

<b>Work Instruction Title:</b>	<b>Refrigeration and Air-conditioning Systems</b>		<b>Document #:</b>	WI-ENV-BELL-619
<b>Author:</b>	Mathieu Blackburn	Environmental Specialist	<b>Revision Date:</b>	11-09-2015
<b>Work Instruction Owner:</b>	Simon Forget	Senior Manager, Environmental Services	<b>Revision #:</b>	3.0

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**1. Purpose**

This work instruction defines the steps to ensure compliance when managing Refrigeration and Air-conditioning Systems.

**2. Scope**

This procedure applies to the Bell strategic client unit of BGIS Global Integrated Solutions Alberta LP (“BGIS”)

**3. Roles and Responsibilities**

See work instruction below.

**4. Work Instruction**

- SECTION 1 FEDERAL REGULATORY REQUIREMENTS .....2
  - 1.1 Important Points Regarding Work Conducted on a System Containing Halocarbons.....2
- SECTION 2 INSTRUCTIONS WITH REGARDS TO POUCHES AND TUBES .....4
  - 2.1 Installation of Pouches and Tubes.....4
  - 2.2 Using the Pouches and Tubes.....5
  - 2.3 Removal of Pouches and Tubes.....5
- SECTION 3 COMPLETING AND MAINTENANCE OF TICKETS.....5
  - 3.1 Actions Requiring a Ticket to be Completed .....5
  - 3.2 Information Required on a Ticket.....5
  - 3.3 Maintenance of Tickets.....7
- SECTION 4 COMPLETING AND MAINTENANCE OF DATED LISTS.....8
  - 4.1 Actions that require that a Dated List be completed .....8
  - 4.2 Completing a Dated List.....9
  - 4.3 Maintenance of Dated Lists .....10
- SECTION 5 THE DECISION PROCESS FOR A HALOCARBON LEAK, AND LEAK AND LOSS DOCUMENTATION..10
  - 5.1 Decision Process for a Halocarbon Leak .....10
  - 5.2 Reporting Halocarbon Leaks and Losses .....11
- SECTION 6 HALOCARBON LEAK DETECTION TEST .....13
  - 6.1 General Requirements.....13
  - 6.2 Annual Leak Detection Tests.....13
- SECTION 7 HALOCARBON RECOVERY AND USED HALOCARBON DISPOSAL.....13
  - 7.1 General Requirements.....13
  - 7.2 Approved Containers .....13
- SECTION 8 MANAGEMENT OF EQUIPMENT CONTAINING 100 KG OR MORE OF HALOCARBON.....14
- SECTION 9 MANAGEMENT OF SMALL AIR-CONDITIONING AND REFRIGERATION SYSTEMS .....15
  - 9.1 Definition.....15
  - 9.2 Hook-up and Maintenance.....15
  - 9.3 Disconnection, Removal, and Disposal .....15
- SECTION 10 CONTACTS AND REFERENCES .....16
  - 10.1 Key Resource Persons .....16

<b>Work Instruction Title:</b>	<b>Refrigeration and Air-conditioning Systems</b>		<b>Document #:</b>	WI-ENV-BELL-619
<b>Author:</b>	Mathieu Blackburn	Environmental Specialist	<b>Revision Date:</b>	11-09-2015
<b>Work Instruction Owner:</b>	Simon Forget	Senior Manager, Environmental Services	<b>Revision #:</b>	3.0

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10.2 Reference Documents .....16  
SECTION 11 GLOSSARY .....17

## SECTION 1 FEDERAL REGULATORY REQUIREMENTS

All technicians conducting work on refrigeration and air condition systems in Bell Canada buildings are held responsible for complying with requirements of both the Federal Halocarbon Regulations (FHR) and the Environmental Code of Practice for Elimination of Fluorocarbon Emissions from Refrigeration and Air Conditioning Systems.

For complete reference, refer to [Section 10: Contacts and References](#) of the present document.

### 1.1 Important Points Regarding Work Conducted on a System Containing Halocarbons

- It is strictly forbidden to discharge any quantity whatsoever of halocarbons to the atmosphere because it is a greenhouse gas and/or an ozone-depleting substance.
- It is strictly forbidden to allow or cause a discharge from an equipment or container used for recycling, reuse, regeneration or storage of a halocarbon.
- Only a Trained Technician, either a subcontractor or a BGIS equipment Technician (or BET), may perform work on refrigeration and air-conditioning equipment, including installation, maintenance, charging, leak testing, decommissioning, dismantling or any other work that could possibly result in a release of halocarbons.
- Only a Certified Technician, either a subcontractor or a BGIS Building equipment Technician (or BET), may perform work on refrigeration and air-conditioning equipment, including installation, maintenance, charging, leak testing, decommissioning, dismantling or any other work that could possibly result in a release of halocarbons.
- **As soon as possible, but no later than 7 days** after detecting a leak, the certified technician must either:
  - Repair the leak;
  - Isolate the leaking section of the equipment and recover the halocarbons, in accordance with [Section 7 : Halocarbon Recovery and Used Halocarbon Disposal](#);
  - Recover all halocarbons from the equipment, in accordance with the [Section 7 : Halocarbon Recovery and Used Halocarbon Disposal](#).
- All technicians performing any work that could possibly result in a halocarbon leak from an air-conditioning or refrigeration system must recover the halocarbon beforehand, in accordance with [Section 7 : Halocarbon Recovery and Used Halocarbon Disposal](#).
- All technicians that install, maintain, or charge an air-conditioning or refrigeration system, or perform a leak test or any other work on it that could possibly result in a halocarbon leak, must conform to the **Refrigeration Code of Practice**.

