Summary of New York State Proposed HFC Phaseout

Climate Change Regulatory Revisions - NYDEC - *Amendments to Part 494*
Prepared by Todd Titus, Director of State & Public Affairs

Brief Summary (*per NYSDEC*):

"*The Department is proposing amendments to 6 NYCRR Part 494, "Hydrofluorocarbon Standards and Reporting." The proposed regulation includes prohibitions, reporting, and other requirements regarding the sale, use, and supply of HFCs and new products and systems that contain HFCs. The goal of this proposed rule is to implement recommendations of the Climate Action Council Scoping Plan necessary to achieve the required statewide GHG emission limits and net zero goal outlined in the Climate Act.*"

Reason for HARDI's concern:

The push for more environmentally friendly refrigerants is shared between HARDI and New York State. However, this amendment is too aggressive and does not allow enough time to appropriately phase out, or even phase down, to the stated GWP requirements. If this amendment is enacted, New York State would effectively ban the installation of current technologies used for air conditioning and refrigeration systems for its businesses and residents. Alternative refrigerants require ultra-high pressures or high-flammability refrigerants, which are hard to retrofit into existing buildings and require major changes to safety standards and building codes that are unlikely to be achieved in time for the proposed prohibitions.

Information to note:

- Written comments on the proposed Part 494 revisions may be submitted until **5 p.m. on March 19, 2024.** Two public comment hearings for the proposed Part 494 revisions will be held via electronic webinar on March 13, 2024 at 2:00 p.m. and 6:00 p.m.
- Regulatory proposal comments may be emailed to climate.regs@dec.ny.gov. Include "Comments on Part 494 HFC" in the subject line of the email.
- Retrofit exemption, any retrofit can be substituted to lower refrigerant until January 1, 2029.
- Install in the amendment is defined as, "*to set up products or systems for use, which may include multiple steps. For field-charged systems, installation refers to completing a field-assembled refrigerant circuit, such that the system can function and is ready for use for its intended purpose.*"
- Virgin substance in the amendment is defined as, "*A regulated substance that has not had any bona fide use in products or equipment except for those regulated substances contained in the heel or the residue of a container that has had a bona fide use in the servicing, repair, or installation of equipment.*"
- Regulated substance in the amendment is defined as, "*Any chemical intended for use in the sectors listed in section 494-1.4 of this Part that has a GWP20 greater than*

10, including hydrofluorocarbons, chlorofluorocarbons, hydrochlorofluorocarbons, hydrofluoroolefins, and blends thereof. … A substance is considered a regulated substance if the GWP20 is unknown, but the substance may be reasonably anticipated to cause or contribute to anthropogenic climate change."

- Bulk regulated substance in the amendment is defined as, "*Regulated substances of any amount in a container for the transportation or storage of that substance, such as cylinders, drums, ISO tanks, and small cans. A regulated substance that must first be transferred from a container to another container, vessel, or piece of equipment in order to realize its intended use is a bulk substance. A regulated substance contained in a manufactured product such as an appliance, an aerosol can, or a foam is not a bulk substance."*
- GWP20 in the amendment is defined as, "*an assessment of the Global Warming Potential of greenhouse gases over an integrated twenty-year time frame as published in the Intergovernmental Panel on Climate Change (IPCC) Assessment Report."*
    - View the table below for the GWP20 for common Refrigerants.
        - Please note that Ammonia, H_2O, Air, Propylene, Propane, Isobutane, and CO_2 are non-fluorinated refrigerants meet the GWP20 under 10.

Refrigerant	Type	GWP 100 Years	GWP 20 Years
R404A	HFC	4,728	7,208
R22	HCFC	1,960	5,960
R407A	HFC	2,262	4,890
R410A	HFC	2,256	4,715
R407C	HFC	1,908	4,457
R134a	HFC	1,530	4,140
R448A	HFC/HFO	1,494	3,322
R449A	HFC/HFO	1,504	3,383
R32	HFC	771	2,690
R452B	HFC/HFO	779	2,275
R454B	HFC/HFO	531	1,854
R454A	HFC/HFO	270	943
R454C	HFC/HFO	166	580
R1234ze	HFO	1	5
R1234yf	HFO	1	2
R744	Non-fluorinated	1	1
R600a	Non-fluorinated	<1	<1
R290	Non-fluorinated	<1	<1
R1270	Non-fluorinated	<1	<1
R717	Non-fluorinated	0	0

Table 1. Information for table is from the IPCC Sixth Assessment Report, Supporting Materials and US EPA Technology Transitions GWP Reference Table and Global warming potential (GWP) of HFC refrigerants (iifiir.org) and National Institute of Standards and Technology.

