

2. Periodic Leak Checking and Proper Documentation

Mindset: No leak is acceptable. The goal should be zero.

OBJECTIVE

Identify target leak rates for various types of RAC equipment.

MEASURE OF SUCCESS

Systems are well maintained by proactively checking for, repairing, and documenting leaks while driving toward zero-leak systems.

DIRECT SYSTEMS

The following actions are required to be performed.

	Perform regular leak checks as follows: • Self-contained: yearly
☐	• Field erected < 20 HP: Semiannually • Field erected > 20 HP: Quarterly • All systems: Leak alarm actuated
☐	Properly document leak checks in the daily maintenance log, including the date, specific location, repair method, and amount of refrigerant replaced.
☐	Leaks were properly repaired, and the refrigerant used documented.
☐	Report leaks as required by regulations.
☐	Install leak detection sensors in appropriate locations.
☐	Follow protocols for leak detection of flammable and/or toxic refrigerants.

INDIRECT SYSTEMS

Covering centralized systems typically use air-cooled or water-cooled chillers, heat recovery chillers, heat pumps, absorption chillers, or other types of equipment. Each of the following checks is to be recorded in the daily log.

☐ Meet all requirements for direct systems.

Monthly

☐ Check anticorrosion additive.

☐ Check sacrificial anodes for wear.

Every Three Months

☐ Analyze lithium bromide (LiBr) solution for steel or copper deposits.

☐ Check heat recovery heat exchanger for corrosion.

Every Five Years

☐ Check heat exchanger tubes for leaks using an eddy current test.

For additional guidance and resources, see *Assessing RAC Plant Sustainability*.

