

WAC 173-443-145 Leak detection and monitoring requirements.

(1)(a) Leak inspection requirements for year-round refrigeration and air conditioning systems with a full charge greater than or equal to 1,500 pounds.

(b) Beginning January 1, 2024, the owner or operator of a facility that has a refrigeration or air conditioning system with a full charge capacity greater than or equal to 1,500 pounds and that uses a refrigerant with a GWP of 150 or more, that is intended to operate year-round, must do all of the following:

(i) Conduct a leak inspection of the full system each month using a calibrated refrigerant leak detection device, or bubble test, unless an automatic leak detection system that meets the requirements of subsection (2)(b) or (c) of this section is installed and functioning correctly on the full system. If a certified technician performs the inspection, the inspection may be conducted using methods determined appropriate by the certified technician.

(ii) Conduct a leak inspection of the full system at the time of verification test or follow-up verification test following a leak repair.

(iii) Conduct a leak inspection of the full system each time refrigerant is added to the system in an amount equal to or greater than five pounds, or one percent of the full charge, whichever is greater.

(iv) Conduct a leak inspection of the full system each time oil residue is observed on any refrigerant circuit component indicating a refrigerant leak.

(2) Automatic leak detection requirements for refrigeration systems with a full charge of 1,500 pounds or more.

(a) The owner or operator of a refrigeration system with a full charge greater than or equal to 1,500 pounds and that uses a refrigerant with a GWP of 150 or more, that is intended to operate year-round, must do the following:

(i) By January 1, 2025, install an automatic leak detection system that meets the requirements of (b) or (c) of this subsection if:

(A) The refrigerant circuit is located entirely within an enclosed building or structure; or

(B) The compressor, evaporator, condenser, or any other component of the refrigeration system is located inside an enclosed building or structure.

(ii) Installation of an automatic leak detection system under (b) or (c) of this subsection is not required if the refrigeration system will be replaced or retrofitted to use a refrigerant with a GWP of less than 150 before January 1, 2027. Written documentation of the intent to transition and the anticipated timeline for the transition must be signed by the facility's representative and kept in accordance with WAC 173-443-195.

(b) For an automatic leak detection system that detects the presence of refrigerant in the air, the automatic leak detection system must be annually audited and calibrated using the manufacturer-recommended procedures so that it:

(i) Accurately detects a concentration level of 10 parts per million of vapor of the specific refrigerant(s) used in the refrigeration system; and

(ii) Alerts the operator when a refrigerant concentration of 100 parts per million of vapor of the refrigerant(s) is reached.

(c) For an automatic leak detection system that interprets measurements to indicate a refrigerant leak, the automatic leak detection system must be annually audited and calibrated using manufacturer-rec-

ommended procedures so that it will alert the owner or operator when measurements indicate a loss of 50 pounds of refrigerant or 10 percent of the system's full charge, whichever is less.

(d) If an automatic leak detection system alerts the owner or operator of a leak, a leak inspection must be performed on the system within 24 hours of the alert. The leak inspection must be conducted using a calibrated refrigerant leak detection device, a bubble test, or as determined by a certified technician to confirm a refrigerant leak and determine the location.

(3)(a) Leak inspection requirements for year-round refrigeration and air conditioning systems with a full charge greater than or equal to 200 pounds but less than 1,500 pounds.

(b) Beginning January 1, 2026, the owner or operator of a facility that has a refrigeration or air conditioning system with a full charge greater than or equal to 200 pounds but less than 1,500 pounds, that is intended to operate year-round, must do all of the following:

(i) Conduct a leak inspection of the full system at least once every three months using a calibrated refrigerant leak detection device, or bubble test, unless an automatic leak detection system that meets the requirements of subsection (2)(b) or (c) of this section is installed and functioning correctly on the system.

(ii) Conduct a leak inspection of the full system at the time of verification test or follow-up verification test following a leak repair.

(iii) Conduct a leak inspection of the full system each time refrigerant is added to the system in an amount equal to or greater than five pounds, or one percent of the full charge, whichever is greater.

(iv) Conduct a leak inspection of the full system each time oil residue is observed on any refrigerant circuit component indicating a refrigerant leak.

(4)(a) Leak inspection requirements for year-round refrigeration and air conditioning systems with a full charge greater than or equal to 50 pounds, but less than 200 pounds.

(b) Beginning January 1, 2028, the owner or operator of a facility that has a refrigeration or air conditioning system with a full charge greater than or equal to 50 pounds, but less than 200 pounds, that is intended to operate year-round must do all of the following:

(i) Conduct a leak inspection of the full system at least once each year using a calibrated refrigerant leak detection device, or bubble test, unless an automatic leak detection system that meets the requirements of subsection (2)(b) or (c) of this section is installed and functioning correctly on the system.

(ii) Conduct a leak inspection of the full system at the time of verification test or follow-up verification test following a leak repair.

(iii) Conduct a leak inspection of the full system each time refrigerant is added to the system in an amount equal to or greater than five pounds, or one percent of the full charge, whichever is greater.

(iv) Conduct a leak inspection of the full system each time oil residue is observed on any refrigerant circuit component indicating a refrigerant leak.

(5) Leak inspection requirements for refrigeration and air conditioning systems not operated year-round.

(a) The owner or operator of a facility that has a refrigeration or air conditioning system that is not intended to operate year-round must conduct a leak inspection of the full system within 30 days after

starting each operation of the system, and once every three months thereafter until the system is shut down.

(b) The leak inspections must be conducted using a calibrated refrigerant detection device, or bubble test.

(6) Leak detection and monitoring during system mothballing. The requirements of this section do not apply during the time that a system is undergoing mothballing. The requirements of this section will apply on the day the mothballed system resumes operation.

(7) Leak inspection requirement for systems in stand-by or emergency status. The requirements of this section apply to refrigeration or air conditioning systems in stand-by or emergency status.

[Statutory Authority: Chapter 70A.60 RCW. WSR 23-24-041 (Order 21-02), § 173-443-145, filed 11/30/23, effective 12/31/23.]