<b>Work Instruction Title:</b>	<b>Refrigeration and Air-conditioning Systems</b>		<b>Document #:</b>	WI-ENV-BELL-619
<b>Author:</b>	Mathieu Blackburn	Environmental Specialist	<b>Revision Date:</b>	11-09-2015
<b>Work Instruction Owner:</b>	Simon Forget	Senior Manager, Environmental Services	<b>Revision #:</b>	3.0

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- If a piece of equipment has not been used for more than a year and is not likely to be used in the following three months, halocarbons must be recovered by a Certified Technician, in accordance with [Section 7 : Halocarbon Recovery and Used Halocarbon Disposal.](#)

<b>Work Instruction Title:</b>	<b>Refrigeration and Air-conditioning Systems</b>		<b>Document #:</b>	WI-ENV-BELL-619
<b>Author:</b>	Mathieu Blackburn	Environmental Specialist	<b>Revision Date:</b>	11-09-2015
<b>Work Instruction Owner:</b>	Simon Forget	Senior Manager, Environmental Services	<b>Revision #:</b>	3.0

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## SECTION 2 INSTRUCTIONS WITH REGARDS TO POUCHES AND TUBES

### 2.1 Installation of Pouches and Tubes

The installation and maintenance of pouches and tubes is the responsibility of BGIS BETs and contractors. Pouches and tubes must be installed according to the following circumstances.

Type of equipment	Required Installation
With internal components only	Pouches on internal components
With internal and external components	Pouches on internal components
With external components only	Tubes on external components

Two types of pouches or tubes must be installed according to the following circumstances:

Type of equipment	Type of pouch/tube required
Cooling capacity of less than 5.4 tonnes	Only a "Service Log"
Cooling capacity of 5.4 tonnes or more	"Service Log Pouch" and "Annual Leak Detection Tests"

\* Given the case that equipment requires the installation of tubes, only one tube having both labels ("Service Log" and "Annual Leak Detection Tests") must be installed per equipment.

#### 2.1.1 Materials Required for Pouches and Tubes Installation

- Installation of pouches :
  - Plastic pouches;
  - "Annual Leak Detection Test" stickers;
  - "Service Log labels" stickers.
- Installation of tubes :
  - Plastic tubes;
  - Two end caps and a clip per tube;
  - One screw per tube;
  - "Annual Leak Detection Test" stickers;
  - "Service Log" stickers.

These items can be ordered by telephone or email from BGIS Environmental Services.

<b>Work Instruction Title:</b>	<b>Refrigeration and Air-conditioning Systems</b>		<b>Document #:</b>	WI-ENV-BELL-619
<b>Author:</b>	Mathieu Blackburn	Environmental Specialist	<b>Revision Date:</b>	11-09-2015
<b>Work Instruction Owner:</b>	Simon Forget	Senior Manager, Environmental Services	<b>Revision #:</b>	3.0

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### 2.2 Using the Pouches and Tubes

Tickets and the Dated Lists are the only two types of documents that are to be kept in the pouches. Other maintenance records, such as service reports, technician's timesheets, invoices, and work orders, must be kept in a file somewhere on site.

In the case of external equipment of 5.4 tonnes or more where only one tube is installed, staple the last two Annual Leak Detection Tests tickets together and staple together the rest of the tickets and dated lists.

### 2.3 Removal of Pouches and Tubes

A pouch or a tube must **never** be removed from equipment, except :

- To replace it with a new pouch or tube in which the Tickets and Dated List are transferred; or,
- To dismantle and send the equipment off-site, in which case the two pouches or tube and accompanying maintenance records must remain for five years in the building where the equipment was located.

## SECTION 3 COMPLETING AND MAINTENANCE OF TICKETS

Tickets are used to document the work performed on equipment having halocarbons. Tickets are available in booklets of 25 copies from BGIS Environmental Services.

BGIS BETs and contractors are responsible for complete Tickets and for keeping them in their rightful place.

### 3.1 Actions Requiring a Ticket to be Completed

Tickets must be completed by BGIS BETs and contractors each time any of the following types of work are performed on refrigeration or air-conditioning equipment:

- The installation of an equipment;
- A leak test;
- A halocarbon recovery;
- A repair;
- Charging;
- Dismantling and decommissioning of an equipment.

