



Fleet Safety Manual

7.E.8 - USE OF HALOCARBONS

1 PURPOSE

- a) To ensure that the systems using halocarbons are maintained so as to prevent releases of halocarbon.
- b) To ensure that halocarbon used at Canadian Coast Guard (CCG) sites or on board CCG vessels complies with the [Federal Halocarbon Regulations 2003 \(FHR 2003\)](#).

2 RESPONSIBILITIES

2.1 GENERAL

- a) Procedure 7.E.8 - Use of Halocarbons, covers all systems containing halocarbons on board CCG vessels and stations. This procedure is not a full summary of the [FHR 2003](#) and consequently, does not contain all its requirements. In case of discrepancy between the Regulations and this procedure, the official version of the Regulations prevails.
- b) Failure to comply with the [FHR 2003](#) may result in an enforcement action by an Environment and Climate Change Canada Enforcement Officer who performs regular inspections to verify compliance. Enforcement actions may range from a warning to imprisonment.
- c) For the purpose of this section, the term “system containing halocarbons” includes any system, equipment, container or device used in refrigeration (e.g. refrigerator, freezer, water cooler, water fountain, etc.), air conditioning, or fire extinguishing that utilizes halocarbon.

2.2 COMMANDING OFFICER

- a) The Commanding Officer represents the Commissioner, CCG as owner of these systems. The Commanding Officer is responsible for ensuring that this procedure is followed on board the vessel, and that halocarbon releases are properly reported using the [Halocarbon Release Report - FOR-HAL-04](#).

2.3 CHIEF ENGINEER

- a) The Chief Engineer is the delegated authority for granting permission to work on a system containing halocarbon on board a vessel. The Chief Engineer is responsible for the maintenance of systems, equipment, the service logs and the inventory of halocarbons on board the vessel.
- b) The Chief Engineer who engages the services of a contractor to maintain systems containing halocarbons is responsible for referring to Appendix B of 7.E.8 - Work Performed by a Contractor on a System Containing Halocarbons. The Chief Engineer is responsible for ensuring that the contractor fully complies with the requirements of this procedure.

2.4 CERTIFIED PERSON

- a) Under the [FHR 2003](#), only a certified person may install, service, leak test, charge a refrigeration, an air conditioning system, or do any other work on the system that may result in the release of a halocarbon.
- b) A certified person, in respect of a refrigeration system, an air-conditioning system, means a service technician who holds a certificate. This certificate is not a certificate of competency or a qualification, and does not involve a professional title. In addition to having a certificate, all persons must be technically competent to work on a refrigeration or air-conditioning system.
- c) The Heating, Refrigerating and Air Conditioning Institute of Canada's (HRAI) certificate is the preferred option for CCG employees to be allowed to work on a refrigeration or air-conditioning systems.
- d) The [FHR 2003](#) does not require fire extinguishing system servicing technicians to be Underwriters' Laboratories of Canada (ULC) certified, unlike refrigeration and air conditioning system technicians. Nonetheless, the work shall be done in accordance with ULC documents: Halon and Halocarbon Clean Servicing of Halon and Clean Agent Extinguishing Systems (ULC/ORD-C1058.18-2004), as applicable.

2.5 REGIONAL OFFICE OF ENVIRONMENTAL COORDINATION - DEPARTMENT OF FISHERIES AND OCEANS

- a) The [Regional Office of Environmental Coordination](#) coordinates the activities required to maintain the regional inventory of halocarbons and assists the Department of Fisheries and Oceans (DFO) and CCG to comply with the [FHR 2003](#).

2.6 MANAGER, COAST GUARD SAFETY & SECURITY

- a) The Manager, Coast Guard Safety & Security (CGSS) liaises between the vessels, CCG stations and the [Regional Office of Environmental Coordination](#).
- b) The Manager, CGSS is responsible for sending copies of all [Halocarbon Release Reports - FOR-HAL-04](#) to the [Regional Office of Environmental Coordination](#).

3 INSTRUCTIONS

3.1 GENERAL

- a) In order to meet the requirements of the [FHR 2003](#) and ensure adequate halocarbon monitoring, five (5) forms shall be filled out:
 - 1) [Adding a System Containing Halocarbons to the Regional Inventory – FOR-HAL-01](#);
 - 2) [Service Log – FOR-HAL-02](#);
 - 3) [Leak Test Notice – FOR-HAL-03](#);
 - 4) [Halocarbon Release Report – FOR-HAL-04](#); and
 - 5) [Dismantling, Decommissioning, or Destruction Notice – FOR-HAL-05](#).
- b) The information on these forms is required by Environment and Climate Change Canada, as outlined in Schedule 2 of the [FHR 2003](#). No box should be left blank. Failure to enter the information may constitute an offence, depending on the circumstances.

