CANADA

The Industry Solution  
for Refrigerant Waste Disposal



## Reduce Your Environmental Footprint Today!

## Destruction of ODS refrigerants is easy, and free!



## What is RMC?

The Refrigerant Management Canada (RMC) program is the Canadian industry solution for refrigerant waste disposal.

It is an environmental care program championed by industry leaders that brings together contractors, wholesalers and collection service providers committed to the responsible disposal of surplus ozone depleting refrigerants.

RMC is a not-for-profit corporation administered by the Heating, Refrigeration and Air Conditioning Institute of Canada (HRAI).

For more information, please visit  
[www.refrigerantmanagement.ca](http://www.refrigerantmanagement.ca)  
1-866-622-0209

## Doing Our Part for the Environment, One Kilogram at a Time

To date, the RMC program has collected and safely destroyed over 1.5 million kilograms of environmentally damaging refrigerant waste.

This achievement earned the program the 2007 Best-of-the-Best Stratospheric Ozone Protection Award from the Environmental Protection Agency's Office of Air and Radiation.

*Join this award winning program!*

*"We are pleased to participate in the RMC program. We have several local wholesalers in the program whom we like to support and the process is simple and seamless. The RMC program is one way to show our customers our compliance with Ministry of the Environment legislation and also our commitment to being environmentally responsible."*

Nancy McKeraghan,  
Canco ClimateCare Heating & Air Conditioning

## Genuine Environmental Leadership

The EcoLogo<sup>CM</sup> Program – North America's most respected environmental mark – has certified the RMC program against stringent criteria for environmental leadership. The EcoLogo Program performed a multi-attribute, life-cycle analysis to ensure the RMC program complied with its standards for a Refrigerant Collection and Disposal Program.

Better yet, authorized wholesalers and contractors in the RMC program have the ability to use the EcoLogo for their own marketing and outreach use – a tangible competitive advantage in the marketplace.



Friends of the Earth  
Les Amis de la Terre

Protecting the Earth for tomorrow / Pour protéger l'avenir de la Terre



## How Does the Program Work?

The RMC program is a partnership of contractors, wholesalers, collection service providers and disposal service providers. Each stakeholder plays a vital role in the RMC program.

- **Contractors:** Recover refrigerant from equipment owners in standard recovery cylinders and drums and transport them to wholesalers.
- **Wholesalers:** Transport refrigerant to Collection Service Providers where they are stored and bulked in ISO tanks.
- **Collection Service Providers:** Ship refrigerant to disposal service providers where it is safely destroyed.





# A Cool New World.

THE FUTURE IS HERE

- DEVELOPERS OF PATENTED HFC REFRIGERANTS
- CLEAN / TEST / RE-CERTIFICATION OF REFRIGERANT RECOVERY CYLINDERS
- RECLAMATION & DISPOSAL OF CFC / HCFC / HFC REFRIGERANTS







## ● RS-44 (R-424A)

### *R-22 replacement*

The simple, long term solution to replacing R-22 .

Zero Ozone depletion potential  
Non-Flammable  
Compatible with all lubricants  
No retrofitting required

**Applications include:**

Commercial, Industrial and Residential A/C systems  
Commercial and Industrial Refrigeration Systems

Replaces the following refrigerants in medium and high temperature applications: R-22, R-417A, R-422A, R-422B, R-422D



## ● RS-52 (R-428A)

### *R-502 replacement*

The simple, long term solution to replacing R-502 .

Zero Ozone depletion potential  
Non-Flammable  
Compatible with all lubricants  
No retrofitting required  
Low glide only 0.8C Near azeotropic

**Applications include:**

Commercial & Industrial Refrigeration Systems  
Supermarket display cases  
& cold storage systems  
Freezer Cabinets and Ice machines

Replaces the following ozone depleting refrigerants in Low and Medium Temperature applications: R-502, R-402A(HP80), R-403B, R-408A(FX10), R-411B.



## ● RS-24 (R-426A)

### *R-12 replacement*

The simple, long term solution to replacing R-12 and other ozone depleting R-12 replacements.

Zero Ozone depletion potential  
Non-Flammable  
Compatible with all lubricants  
No retrofitting required  
Low glide only 0.5C  
Near azeotropic mixture

**Applications include:**

Automotive A/C systems  
Mobile Refrigeration Systems  
Commercial, industrial and domestic refrigeration systems

Replaces the following ozone depleting refrigerants in low medium and high temperature applications: R-12, R-401A(MP39), R-401B (MP66), R-409A (FX56), R-414A, R-414B(HOTSHOT) and R-416A(FRIGC/FR12)



# Cylinder Sales, Rental & Re-certification



## Cylinder sales and rentals

RSI inventory thousands of refrigerant recovery cylinders in capacities from 25 lb (12kg) to 1000 lb (454 kg). Cylinders are available on a deposit basis for refrigerant reclamation and/or disposal projects, or on a rental basis for short or long term storage projects. RSI also sell a full range of TC/DOT certified refrigerant recovery cylinders. Further, RSI provide in-house re-certification of recovery cylinders. RSI products and services are available through an authorized RSI program wholesaler in your area.

## Cylinder Re-Certification

Transport Canada (TC) regulations mandate refrigerant recovery cylinders to be hydrostatically tested and re-certified every five years. RSI is an accredited cylinder re-certification center of refrigerant recovery cylinders, in sizes ranging from 10 lb (5 kg) through 1000 lb (454kg) capacity. Empty or expired cylinders containing refrigerant for disposal or reclamation can be delivered to an authorized RSI program wholesaler, or transported directly to our facility for re-certification.