### 3.2 Information Required on a Ticket

**ALL** of the following information must provide on each Ticket:

<b>Work Instruction Title:</b>	<b>Refrigeration and Air-conditioning Systems</b>	<b>Document #:</b>	WI-ENV-BELL-619
<b>Author:</b>	Mathieu Blackburn	Environmental Specialist	<b>Revision Date:</b> 11-09-2015
<b>Work Instruction Owner:</b>	Simon Forget	Senior Manager, Environmental Services	<b>Revision #:</b> 3.0

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Halocarbon Control - Equipment Service Record						250000
Manufacturer: <b>1</b>	Model #: <b>2</b>	Serial #: <b>3</b>	Type of halocarbon: <b>4</b>	Charging Capacity (Lbs): <b>5</b>	Nexacor - Work C: <b>6</b>	
Halocarbon recovery	Repair	Leak detection	Halocarbon recharge	Annual Leak detection	Dismantling of the system	
Date: <b>7</b>	Date: <b>8</b>	Date: <b>9</b>	Date: <b>10</b>	Annual test date: YYYY MM DD	Date: MM DD	<b>12</b>
Qty (Lbs): <b>7</b>	Leak detected: <b>9</b>	Qty (Lbs): <b>10</b>	Leak detected: <b>11</b>	NO	Project #:	<b>12</b>
Comments: <b>13</b>			Previous Annual leak test date: YYYY MM DD	Destination address:		
Owner & equipment information			Information on the company that does the work			
Name: _____			Company: _____			
Address: <b>14</b>			Address: <b>15</b> City: _____			
City: _____ Floor: _____			Technician name: _____			
Location code: _____			# HRAI, ODP, ULC: _____			
Equipment #: _____			Signature: _____			
Place white copy in appropriate envelope.						NEX_1052011

1. Manufacturer (e.g., Liebert);
2. Equipment model number;
3. Equipment serial number;
4. Type of halocarbon (e.g., R-134A);
5. Halocarbon-charging capacity (in pounds);
6. Work order number;
7. If the halocarbon is recovered, provide:
  - o recovery date (YYYY/MM/DD),
  - o recovered amount of halocarbons (in pounds);
8. If a repair is performed, give the date of repair (YYYY/MM/DD);
9. If a leak test is performed (after a repair or before a recovery), provide:
  - o date (YYYY/MM/DD),
  - o was a leak detected? (Yes / No);
10. If the system is charged, provide:
  - o charging date (YYYY/MM/DD),
  - o total amount of halocarbons charged (in pounds), including the quantity of halocarbons recovered, if applicable;
11. If a annual leak test is performed, provide:
  - o date of the intervention (YYYY/MM/DD),
  - o was a leak detected? (Yes / No),
  - o date of the last annual leak test (YYYY/MM/DD);

<b>Work Instruction Title:</b>	<b>Refrigeration and Air-conditioning Systems</b>		<b>Document #:</b>	WI-ENV-BELL-619
<b>Author:</b>	Mathieu Blackburn	Environmental Specialist	<b>Revision Date:</b>	11-09-2015
<b>Work Instruction Owner:</b>	Simon Forget	Senior Manager, Environmental Services	<b>Revision #:</b>	3.0

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12. If the equipment has been dismantled, provide:
  - o dismantling date (YYYY/MM/DD),
  - o BGIS project number,
  - o final destination address of the dismantled equipment or civic address of the contractor dismantling the equipment;
13. A short description of the nature of the malfunction or of the repair that was performed (e.g., valve leak or valve replacement);
14. Owner's contact and equipment location information. Provide:
  - o owner's name (e.g., Bell Canada, Bell Mobility, Nexxia, etc.),
  - o exact floor and street address where the equipment is located, specifying the city and province (e.g., Floor 0B, 1149 rue Goyeau, Windsor, Ontario),
  - o location code,
  - o equipment number;
15. Contact information of the company performing the work. Provide:
  - o company name ("BGIS" in the case of a BGIS technician, or the name of the company contracted to do the work),
  - o company address (in the case of a BGIS BET, the address is 87 Ontario West, 6<sup>th</sup> floor, Montreal, QC, H2X 0A7.),
  - o Certified Technician's name (the person performing the work),
  - o Certified Technician's HRAI, ODP or ODS certification number. The format of certificate numbers varies slightly by province, usually starting with two or three letters that identify the province, and followed by four, five, or six numbers. Ontario's certificate numbers consist of six numbers and no letters;
  - o Certified Technician's signature.