3.2 INVENTORY OF SYSTEMS CONTAINING HALOCARBONS

REGIONAL INVENTORY

- a) The [Regional Office of Environmental Coordination](#) maintains a regional inventory of all the halocarbon-containing systems that the department owns or leases.

INVENTORY ON BOARD THE VESSEL

- a) An inventory of all systems containing halocarbon shall be maintained on board the vessel. For stations, two separate inventories shall be maintained: one for the vessel and another for the station. The vessel's inventory is kept on board at all times and shall follow the vessel in the event of a move to another station/base.
- b) The vessel's inventory shall be sent to the [Regional Office of Environmental Coordination](#) to have the system added to the regional inventory of all systems containing halocarbons.
- c) To enter a new system in the regional inventory, you shall:
 - Fill in each box of form [Adding a System Containing Halocarbons to the Regional Inventory – FOR-HAL-01](#) (Annex D);
 - Send a copy of the form to the [Regional Office of Environmental Coordination](#);
 - A unique identification number will be sent to the vessel and shall be affixed to the system that has been added to the inventory;
 - Keep a copy of the form in your halocarbon file on board the vessel for five (5) years; and
 - You have 30 days to notify the [Regional Office of Environmental Coordination](#) of any changes in the inventory (acquisition or disposal of equipment).

3.3 SYSTEMS MAINTENANCE

- a) Maintenance and inspection of systems containing halocarbons shall be part of the vessel's maintenance program.
- b) Any work done that could cause the release of halocarbons shall be performed by an certified person.
- c) When maintenance of a system containing halocarbon is awarded to a contractor, refer to Appendix B of 7.E.8 – Work Performed by a Contractor on a System Containing Halocarbons, for the procedure to be followed.
- d) Any work on air conditioning and refrigeration systems shall comply with the [FHR 2003](#) and Environment and Climate Change Canada [Environmental Code of Practice for Elimination of Fluorocarbon Emissions from Refrigeration and Air Conditioning Systems \(Refrigerant Code of Practice\)](#).
- e) To comply with [FHR 2003](#), any work on fire extinguishing systems shall be done according to the following ULC standards: Halon and Halocarbon Clean Agent Recovery and Reconditioning Equipment (ULC/ORD-C1058.5-2004) and the Servicing of Halon and Clean Agent Extinguishing Systems (ULC/ORD-C1058.18-2004), as applicable.
- f) Before servicing a fire extinguishing system, it is mandatory to post a notice on the control panel that it is out of service during the maintenance period, except for portable extinguishers.
- g) [Service Log – FOR-HAL-02](#):
 - The vessel shall maintain a service log for all systems containing halocarbons on which maintenance work is required;
 - The service logs shall be made available to Environment and Climate Change Canada upon request;

- Fill in each box of form [Service Log - FOR-HAL-02](#) (Annex D). Use one form per system and record all maintenance performed on the system;
- Keep an updated copy of the service log adjacent to the system in question (it is recommended the service log be directly affixed to the system). If there is not enough room, keep copies of all service logs in the same location, on board the vessel; and
- Once service is complete, [Service Log - FOR-HAL-02](#) shall be kept in your halocarbon file on board the vessel for five (5) years.

3.4 LEAK TEST

- All refrigeration, air conditioning systems larger than 19 kW and fire extinguishing systems with a charging capacity greater than 10 kg shall be leak tested at least once every 12 months.
- No person shall charge a refrigeration system, an air-conditioning system or a fire extinguishing system with a halocarbon, unless it has been leak tested.
- Any leak must be repaired immediately. No later than seven (7) days following the detection of the leak, either: 1) the leak shall be repaired 2) the leaking portion of the system shall be isolated and the halocarbon recovered from that portion or 3) the halocarbon shall be recovered from the system.
- No person shall charge a refrigeration system or an air conditioning system with a halocarbon for the purpose of leak testing the system, except when recommended in the [Environmental Code of Practice for Elimination of Fluorocarbon Emissions from Refrigeration and Air Conditioning Systems \(Refrigerant Code of Practice\)](#)¹.
- To recharge a prohibited halocarbon, such as halon or chlorofluorocarbon (CFC) (see complete list in Schedule 1 of the [FHR 2003](#), items 1 to 9), a special permit shall be obtained from Environment and Climate Change Canada. It is important to refer to Section 34 of the [FHR 2003](#) for all details.
- The certified person who performs a leak test shall:
 - Fill in each box of form [Leak Test Notice - FOR-HAL-03](#) (Annex D). Use one form per system. The form shall include the date of this leak test and those of the previous two tests;
 - Affix the [Leak Test Notice - FOR-HAL-03](#) directly to the system containing halocarbons; and
 - Keep a copy of the form in your halocarbon file on board the vessel for five (5) years.

