Refrigerant Changes Are Coming—

Here's What You Need to Know

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Big changes are on the horizon for building owners and facility managers. New legislation, such as the American Innovation and Manufacturing (AIM) Act and the U.S. ratification of the Kigali Amendment, are causing older refrigerants with high global warming potential to soon be phased out. So, what does this mean for your next project or equipment you already have in place?

WHY THE CHANGE?

Over time, refrigerants have evolved to balance cooling efficiency with environmental impact. Early synthetic refrigerants like CFCs and HCFCs were widely used but ended up being phased out after being linked to ozone depletion. Their replacements, hydrofluorocarbons (HFCs), solved that issue but have high global warming potential (GWP), which prompted these new regulations.

To curb climate impact, the EPA is set on reducing HFC production and use by 85% by 2036. Starting January 1, 2025, key cooling systems—including chillers and packaged AC units—must use refrigerants with a GWP below 700. While existing systems can still be installed in some states temporarily, facility managers should prepare for an industry-wide transition.

PHASING OUT HFCS AND PLANNING AHEAD

As with most technological innovations, great benefits in one area may introduce some new concerns in others. The latest HFC replacement refrigerants, such as R-454B and R-32 (known as A2L refrigerants), are efficient, non-toxic, and do not contribute to the depletion of the earth's ozone layer. Their GWP is much improved over HFCs. However, A2L refrigerants are mildly flammable but have a low flame propagation speed. So, with great benefits to the planet comes new risk to the building owner and builder. As with any risk, a good management strategy proves helpful.

With these changes occurring now, what does a building owner need to plan for in the short and long term? Here are three things you can do to prepare.

1. SHORT TERM: UPDATE YOUR AIR CONDITIONING EQUIPMENT STANDARDS.

If you've standardized on a particular brand and model of air conditioning equipment with a given refrigerant, it is probably time to consider updating your standard. Standardization allows you to streamline maintenance inventory,

including refrigerants or compressors. New HVAC equipment will be manufactured with the newer refrigerants. Older refrigerants will still be available to maintain and repair existing mechanical assets; however, they will continue to rise in costs as demand decreases. Initiate the conversation with your trusted design, installation, and maintenance partners now to plan for the inevitable change.

2. SHORT TERM: TRAIN YOUR TEAM TO HANDLE A2L REFRIGERANTS SAFELY.

While contractors and technicians who already hold an EPA Section 608 certification will be grandfathered in and may not need to take an additional exam, in-house maintenance technicians should be trained on the safe handling, storage, transportation, and deployment of the new A2L refrigerants. As part of your continual evaluation of contracting partners, make sure you inquire and confirm that their technicians are being trained as well.

3. LONGER TERM: ASK YOUR DESIGN TEAM HOW THEY HAVE PLANNED FOR A2L REFRIGERANTS.

Building codes are being updated to incorporate the new refrigerants and the potential hazards they could introduce to an occupied environment. Codes continue to be refined, with state and local regulatory agencies incorporating changes through amendments if in between their code refreshment cycles. Some design and mitigation measures may be required for newly constructed facilities using the A2L refrigerants, which may not have been necessary with CFC/HCFC and HFL refrigerants. As you begin planning new spaces and facilities, confirm with your mechanical designer that they have considered local building, mechanical, and fire codes associated with using A2L refrigerants and considered the steps required to comply.

As we continue to learn more about and protect our environment, understand it's possible to both be a good environmental steward and construct and maintain facilities that are economical, comfortable, and safe. Being proactive is the key.

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