### 3.3 Maintenance of Tickets

Each Ticket consists of three copies: a white copy and a yellow carbon copy. The two copies of the Tickets must be kept in the following places:

Ticket Copy	Placement for Good Keeping
White <ul style="list-style-type: none"> <li>• Annual Leak Detection Tests</li> <li>• Any other work</li> </ul>	<ul style="list-style-type: none"> <li>• In the "Annual Leak Detection Tests" pouches/tubes</li> <li>• In the "Service Log" pouches/tubes</li> </ul>
Yellow	<ul style="list-style-type: none"> <li>• Technician's file</li> </ul>

<b>Work Instruction Title:</b>	<b>Refrigeration and Air-conditioning Systems</b>		<b>Document #:</b>	WI-ENV-BELL-619
<b>Author:</b>	Mathieu Blackburn	Environmental Specialist	<b>Revision Date:</b>	11-09-2015
<b>Work Instruction Owner:</b>	Simon Forget	Senior Manager, Environmental Services	<b>Revision #:</b>	3.0

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\*Only the last two Tickets of the Annual Leak Detection Tests must be kept in the “Annual Leak Detection Tests” pouches/tubes. The others must be placed in the “Service Log” pouches/tubes.

All Tickets must be retained in these pouches for a period of **five years**. Tickets older than five years must be removed from pouches, but only by BGIS personnel.

Tickets documenting equipment that is decommissioned must be kept indefinitely (as long as the equipment has not been removed from the site).

## SECTION 4 COMPLETING AND MAINTENANCE OF DATED LISTS

The Dated List shows, at a glance, all work that has been done on a particular piece of equipment.

BGIS BETs and contractors are responsible for complete Dated List and for keeping them in their rightful place.

All equipment must have a Dated List. If an equipment does not have one, it is the responsibility of the BGIS BET to make one from the model provided by BGIS Environmental Services.

### 4.1 Actions that require that a Dated List be completed

Whenever work involving the halocarbon circuit is done (and for which a Ticket is made), one or several lines of the Dated List must be completed.

As a general rule, there should be a line of the Dated List that is filled out for each type of work (leak detection, repair, recharge, etc.). Therefore, several lines may correspond to the same Ticket.



<b>Work Instruction Title:</b>	<b>Refrigeration and Air-conditioning Systems</b>		<b>Document #:</b>	WI-ENV-BELL-619
<b>Author:</b>	Mathieu Blackburn	Environmental Specialist	<b>Revision Date:</b>	11-09-2015
<b>Work Instruction Owner:</b>	Simon Forget	Senior Manager, Environmental Services	<b>Revision #:</b>	3.0

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#### 4.2 Completing a Dated List

All of the following information must be written on each Dated List:

Owner name	Owner address	Operator name	Brand	Model number of the equipment	Serial number of the equipment	Type of halocarbon	System charging capacity (lbs) / cooling capacity (tonnes)	Location of the system
<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>8</b>	<b>9</b>

  

Date (YYYY-MM-DD)	Leak test completed (Yes/No)	Leak detected (Yes/No)	Leak repaired (Yes/No)	Halocarbon recovery (type, lbs)	Recharged halocarbon (type)	Recharged quantity (lbs)	Supplier name	Technician name	Card number (UCLHRA/ODP)	Comments
<b>10</b>	<b>11</b>	<b>12</b>	<b>13</b>	<b>14</b>	<b>15</b>	<b>16</b>	<b>17</b>	<b>18</b>	<b>19</b>	<b>20</b>

#### Header of a Dated List :

- Owner's name: Bell Canada or other Bell Company (Bell Mobility, Nexxia, etc);
- Owner address: Civic address where the equipment is located and the BU number;
- Operator name: BGIS;
- Brand: Enter brand name of equipment and indicate "split system," if applicable;
- Model number of the equipment: Enter the number, taking care to distinguish between letters and numbers and double-check the entry;
- Serial number of the equipment: Enter the number, again taking care to distinguish between letters and numbers. And double-check the entry;
- Type of halocarbon: Be specific, as in R-22 and R-134, not general, as in HCFC and HFC;
- System charging capacity (lbs) / cooling capacity (tonnes): Give the total halocarbon charge, in pounds. If there is more than one circuit, give the separate charge of each circuit and not the total charge. Enter the cooling capacity of the equipment, in tonnes;
- Location of the system: Give the equipment number (BU#####-##-###-##) followed by the physical description of the location (that is, the name and number of the room, the area of the building, etc.).

#### Log of Completed Work (to be filled based on completed Tickets) :

- Date (YYYY/MM/DD): Refer to the dates of the work written in Sections 7 to 12 of the Ticket according to the work;

<b>Work Instruction Title:</b>	<b>Refrigeration and Air-conditioning Systems</b>		<b>Document #:</b>	WI-ENV-BELL-619
<b>Author:</b>	Mathieu Blackburn	Environmental Specialist	<b>Revision Date:</b>	11-09-2015
<b>Work Instruction Owner:</b>	Simon Forget	Senior Manager, Environmental Services	<b>Revision #:</b>	3.0

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11. Leak test completed (Yes/No): Write “Yes” or “No” according to the information found in Section 9 to 11 of the Ticket;
12. Leak detected (Yes/No): write “Yes” or “No” according to the information found in Section 9 to 11 of the Ticket;
13. Leak repaired (Yes/No): Write “Yes” if a date is written in Section 8 of the Ticket. Write “No” if the leak was detected and not repaired. If not applicable, write “N/A”;
14. Halocarbon recovery (type/ lbs): Write the amount, in pounds, of halocarbon recovered according to information found in Section 4 to 7 of the Ticket. If not applicable, write “N/A”;
15. Recharged halocarbon (type): Write the type of halocarbon recharged, according to information found in Sections 4 of the Ticket. If not applicable, write “N/A”;
16. Recharged quantity (lbs): Write the amount, in pounds, of halocarbon recharged according to information found in Sections 10 of the Ticket. If not applicable, write “N/A”;
17. Supplier name: Write either “BGIS” or the name of the subcontractor, according to information found in Section 15 of the Ticket;
18. Technician name: Write the name of the technician found in Section 15 of the Ticket;
19. Card number (UCL/HRAL/ODP): Write the certification number found in Section 15 of the Ticket. (HRAI/ODP - e.g., 123456);
20. Comments: Summaries the work in a few words based on information found in Section 7 to 12 of the Ticket and write the corresponding Ticket number(s) (e.g., “Ticket 067551”) as well as the type and number of the corresponding maintenance record (e.g., “Timesheet 895283” / “Work Order 45656”). If an Annual Leak Detection Test was performed, write it in the Comments column of the Dated List “Annual Leak Detection Test”.

If the last line of the Dated List was already used, print a new page using the model available on BGIS Environmental Services SharePoint and transcribes the information found in the header to the actual Dated List. Attach the new page to the already completed Dated listed.

**4.3 Maintenance of Dated Lists**

The Dated List must be kept in the “Service Log” pouches/tubes of the equipment.

Information found the Dated List must be kept for a period of **five years**. All the lines documenting works older than five years must be removed, but only by BGIS personnel.

**SECTION 5 THE DECISION PROCESS FOR A HALOCARBON LEAK, AND LEAK AND LOSS DOCUMENTATION**

**5.1 Decision Process for a Halocarbon Leak**

Once a halocarbon leak is detected, a technician must complete, in order, the following steps:

<b>Work Instruction Title:</b>	<b>Refrigeration and Air-conditioning Systems</b>		<b>Document #:</b>	WI-ENV-BELL-619
<b>Author:</b>	Mathieu Blackburn	Environmental Specialist	<b>Revision Date:</b>	11-09-2015
<b>Work Instruction Owner:</b>	Simon Forget	Senior Manager, Environmental Services	<b>Revision #:</b>	3.0

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**Step 1: Determine the equipment’s charging capacity**

- If the equipment contains 100 or more kilograms of halocarbon: Immediately stop the leak and then report the situation to the Bell Canada Corporate Responsibility and Environment Group at 1-877-235-5368 (1-877-BELL-ENV).

**Step 2: Evaluate the possibility of repairing the system’ without compromising the safety of people or telecommunications equipment.**

- If it is not possible to repair the leak without compromising the safety of people or equipment, immediately report the situation to the Bell Canada Corporate Responsibility and Environment Group at 1-877-235-5368 (1-877-BELL-ENV) in order to give the following information :
  - The nature of the danger;
  - The circumstances justifying the recharging of a leaking system.
- If it is possible to repair the leak without compromising the safety of people or equipment, continue to next step.

**Step 3: Evaluate the possibility of repairing the leak, or of isolating or recovering all of the halocarbon from the equipment within 7 days**

- If it is not possible to repair the leak or isolate or recover all the halocarbon within 7 days, contact BGIS Environmental Services to notify them of the situation.
- If it is possible to repair the leak, isolate or recover all of the halocarbon from the equipment within 7 days, continue to next step.

**Step 4: Stop and repair the leak**

- Conduct the required work as soon as possible either by repairing the leak, or by isolating or recovering all of the halocarbon according to [Section 7: Halocarbon Recovery and Used Halocarbon Disposal](#).
- Once the leak has been repaired, conduct a Leak Detection Test and if no leak is detected recharge the equipment. If a leak is detected, conduct the additional repairs required until no leak is detected then recharge the equipment.

**5.2 Reporting Halocarbon Leaks and Losses**

When the halocarbon leak has been repaired, and the amount of the halocarbon loss has been determined, the technician must contacts, **as soon as possible and no later than 24hrs after the repair**, the Client Service Centre at 1-800-363-2920 and provides the following information :

- The type of halocarbon (e.g., R-22, -123, or -134);
- The equipment number;
- The system’s refrigeration capacity (in tonnes);

<b>Work Instruction Title:</b>	<b>Refrigeration and Air-conditioning Systems</b>		<b>Document #:</b>	WI-ENV-BELL-619
<b>Author:</b>	Mathieu Blackburn	Environmental Specialist	<b>Revision Date:</b>	11-09-2015
<b>Work Instruction Owner:</b>	Simon Forget	Senior Manager, Environmental Services	<b>Revision #:</b>	3.0

