CALIFORNIA STARTS HFC BANS – WITH MORE TO COME

R404A and R507A are among the high-GWP refrigerants scrapped in supermarket systems as CARB considers low-GWP limits for new equipment

– By Michael Garry

California's bans on high-GWP HFCs, based on regulations enacted by the U.S. Environmental Protection Agency (EPA) – but rolled back at the national level last year – went into effect in the state on January 1 for a number of supermarket applications as part of the implementation of the California Cooling Act (Senate Bill 1013).

The prohibitions derive from the EPA's Significant New Alternative Policy (SNAP) Program, Rules 20 and 21. Rule 20 was vacated last year as a result of a U.S. Court of Appeals ruling in August 2017, while Rule 21 is expected to also be vacated by the courts.

Meanwhile, in California, bans of R404A and R507A took effect on January 1 for new and retrofit supermarket central systems and remote condensing units; and all retrofit stand-alone units, low- and medium- temperature.

January 1 also marked the start of bans for R404A, R507A, R410A, R134, and R407A, C and F in new medium-temperature stand-alone units with a compressor capacity of less than 2,200 BTU/hr and not containing a flooded evaporator.

Starting January 1, 2020, these high-GWP refrigerants will be banned in additional new stand-alone cases, including medium-temperature units with a compressor capacity of less than 2,200 BTU/hr and containing a flooded evaporator; and in medium-temperature units with a compressor capacity equal to or more than 2,200 BTU/hr, with or without a flooded evaporator.

In low-temperature stand-alone cases, R404A, R507A, R410A and R407A, C and F will be banned starting in 2020. Those refrigerants will be prohibited starting January 1, 2021, in refrigerated food processing and dispensing equipment.

For new compact household refrigerators and freezers, R404A, R507A and R134a, among other refrigerants, will be banned starting January 1, 2021; the following year, they will be banned in new non-compact or built-in units.

On January 1, 2023, R404A, R507A, R410A, R134A and R407A will be prohibited in new cold-storage warehouse systems.

Under the new California law, manufacturers cannot sell equipment or products that use banned HFCs manufactured after their respective prohibition dates.

The California Air Resources Board (CARB) plans to enact further restrictions on HFCs via its SLCP (Short-Lived Climate Pollutant) Strategy, which was approved in March 2017.

These actions are all intended to help California meet its HFC emissions reduction goal under Senate Bill 1383, which is 40% below 2013 levels by 2030.

In addition to regulating HFCs, the California Cooling Act establishes an incentive program for early adoption of low-GWP technology in refrigeration systems. In order for CARB to implement the program, the legislature must first allocate funding. Once funding has been allocated, CARB can proceed with implementing the incentive program.

Other states began emulating California in 2018, with Connecticut, Maryland and New York announcing plans to develop regulations that will phase out the use of HFC. (See "Three States Follow California's Lead on HFCs", Accelerate America, October 2018.)

In December, Jay Inslee, governor of Washington state, unveiled a $273 million climate action plan – including $959,000 to phase out HFCs – that would reduce greenhouse gas emissions to 25% below 1990 levels by 2035. (See page 28.)

All five states are part of the U.S. Climate Alliance, a bipartisan coalition of governors from 17 states and Puerto Rico, which announced last June its commitment to reduce SLCPs, including HFCs.

Harrison Horning, director of maintenance for Hannaford Supermarkets, Scarborough, Maine, suggested that state regulation of HFCs "will get us back to where we were one or two years ago" when the EPA was delisting high-GWP HFCs.

On the other hand, "We might begin to see a state-by-state listing of what's acceptable and not acceptable," said Jennifer Butsch, regulatory affairs manager – air conditioning for Emerson, at the company's E360 Forum on January 15 at the AHR Expo in Atlanta, Ga. "We prefer one consistent approach across the federal level."

More restrictions on HFCs

California regards the SLCP Strategy as the final piece of its plan to cut HFCs by 40%. The first phase will be to limit the GWP of refrigerants (two or more lbs) used in new stationary air-conditioning equipment to below 750 starting in 2023. Emerson expects CARB to announce a final regulation by December 2019, said Butsch. "AHRI [Air-Conditioning, Heating & Refrigeration Institute] and NRDC [National Resources Defense Council] recommended that step, so there is some certainty this will go through."

Jennifer Butsch, Emerson

There will be no additional rulemaking in California for chillers, which will follow SNAP Rule 21.

The SLCP Strategy also contains prohibitions on refrigerants (more than 50 lbs) with a GWP of more than 150 for new stationary refrigeration beginning in 2022. "This will be debated at stakeholder meetings until July," said Butsch. "I'd anticipate the charge limit might move up; 150 seems low to us and many in the industry." A final regulation for refrigeration is expected by March 2020, she added.

In addition, the SLCP plan calls for a blanket ban on production, import, sales, distribution or entry into commerce of refrigerants with a GWP of 1,500 or more, effective in 2022.

CARB has proposed an exception in the blanket ban for reclaimed refrigerants used in maintenance; however, the reclaim process has not been defined yet, said Butsch, adding, "They don't want reclaimed refrigerants from other states." Another exception has been proposed for R410A in air conditioners, which can't be retrofitted with lower-GWP refrigerants.

CARB will engage with stakeholders several times in 2019, Butsch said. "I would encourage everybody to communicate with CARB – they are looking for information," she said." ■ MG