Prohibitions Summary:

- No person may **install** a *field charged* system in New York State, nor have any such system be installed through their position as a designer, owner, or operator of that system, in the following sectors or subsectors that uses a prohibited substance as listed.
- Effective one year after the stated [manufacturing] prohibition date no person may … **[sell], distribute** … *any* product that uses a prohibited substance as listed.
  Click here for full HVACR industry prohibition statement (page 21).

Table in Subdivision 494-1.4(e) summary:

(Please note, only upcoming prohibitions and HARDI relevant topics are listed)

Air Conditioning

Product	Prohibited Substances	Prohibition Date
Chillers	Same as EPA Technology Transition Rule – 40 CFR section 84.54(a)(10)(i) and 40 CFR section 84.54(c)(3).	January 1, 2025
	Regulated substances with a GWP20 greater than 10.	January 1, 2030
Heat pump chillers	Same as EPA Technology Transition Rule – 40 CFR section 84.54(a)(10)(i) and 40 CFR section 84.54(c)(3).	January 1, 2025
	Regulated substances with a GWP20 greater than 10.	January 1, 2034
Residential and light commercial air conditioning and heat pumps	Same as EPA Technology Transition Rule – 40 CFR section 84.54(a)(10)(i) and 40 CFR section 84.54(c)(3).	January 1, 2025
	Virgin substances with a GWP20 greater than 10.	January 1, 2028
	Regulated substances with a GWP20 greater than 10.	January 1, 2034
VRF systems	Same as EPA Technology Transition Rule – 40 CFR section 84.54(c)(2).	January 1, 2026
	Virgin substances with a GWP20 greater than 10.	January 1, 2028
	Regulated substances with a GWP20 greater than 10.	January 1, 2030
Other residential HVAC	Regulated substances with a GWP20 greater than 2690.	January 1, 2025
	Regulated substances with a GWP20 greater than 10.	January 1, 2027
Other commercial HVAC	Regulated substances with a GWP20 greater than 2690.	January 1, 2025
	Regulated substances with a GWP20 greater than 10.	January 1, 2034
Data Centers	Regulated substances with a GWP20 greater than 2690.	January 1, 2025
	Regulated substances with a GWP20 greater than 10.	January 1, 2030

Refrigeration

Product	Prohibited Substances	Prohibition Date
Refrigerated food processing and dispensing equipment	Same as EPA Technology Transition Rule – 40 CFR section 84.54(a)(9) and 40 CFR section 84.54(c)(15).	January 1, 2027
	Regulated substances with a GWP20 greater than 10.	January 1, 2034
Supermarket systems	Regulated substances with a GWP20 greater than 580 for equipment with refrigerant charge capacity of 50 pounds or greater.	January 1, 2025
	Regulated substances with a GWP20 greater than 943 for equipment with refrigerant charge capacity of less than 50 pounds.	January 1, 2025
	Regulated substances with a GWP20 greater than 10.	January 1, 2034
Remote condensing units	Regulated substances with a GWP20 greater than 580 for equipment with refrigerant charge capacity of 50 pounds or greater.	January 1, 2025
	Regulated substances with a GWP20 greater than 943 for equipment with refrigerant charge capacity of less than 50 pounds.	January 1, 2025
	Regulated substances with a GWP20 greater than 10.	January 1, 2034
Stand-alone units medium temperature	Same as EPA Technology Transition Rule – 40 CFR section 84.54(a)(4).	January 1, 2025
	Virgin substances with a GWP20 greater than 10.	January 1, 2028
	Regulated substances with a GWP20 greater than 10.	January 1, 2034
Stand-alone units low temperature	Same as EPA Technology Transition Rule – 40 CFR section 84.54(a)(4).	January 1, 2025
	Virgin substances with a GWP20 greater than 10.	January 1, 2028
	Regulated substances with a GWP20 greater than 10.	January 1, 2034
Cold storage warehouses	Regulated substances with a GWP20 greater than 580 for equipment with refrigerant charge capacity of 50 pounds or greater.	January 1, 2025
	Regulated substances with a GWP20 greater than 943 for equipment with refrigerant charge capacity of less than 50 pounds.	January 1, 2025
	Regulated substances with a GWP20 greater than 10.	January 1, 2034
Ice Rinks	Regulated substances with a GWP20 greater than 580.	January 1, 2025
	Regulated substances with a GWP20 greater than 10.	January 1, 2030