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- The cause of the leak;
- The corrective actions that have been initiated or completed;
- The amount of halocarbon loss calculated according to the following table:

<b>Air-Conditioning or Refrigeration System</b>
<p>If the equipment is taken out of service permanently:</p> <p><b>The loss</b> = (refrigerant charge of system – amount of refrigerant removed from the system)</p>
<p>Otherwise:</p> <p><b>The loss</b> = amount of refrigerant added to the system after repair</p>

<b>Work Instruction Title:</b>	<b>Refrigeration and Air-conditioning Systems</b>		<b>Document #:</b>	WI-ENV-BELL-619
<b>Author:</b>	Mathieu Blackburn	Environmental Specialist	<b>Revision Date:</b>	11-09-2015
<b>Work Instruction Owner:</b>	Simon Forget	Senior Manager, Environmental Services	<b>Revision #:</b>	3.0

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## SECTION 6 HALOCARBON LEAK DETECTION TEST

### 6.1 General Requirements

- Only a Certified Technician may perform a leak detection test on refrigeration or air-conditioning systems.
- All Leak Detection Tests must be performed according to the requirements of the Refrigeration Code of Practice.
- When equipment is repaired, a leak test must always be performed before recharging the equipment with halocarbons.
- If a leak is detected, follow the instructions given in [Section 5 : The decision process for a halocarbon leak, and leak and loss documentation](#).

### 6.2 Annual Leak Detection Tests

- They are mandatory for all refrigeration and air-conditioning systems with refrigeration capacity equal to or greater than 5.4 tonnes.
- Must be performed at least once every 12 months minus one (1) day. For example, if the last test was performed November 1<sup>st</sup> 2009, the next test must be performed **at the latest** on October 31<sup>st</sup> 2010.
- All equipment components in contact with halocarbons must be tested.

## SECTION 7 HALOCARBON RECOVERY AND USED HALOCARBON DISPOSAL

### 7.1 General Requirements

- The halocarbons must be recovered in compliance with the requirements stated in Section 2.9 of the *Refrigeration Code of Practice*.
- Each time halocarbons are recovered in an approved container they must be weighed to determine their quantity.
- If the amount of recovered halocarbon is less than the amount normally contained in the system, follow the procedure for a halocarbon leak, and leak and loss documentation, as explained in [Section 5 : The decision process for a halocarbon leak, and leak and loss documentation](#).
- The halocarbons must be transported, in accordance with the requirements of the federal Transportation of Dangerous Goods Act and Regulations.
- The used halocarbons must be disposed of via the regular halocarbon supplier.

### 7.2 Approved Containers

All halocarbons must be recovered in an approved container, that is:

- Designed to be filled more than once (reusable);
- Designed to contain the recovered halocarbon, such as either of the following:

<b>Work Instruction Title:</b>	<b>Refrigeration and Air-conditioning Systems</b>		<b>Document #:</b>	WI-ENV-BELL-619
<b>Author:</b>	Mathieu Blackburn	Environmental Specialist	<b>Revision Date:</b>	11-09-2015
<b>Work Instruction Owner:</b>	Simon Forget	Senior Manager, Environmental Services	<b>Revision #:</b>	3.0

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- a container labelled with a tag indicating the content and weight, and complying with the requirements of the federal *Transportation of Dangerous Goods Act and Regulations*,
- a container identifying the appropriate refrigerant, by colour, according to the following table:

Refrigerant	Colour of Container
R-22	Light green
R-123	Grey-blue
R-134a	Sky blue
R-407C	Medium brown
R-410A	Rose

- Labelled as per WHMIS requirements;
- Stamped with the design specifications and the pressure rating.

## SECTION 8 MANAGEMENT OF EQUIPMENT CONTAINING 100 KG OR MORE OF HALOCARBON

Red plates must be installed on equipment containing 100 kg and more of halocarbon.

When new equipment containing 100 kg or more is installed, the Property Manager must provide a plate to the technician for its installation.

When an equipment losses 100 kg or more of halocarbon:

- BGIS Environmental Services must provide the Property Manager with a copy of the report sent to Bell Canada Corporate Responsibility and Environment Group;
- The Property Manager must make sure that the report is kept in the “Service Log” pouch of the concerned equipment.

<b>Work Instruction Title:</b>	<b>Refrigeration and Air-conditioning Systems</b>		<b>Document #:</b>	WI-ENV-BELL-619
<b>Author:</b>	Mathieu Blackburn	Environmental Specialist	<b>Revision Date:</b>	11-09-2015
<b>Work Instruction Owner:</b>	Simon Forget	Senior Manager, Environmental Services	<b>Revision #:</b>	3.0

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## SECTION 9 MANAGEMENT OF SMALL AIR-CONDITIONING AND REFRIGERATION SYSTEMS

### 9.1 Definition

A small air-conditioning and refrigeration system has the following **three** characteristics:

- A refrigeration capacity of less than 19 kW (or 5.4 tonnes);
- Requires **no maintenance** of the halocarbon circuit;
- The installation, maintenance, and removal are unlikely to result in a halocarbon leak.