3.5 HALOCARBON RELEASES

- All halocarbon releases shall be documented and reported as outlined below, and regardless of quantity, shall be reported to the Manager, CGSS, using a [Halocarbon Release Report - FOR-HAL-04](#)
- Twice a year, for the periods of January to June and for July to December, all [Halocarbon Release Reports - FOR-HAL-04](#) (only over 10 kg releases) will be coordinated through the [Regional Office of Environmental Coordination](#) and the system owners. Reports shall be submitted no later than 30 days after January 1 and July 1.

¹ [FHR2003](#) – Section 9 (3)

i. Releases of less than 10 kg

- Although not required to be reported to Environment and Climate Change Canada (ECCC), halocarbon releases of less than 10 kg shall be reported;
- Fill in each section of the [Halocarbon Release Report – FOR-HAL-04](#) (Annex D);
- Keep a copy of the form in the halocarbon file on board the vessel for five (5) years; and
- Through the Manager, CGSS, send [Halocarbon Release Report – FOR-HAL-04](#) to the [Regional Office of Environmental Coordination](#).

ii. Releases of more than 10 kg but less than 100 kg

- Fill in each section of the [Halocarbon Release Report - FOR-HAL-04](#) form (Annex D); and
- Keep a copy of the form in the halocarbon file on board the vessel for five (5) years; and
- Through the Manager, CGSS, send [Halocarbon Release Report - FOR-HAL-04](#) to the [Regional Office of Environmental Coordination](#).

iii. Releases of 100 kg or more

- Notify Environment and Climate Change Canada, verbally or in writing, within 24 hours of detection of the release, and provide the following information: name of owner, type and quantity of halocarbon released, and type of system involved;
- Fill in each section of the [Halocarbon Release Report - FOR-HAL-04](#) form (Annex D);
- Through the Manager, CGSS, send a [Halocarbon Release Report - FOR-HAL-04](#) to the [Regional Office of Environmental Coordination](#) and Environment and Climate Change Canada within 14 days of the release; and
- Keep a copy of the form in your halocarbon file on board the vessel for five (5) years.

3.6 DISMANTLING, DECOMMISSIONING OR DESTRUCTION

- a) All cases where a system containing halocarbons is dismantled, decommissioned or destroyed shall be documented. Before dismantling, decommissioning or destroying a system containing halocarbons, all halocarbons shall first be recovered and disposed of in a reusable container designed specifically for holding this type of halocarbon. Any decommissioned system that still contains any quantity of halocarbon, and is stored on board, shall be maintained and leak-tested, as if it were still operational.
- b) The person responsible for dismantling, decommissioning or destroying must:
- Fill in each section of the [Dismantling, Decommissioning, or Destruction Notice - FOR-HAL-05](#) form (Annex D);
 - Affix the [Dismantling, Decommissioning, or Destruction Notice - FOR-HAL-05](#) form to the system before disposing of it;
 - Send a copy of [Dismantling, Decommissioning, or Destruction Notice - FOR-HAL-05](#) (Annex D) to the [Regional Office of Environmental Coordination](#);
 - Keep a copy of the [Dismantling, Decommissioning, or Destruction Notice - FOR-HAL-05](#) form in your halocarbon file on board the vessel for five (5) years; and

- Enter the system disposal date in the service log and your inventory after the system has been disposed of.

3.7 MAINTENANCE OF RECORDS

- a) All records, reports and leak tests required by this procedure shall be kept on board the vessel for a period of five (5) years beginning on the date of their issuance and shall be made available to Environment and Climate Change Canada upon request.

3.8 CONTACT INFORMATION

- a) Appendix A lists the contact information for Environment and Climate Change Canada.
- b) Click on the following link for up-to-date contact information for [DFO's Headquarters and Regional Offices of Environmental Coordination.](#)

4 DOCUMENTATION

- Service Log Book Entries
- [Adding a System Containing Halocarbons to the Regional Inventory – FOR-HAL-01](#)
- [Service Log – FOR-HAL-02](#)
- [Leak Test Notice – FOR-HAL-03](#)
- [Halocarbon Release Report – FOR-HAL-04](#)
- [Dismantling, Decommissioning, or Destruction Notice – FOR-HAL-05](#)
- [Federal Halocarbon Regulations 2003 \(FHR 2003\)](#)
- [Environmental Code of Practice for Elimination of Fluorocarbon Emissions from Refrigeration and Air Conditioning Systems \(Refrigerant Code of Practice\).](#)
- ULC - Halon and Halocarbon Clean Agent Recovery and Reconditioning Equipment (ULC/ORD-C1058.5-2004)
- ULC - The Servicing of Halon and Clean Agent Extinguishing Systems (ULC/ORD-C1058.18-2004)

APPENDIX A – RELEASES OF HALOCARBON – CONTACT INFORMATION AND ADDRESSES FOR REPORTING RELEASE OF HALOCARBONS OVER 100KG

New Brunswick, Prince Edward Island, Nova Scotia, and Newfoundland and Labrador

Emergency Number (verbal reporting):

1-800-565-1633* or 902-426-6030 for New Brunswick, Prince Edward Island and Nova Scotia

1-800-563-9089* or 709-772-2083 for Newfoundland and Labrador

* Telephone number accessible only within the respective province

Mailing Address (written reporting):

Regional Director

Environmental Enforcement Division

Environment and Climate Change Canada

16th floor, Queen Square

45 Alderney Drive

Dartmouth NS B2Y 2N6

Fax: 902-426-7924

email: fhr2003@ec.gc.ca

Use link for up-to-date information for Regional Contacts: [New Brunswick, Prince Edward Island, Nova Scotia, and Newfoundland and Labrador](#)

Québec

Emergency Number (verbal reporting): 1-866-283-2333* or 514-282-2333

* Telephone number accessible only within the respective province

Mailing Address (written reporting):

Regional Director

Environmental Enforcement Division

Environment and Climate Change Canada

105 McGill Street (3rd floor)

Montreal QC H2Y 2E7

Fax: 514-496-2087

email : InstalFed.Dale-RQ@ec.gc.ca

Use link for up-to-date information for Regional Contacts: [Québec](#)

Ontario

Emergency Number (verbal reporting): 1-800-268-6060* or 416-325-3000

* Telephone number accessible only within the respective province

Mailing Address (written reporting):

Regional Director

Environmental Enforcement Division

Environment and Climate Change Canada

845 Harrington Court

Burlington ON L7N 3P3

Fax: 905-333-3952

email: FHR.Ontario@ec.gc.ca

Use link for up-to-date information for Regional Contacts: [Ontario](#)

Alberta, Saskatchewan, Manitoba, Northwest Territories and Nunavut

Emergency Number (verbal reporting):

204-944-4888 for Manitoba

1-800-667-7525 for Saskatchewan

780-422-4505 or 1-800-222-6514* for Alberta

867-920-8130 for Northwest Territories and Nunavut

* Telephone number accessible only within the respective province

Mailing Address (written reporting):

Regional Director

Environmental Enforcement Division

Environment and Climate Change Canada

Eastgate Offices

9250 - 49 Street

Edmonton AB T6B 1K5

Fax: 780-495-2444

email: FHR2003.EED-PNR@ec.gc.ca

Use link for up-to-date information for Regional Contacts: [Alberta, Saskatchewan, Manitoba, Northwest Territories and Nunavut](#)

British Columbia and Yukon Territory

Emergency Number (verbal reporting):

1-800-663-3456 for British Columbia

867-667-7244 for Yukon

Mailing Address (written reporting):

Regional Director

Environmental Enforcement Division

Environment and Climate Change Canada

201-401 Burrard Street, 4th floor

Vancouver BC V6C 3S5

Fax: 604-666-9059

email: FHR.PYR@ec.gc.ca

Use link for up-to-date information for Regional Contacts: [British Columbia and Yukon Territory](#)

APPENDIX B – WORK PERFORMED BY A CONTRACTOR ON A SYSTEM CONTAINING HALOCARBONS

When system servicing is subcontracted:

Ensure that Fleet Safety Manual (FSM) section 10.A.7 – Contractor Safety and Security is followed and that FSM section 7.A.1 – Assessing Risk is completed as specified.

For refrigeration and air conditioning system servicing:

- 1) Specify that all work shall comply with the [*FHR 2003*](#), the Environment Canada [*Environmental Code of Practice for Elimination of Fluorocarbon Emissions from Refrigeration and Air Conditioning Systems \(Refrigerant Code of Practice\)*](#), and any other applicable federal or provincial/territorial regulations.
- 2) The Contractor shall supply a copy of the competency certificate – apprentice, the competency certificate – journeyman, or the certificate of qualification, or an apprenticeship card for each person who will work on the system.
- 3) Ensure that each person who will service the system has an *Environmental Awareness Course* certificate.

For fire extinguishing system servicing:

- 1) The [*FHR 2003*](#) does not require fire extinguishing system servicing technicians to be ULC-certified, unlike refrigeration and air conditioning system technicians.
- 2) Inform the Contractor that any work on a fire extinguishing system that may result in the release of a halocarbon shall be done according to the [*FHR 2003*](#) and the ULC documents: *Halon and Halocarbon Clean Agent Recovery and Reconditioning Equipment* (ULC/ORD-C1058.5-2004) and *The Servicing of Halon and Clean Agent Extinguishing Systems* (ULC/ORD-C1058.18-2004), as applicable.
- 3) Before a fire extinguishing system is serviced, a notice shall be affixed to the control panel to indicate that it is out of operation during the service period, with the exception of portable fire extinguishers.