



Canada's Federal Halocarbon Regulations: Update

Ottawa, ON – December 2003 - As early as 1974 the scientific community identified CFCs as the source of chlorine and bromine upsetting the equilibrium in natural ozone formation and destruction and the forming of a hole over Antarctica. This discovery led to the Montreal Protocol, an international agreement signed by Canada and 46 other countries in September 1987. The parties to the protocol later passed amendments that resulted in a commitment by Canada to reduce production of CFCs by 100% beginning January 1st 1996.

The HVAC systems of most office buildings use water chillers that usually contain large charges of CFC refrigerant (from 300-1000kg.) industry estimates suggest there was approximately 3,148 tonnes of CFCs in use or on standby in the chiller sector. By the beginning of 1998 less than 35% of the 6,000 CFC chillers in use had been replaced or converted.

By 2020 there will be an estimated 2,580 tonnes of CFCs available. Leakage and release rates are predicted to be between 2.8% and 5% indicating a need for action through regulation.

The Federal Halocarbon Regulations, 2003

The Federal Halocarbon Regulations, 2003 (FHR 2003) were published in August 2003 and replaced the former Federal Halocarbon Regulations. The purpose of the regulations is to implement regulatory measures to achieve an orderly transition from CFCs and Halon to alternative substances and technologies as per Canada's Strategy to Accelerate the Phase-Out of CFCs and Halon uses and to dispose of surplus stocks and to address administrative issues that have been identified concerning the former regulations. These Regulations are essentially the same as the former Federal Halocarbon Regulations, with the exception of the implementation of new initiatives under Canada's Ozone Layer Protection Program and addressing various administrative issues, which are outlined below. Due to substantial changes to the structure of the Federal Halocarbon Regulations and for the additional requirements, it was decided to develop the new Federal Halocarbon Regulations, 2003 to replace the former regulations.

The FHR 2003 prohibits the charging of chillers with CFCs at the next overhaul of the chiller effective January 1, 2005. An exemption is available between January 1, 2005 and December 31, 2009, to permit the charge of the chiller with CFCs following an overhaul and allow for the continued operation of that chiller. This exemption is available on the condition that the chiller is either converted or replaced such that it no longer contains CFCs no later than 12 months from the date of recharge. The regulations will prohibit the operation of chillers with CFCs effective January 1, 2015.

The term "overhaul" is intended to apply to significant repairs or maintenance procedures. An overhaul is defined in the regulation as:

- (a) the replacement or modification of an internal sealing device;
- (b) the replacement or modification of an internal mechanical part other than
 - (i) an oil heater
 - (ii) an oil pump
 - (iii) a float assembly, and
 - (iv) a vane assembly in the case of a chiller with a single stage compressor; or
- (c) any procedure or repair that resulted from the failure of an evaporator or a condenser heat-exchanger tube.

Article (iv) is new on the list of permissible repairs and may only apply to certain models of chillers manufactured by Carrier, McQuay or York. Trane did not manufacture any centrifugal chillers that were single stage. All purges must be high efficiency as defined by the regulation:



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No person shall release, or allow or cause the release of, a halocarbon that is contained in

- (a) a refrigeration system or an air-conditioning system or any associated container or device, unless the release results from a purge system that emits less than 0.1 kg of halocarbons per kilogram of air purged to the environment.

The owner must ensure that all components of a chiller that come into contact with a halocarbon are leak tested at least once every 12 months. Service logs are required to be maintained whenever a halocarbon refrigeration or air-conditioning system is installed. A halocarbon release of 100 kg or more from a refrigeration system must be reported to Environment Canada within 24 hours. A release of more than 10 kg and less than 100 kg must be reported as part of a semi-annual report submitted to Environment Canada no later than 30 days after January 1st and July 1st for each calendar half year.

The preceding article has been adapted from information provided by Environment Canada. For more information, check the Stratospheric Ozone Website at www.ec.gc.ca/ozone.

As a Co-Chair of BOMA Canada's national Environment & Energy committee, Ted Aldcroft regularly participates in discussions with the federal Ministry of the Environment as a member of the Federal-Provincial Multistakeholder Working Group on Ozone Depleting Substances and Alternatives representing BOMA Canada.