Examples of small air-conditioning and refrigeration systems:

- Household refrigerator;
- Water fountain;
- Household freezer;
- Water cooler;
- Air dryer (for telecommunications cables or pneumatic controls).

Should you have any doubts regarding the designation of a small air-conditioning or refrigeration system, contact the BGIS Environmental Services.

### 9.2 Hook-up and Maintenance

No documentation is required for the hook-up.

If halocarbon circuit maintenance is required, document the work according to the instructions presented in [Section 3, Completing and Maintenance of Tickets](#).

If a leak is detected, follow the instructions presented in [Section 5 : The decision process for a halocarbon leak, and leak and loss documentation](#).

### 9.3 Disconnection, Removal, and Disposal

When removing a small air-conditioning and refrigeration system, follow the following instructions:

- If possible, a small system should be returned to the supplier;
- If there is no supplier, or the supplier will not take back the equipment, then the small system should be sent to a specialised contractor who will repair, restore, or refurbish it;
- If it is absolutely impossible to implement one of the preceding solutions, the following should be done:
  - the halocarbons should be removed from the unit and disposed of through a halocarbon supplier,

<b>Work Instruction Title:</b>	<b>Refrigeration and Air-conditioning Systems</b>		<b>Document #:</b>	WI-ENV-BELL-619
<b>Author:</b>	Mathieu Blackburn	Environmental Specialist	<b>Revision Date:</b>	11-09-2015
<b>Work Instruction Owner:</b>	Simon Forget	Senior Manager, Environmental Services	<b>Revision #:</b>	3.0

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- the unit should be disposed of in the trash,
- the work should be documented according to the instructions presented in **Section 4: Completing and Maintenance of Dated Lists**,
- the white copy of the Ticket must be kept on site for 5 years.

## SECTION 10 CONTACTS AND REFERENCES

### 10.1 Key Resource Persons

Throughout Canada :

- **BGIS Environmental Services**  
BGIS  
87 Ontario West, Floor 6  
Montreal (Quebec) H2X 0A7  
[enviro@bgis.com](mailto:enviro@bgis.com)
- **Client Service Centre**  
Telephone: 1-800-363-2920
- **Bell Canada Corporate Responsibility and Environment Group**  
Telephone: 1-877-235-5368 or 1-877-BELL-ENV

### 10.2 Reference Documents

**FHR (2003):** Federal Halocarbon Regulations DORS/2003-289, 13 August 2003.

<https://www.ec.gc.ca/ozone/default.asp?lang=En&n=E06A6B0D-1>

**Refrigeration Code of Practice:** “Environmental Code of Practice for Elimination of Fluorocarbon Emissions from Refrigeration and Air-conditioning Systems”, 2014. <https://www.ec.gc.ca/lcpe-cepa/default.asp?lang=En&n=D918C063-1>



<b>Work Instruction Title:</b>	<b>Refrigeration and Air-conditioning Systems</b>		<b>Document #:</b>	WI-ENV-BELL-619
<b>Author:</b>	Mathieu Blackburn	Environmental Specialist	<b>Revision Date:</b>	11-09-2015
<b>Work Instruction Owner:</b>	Simon Forget	Senior Manager, Environmental Services	<b>Revision #:</b>	3.0

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## SECTION 11 GLOSSARY

### Approved Container

Appropriately manufactured and identified container used for the recovery and transport of halocarbons.

### ARI

Air-Conditioning and Refrigeration Institute

### ASHRAE

American Society of Heating, Refrigeration and Air-Conditioning Engineers

### BET

BGIS Building Equipment Technician

### BFC

Bromofluorocarbons

### BU Number

A business unit (BU) number is a location code, made up of a unique set of numbers and letters, which is specific for each Bell Canada estate.

### Certified Technician

Person who has completed Environment Canada’s Environmental Awareness Course for the Environmentally Safe Handling of Refrigerants. This technician must possess a valid certificate for the successful completion of the course.

In most provinces, the course is offered by the Heating, Refrigerating, and Air- Conditioning Institute of Canada (or HRAI) in collaboration with community colleges. The name of the course varies according to the province. In Ontario we refer to the Ozone Depletion Prevention (or ODP) course. The format of certificate numbers varies slightly by province, usually starting with two or three letters that identify the province, and followed by four, five, or six numbers. Ontario’s certificate numbers consist of six numbers and no letters.

### CFC

Chlorofluorocarbons

<b>Work Instruction Title:</b>	<b>Refrigeration and Air-conditioning Systems</b>		<b>Document #:</b>	WI-ENV-BELL-619
<b>Author:</b>	Mathieu Blackburn	Environmental Specialist	<b>Revision Date:</b>	11-09-2015
<b>Work Instruction Owner:</b>	Simon Forget	Senior Manager, Environmental Services	<b>Revision #:</b>	3.0

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### Dated List

A BGIS form used to record regulated maintenance on equipment. Each Ticket completed for work done on equipment must be entered on the Dated List.