# Reclamation & Disposal



## Reclamation

RSI have developed and hold patents on a number of refrigerant reclamation technologies. RSI process refrigerant reclamation on a tolling basis, and also sell reclaimed refrigerant through authorized RSI program wholesalers. RSI utilize independent laboratories to analyze and confirm, reclaimed refrigerants meet or exceed the ARI-700 standard for fluorocarbon refrigerants.

## Disposal

RSI is an integral service provider for Refrigerant Management Canada (RMC), with the largest network of program wholesalers in Canada. RMC is an industry funded program, designed to facilitate the collection and destruction of surplus CFC and HCFC refrigerants, from the stationary refrigeration and air conditioning industry. Further, RSI provide disposal services for refrigerants not included in the RMC Program.



## ● RS-44 (R-424A)

Property		RS-44	R-22
Molecular Weight		108.0	86.5
Boiling Point	°C	-38.7 (1)	-40.8
	°F	-37.6 (1)	-41.4
Critical Temperature	°C	88.8	96.1
	°F	191.8	204.8
Critical Pressure	bara	40.4	49.9
	psia	586	724
Liquid Density (25°C)	kg/m <sup>3</sup>	1169	1191
Density of saturated vapour (25°C)	kg/m <sup>3</sup>	43.6	44.2
Latent Heat of Vaporization at boiling point	kJ/kg	196 (1)	234
Cp (25°C & 1atm)	kJ/kg.K	0.850	0.662
Cv (25°C & 1bara)	kJ/kg.K	0.765	0.559
Cp (25°C & 1bara)	kJ/kg.K	0.85	0.662
Cp/Cv (25°C & 1bara)		1.111	1.185
Vapour Pressure (25°C)	bara	9.67 (1)	10.4
	psia	140.2 (1)	151
Vapour Viscosity (25°C & 1bara)	cP	0.0122	0.0126
Vapour Viscosity (25°C)	cP	0.167	0.166
Liquid Thermal Conductivity (25°C)	W/wm.K	0.072	0.0837
Surface Tension (25°C)	N/m	0.00656	0.00808
Specific heat of liquid (25°C)	kJ/kg.K	1.43	1.26
Ozone Depletion Potential	ODP	0	0.055
Flammability limit in air (1atm)	vol%	none	none
Inhalation exposure (8 hour day & 40 hour week)	ppm	1000	1000

(1) Bubble Point

## ● RS-24 (R-426A)

Property		RS-24	R-12
Molecular Weight		102.6	120.9
Boiling Point	°C	-28.6 (1)	-29.8
	°F	-19.5 (1)	-21.6
Temperature Guide	°C	0.5	0
Critical Temperature	°C	101.0	112.0
	°F	213.8	233.6
Critical Pressure	kPa	4097	4116
	psia	594	597
Liquid Density (25°C)	kg/m <sup>3</sup>	1184	1311
Density of saturated vapour (25°C)	kg/m <sup>3</sup>	30.9	37.3
Latent Heat of Vaporization at boiling point	kJ/kg	218	165
Specific heat of liquid at 25°C	kJ/kg°C	1.45	1.00
Specific heat of vapour at 1 atm & 25°C	kJ/kg°C	0.863	0.606
Vapour Pressure (25°C)	kPa	707 (1)	643
	psia	102.6 (1)	93.3
Ozone Depletion Potential	ODP	0	1
Flammability limit in air (1atm)	vol%	None	None
Inhalation exposure (8 hour day & 40 hour week)	ppm	1000	1000

(1) Bubble Point

## ● RS-52 (R-428A)

Property		RS-52	R-502
Molecular Weight		101.3	111.6
Boiling Point	°C	-46.7	-45.4
	°F	-52.1	-49.7
Temperature Guide	K	0.8	0.2
Critical Temperature	°C	73.0	82.2
	°F	163.4	180.0
Critical Pressure	bara	38.1	40.7
	psia	552	591
Liquid Density (25°C)	kg/m <sup>3</sup>	1053	1217
Density of saturated vapour (25°C)	kg/m <sup>3</sup>	70.2	62.2
Latent Heat of Vaporization at boiling point	kJ/kg	189.2	173
Cp (25°C & 1atm)	kJ/kg.K	0.8737	0.6914
Cv (25°C & 1bara)	kJ/kg.K	0.7846	0.6112
Cp (25°C & 1bara)	kJ/kg.K	0.8735	0.6912
Cp/Cv (25°C & 1bara)		1.113	1.131
Vapour Pressure (25°C)	bara	12.68	11.5
	psia	183.9	167
Vapour Viscosity (25°C & 1bara)	cP	0.01225	0.01288
Vapour Viscosity (25°C)	cP	0.1279	0.1425
Liquid Thermal Conductivity (25°C)	W/wm.K	0.0658	0.0629
Surface Tension (25°C)	N/m	0.00468	0.00545
Specific heat of liquid (25°C)	kJ/kg.K	1.526	1.25
Ozone Depletion Potential	ODP	0	0.034
Flammability limit in air (1atm)	vol%	none	none
Inhalation exposure (8 hour day & 40 hour week)	ppm	1000	1000

(1) Bubble Point



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#### AUTHORIZED RS WHOLESALE:





