

# 2019 DEADLINE

## R-22 REFRIGERANT PHASE-OUT CHECKLISTS



If the HVAC system in your building uses R-22 refrigerant as a coolant, there is an important date to keep in mind. The final deadline for phasing out R-22 has now been set for 2019. That means you have significant decisions to make when your HVAC system needs to be serviced or repaired.

You may have to decide whether to repair, convert, or replace your existing HVAC system. That can be a major decision, and smart decisions—whether they are made for safety, comfort, or fiscal reasons—depend on having good information. That's why we've created a checklist you can use to proactively decide and guide your decisions.

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# CHECKLIST 1

## Emergency Response Checklist

If you are a facilities manager, you may find yourself in an emergency situation with your HVAC system. Most of the time, there are a few options: you can restore service, convert your refrigerant or replace the unit. In most of these situations, you may also have to make a recommendation to corporate staff regarding a major repair. Regardless of which scenario applies to you, here are some items you need to check before making an important decision around the future of your HVAC system.

Ask the service technician to specify how much refrigerant has been lost in pounds from the leak, and what percent of the total refrigerant charge this represents. What is the cost to properly test where the leak in the closed system came from, and to evacuate the refrigerant, fix the leak and re-charge the system?

Ask your service technician to tell you the age and size (nominal tons) of your unit. You'll also want to know the total pounds capacity of refrigerant in the system, as well as how much refrigerant charge has been lost. This can help you determine the severity of a leak.

Here are some "Rules of thumb":

1. If your system has lost more than 50% of the charge and the system is more than 10 years old, it may be a candidate for replacement—especially if major components are at risk.

2. If your HVAC system is less than 10 years old and lost minimal refrigerant from a leak refrigerant—and you intend

to occupy the building for the foreseeable future—you may want to consider "converting" the system to an alternative refrigerant instead of repairing the system using R-22.

3. If you are considering converting to an alternative refrigerant, ask your technician for a "turnkey quote" including such additional items as:

A. Are one or more oil changes required?

B. Have you evaluated rubber gaskets, O-ring components, ball valves, Schrader valves, reversing valves and other components that may need to be replaced in a conversion?

Check on the EPA rules for handling refrigerants. This isn't merely a suggestion: it's the law! To work on stationary air conditioners and refrigeration systems, your technician must be certified under Section 608 of the Clean Air Act. Lastly, make sure you or your EPA-certified provider keeps adequate logs for you.

# CHECKLIST 2

## Unit Replacement or Conversion

In this checklist you'll find some items to consider when you want to take a proactive approach with your HVAC system and go beyond standard repairs. Often, the best decision is to consider conversion to an alternate refrigerant or replacing the unit altogether. If you are facilities manager or building owner evaluating a capital spend decision to replace equipment, you'll also need adequate data in order to arrive at a decision that is best for both building personnel and for your company's fiscal health.

- Complete a thorough asset survey. Make sure you collect information on all HVAC units, including the make, type, model, serial number, and exact location of each unit, as well as each one's type of refrigerant and size.
- Record the exact age of each of your HVAC units. Don't assume that all units were installed at the same time—especially if you are not the original owner of the building.
- Identify those units that are less than 10 years of age. Newer units may be better suited for conversion to an alternate refrigerant, or a leak, test and repair at a much lower cost.
- Identify those units with a costly repair history. Look at your accounts payable records for service repair cost by unit in the last three years. You may find only a few troublesome units are responsible for most of your repair spend. It's possible you may only need to repair or replace these select units.
- Track the service repair cost to each individual HVAC unit. This can enable you to decide whether to repair, replace, or

convert a system. Here are some "rule of thumb" guidelines you may find helpful:

- Consider replacing units when any of the following apply: (1) the units are between 12 and 15 plus years of age (or older) for unitary equipment; (2) chillers are 20 plus years of age when major components fail; and (3) when repairs or conversion of refrigerant exceed 50% of the cost of a new unit.
  - Remember that repair cost avoidance is factored in with energy savings, utility rebates, and tax incentives. You may be able to fund your project from the savings you realize in annual operating costs for a conversion or planned unit replacement project with no outlay in capital funds.
- If you are faced with replacing obsolete equipment and are looking for energy savings and other funding sources, you may want to quantify the savings with an energy assessment of your units. An energy advisory expert can accurately project your utility cost avoidance and other operating cost savings that can come from replacing obsolete systems with state-of-the-art, high-efficiency equipment and controls.

**If you'd like additional information about the R-22 Phase-out, we'd recommend this recent article:**

[R-22 Phase-out Slashes Supply to 18M Pounds—Refrigerant Phase-out, SNAP changes, and more will affect HVACR industry in 2016.](#)