### EC Loss Report

Document issued to Environment Canada by Bell Canada every six months (The first semester is from January 1<sup>st</sup> until June 30<sup>th</sup> and the second semester is from July 1<sup>st</sup> until December 31<sup>st</sup>). This report summarizes all regulated ODS losses from all equipment (that is, losses between 10 and 100 kilograms of refrigerant).

### E-mail Memorandum

E-mail listing the actions to be taken by the site technician in order to complete the document update procedure.

### Equipment

Bell Canada equipment that contains a halocarbon and is subject to the FHR (2003). This includes both operational equipment and on-site decommissioned equipment.

### Equipment Number

A unique numerical code used to identify equipment owned by Bell Canada.

In the following hypothetical equipment number, 443201-01-008-03, 443201 is the location code; 01 is the type of equipment (with 01 being used for air-conditioning units and 03 for chillers, for example); 008 is the number given to that particular piece of equipment at that site; and 03 is the floor where the equipment is located (0B = basement, R = roof).

### First Responder

The worker who first witnesses or is made aware of the occurrence of an environmental incident or emergency.

### Halocarbon Leak

Atmospheric release of halocarbon that is caused by a defect, break or accident detected during maintenance or inspection.

<b>Work Instruction Title:</b>	<b>Refrigeration and Air-conditioning Systems</b>		<b>Document #:</b>	WI-ENV-BELL-619
<b>Author:</b>	Mathieu Blackburn	Environmental Specialist	<b>Revision Date:</b>	11-09-2015
<b>Work Instruction Owner:</b>	Simon Forget	Senior Manager, Environmental Services	<b>Revision #:</b>	3.0

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**Halocarbon Loss**

Known quantity of halocarbon released from a system as a direct result of a leak.

**Halocarbons**

Organic compounds used in air-conditioning, refrigeration and fire extinguishing systems (for example, CFCs such as R-11 and R-12, HCFC such as R-22 and R-123, HBFCs such as halons, and HFCs such as R-134, FM-200®).

**Halon**

Halocarbons used in a fire extinguishing system.

**HBFC**

Hydrobromofluorocarbon

**HCFC**

Hydrochlorofluorocarbon

**HFC**

Hydrofluorocarbon

**HRAI**

Heating, Refrigeration and Air-conditioning Institute of Canada

**Maintenance Records**

A variety of documents, such as service reports, technician timesheets, invoices, and work orders, that show regulated maintenance work has been performed on specific pieces of equipment.

**National Equipment Inventory (or Equipment list)**

List compiled by BGIS of regulated equipment owned by Bell Canada and its subsidiaries.

**ODP**

Ozone Depleting Potential

<b>Work Instruction Title:</b>	<b>Refrigeration and Air-conditioning Systems</b>		<b>Document #:</b>	WI-ENV-BELL-619
<b>Author:</b>	Mathieu Blackburn	Environmental Specialist	<b>Revision Date:</b>	11-09-2015
<b>Work Instruction Owner:</b>	Simon Forget	Senior Manager, Environmental Services	<b>Revision #:</b>	3.0

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#### ODS

Ozone depleting substance. Any substance which is harmful to the ozone layer. Some halocarbons are ODSs.

#### Refrigerant

Any halocarbon that is used in an air-conditioning or refrigeration system. Examples include R-22 (or HCFC-22), and R-123 (or HCFC-123).

#### Summary Report

Report issued to BGIS Environmental Services in order to summarize the results of a Halocarbon Documentation Update performed at a site of Bell Canada or that of its subsidiaries.

#### Ticket

A BGIS form used for recording the maintenance work conducted on equipment.

#### Trained Technician

Person that has followed the BGIS Halocarbon Environmental Management Program.

#### Tubes

Plastic tubes installed, in order to protect the tickets and dated list, on exterior monoblock units without any interior components such as : evaporator, compressor and condenser (e.g. HVAC rooftop units).

#### WHMIS

Workplace Hazardous Materials Information System. Refrigerant gases are held in pressurized containers; therefore, they fall under a specific category of the WHMIS's classification of hazardous materials in the workplace.

### 5. Revision / Review History

Version #	Date	Document Owner/Approver	Summary of Change
1.0	31-03-2013	Forget, Simon	Updates and simplifications
2.0	24-09-2015	Forget, Simon	Transfer to new Work Instruction template

<b>Work Instruction Title:</b>	<b>Refrigeration and Air-conditioning Systems</b>		<b>Document #:</b>	WI-ENV-BELL-619
<b>Author:</b>	Mathieu Blackburn	Environmental Specialist	<b>Revision Date:</b>	11-09-2015
<b>Work Instruction Owner:</b>	Simon Forget	Senior Manager, Environmental Services	<b>Revision #:</b>	3.0

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3.0	09-11-2015	Tam, David	Corrected reference to Fire Extinguishing Systems in Section 1.
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