Industrial process refrigeration	Regulated substances with a GWP20 greater than 580 for equipment with refrigerant charge capacity of 50 pounds or greater.	January 1, 2025
	Regulated substances with a GWP20 greater than 943 for equipment with refrigerant charge capacity of less than 50 pounds.	January 1, 2025
	Regulated substances with a GWP20 greater than 10.	January 1, 2034
Industrial process refrigeration chillers	Regulated substances with a GWP20 greater than 1860.	January 1, 2025
	Regulated substances with a GWP20 greater than 10.	January 1, 2030
New refrigeration facility	Regulated substances with a GWP20 greater than 10 for equipment with refrigerant charge capacity of 50 pounds or greater.	January 1, 2025
ACIM – self-contained	Same as EPA Technology Transition Rule – 40 CFR section 84.50(a)(8)(i).	January 1, 2026
	Same as EPA Technology Transition Rule – 40 CFR section 84.50(a)(8)(ii).	January 1, 2027
ACIM – Remote	Same as EPA Technology Transition Rule – 40 CFR section 84.50(c)(14).	January 1, 2027

Bulk Refrigerants

GWP20 Limitation	Prohibition Date	Banned Common Refrigerants
Bulk regulated substances with a GWP20 ≥4600	January 1, 2025	R-404A, R-22, R-407A, R-410A
Bulk regulated substances with a GWP20 ≥4200	January 1, 2030	R-407C
Bulk regulated substances with a GWP20 ≥3000	January 1, 2033	R-134a, R-448A, R-449A
Bulk regulated substances with a GWP20 ≥1600	January 1, 2040	R-32, R-452B, R-454B

With this bulk refrigerant ban, any equipment requiring refrigerant will force a replacement of the system instead of a repair. This will cost consumers thousands more due to the prohibition on service gases.

Exemptions to the above prohibitions:

- Exempts used equipment from prohibitions in all subsectors:
  - Regulated Substances:
    - Any substance prohibited from use in section 494-1.4(e) of this Part.
      - Acceptable Uses:
        - Products after a period of ordinary utilization or operation by a consumer; or products within the disposal or recycling chain.
- Exempts very-low temperature equipment from prohibitions in all sectors
  - Regulated Substances:
    - Any substance prohibited from use in section 494-1.4(e) of this Part.
      - Acceptable Uses:
        - Very low-temperature applications.
          - Add to industrial process, cold storage, and standalone low temperature.
- Any retrofit can be substituted with a lower refrigerant until January 1st, 2029.

Variances

- Page 43 of the amendment lists variances to for those unable to comply with these changes. If an applicant qualifies for a variance, then an extension could be given for later compliance date. The three potential variance reasons are:
  - Impossibility
    - A substance or component for a repair is not available; AND
    - A variance will not increase the overall risk to human health or the environment; AND
    - The Applicant has used best efforts to anticipate and address the impossibility and any potential noncompliance, including minimizing greenhouse gas emissions related to noncompliance or making all efforts to repair all identified leaks and to operate and maintain equipment in accordance with manufacturer recommendations.
  - Force Majeure Event; and
    - Noncompliance is due to a Force Majeure Event; AND
    - The Applicant has used best efforts to anticipate and address any Force Majeure Event and any potential noncompliance, including minimizing any adverse effects of the greenhouse gas emissions or making all efforts to repair all identified leaks and to operate and maintain equipment in accordance with manufacturer recommendations.
  - Economic Hardship.
    - Compliance would result in closure of the entire facility or a large portion of the facility, or a substantial loss of revenue from the facility; AND
    - The regulated equipment or facility is in a Disadvantaged Community and is either a retail food facility or meets the definition of small business as defined in section 131 of the Economic Development Law.

Registration Requirements

- By January 1, 2025, any person who supplies, manufacturers, produces, or distributes bulk regulated substances or equipment or products containing regulated substances intended for sale or use in New York State or who reclaims regulated substances collected in New York State must register with the department.
- Any person who begins business distributing bulk regulated substances or equipment or products containing regulated substances intended for sale or use in New York State or by reclaiming regulated substances collected in New York State after January 1, 2025, must register with the department no later than 30 days after the start of their business operations.

Annual Reporting Requirements

- Beginning in 2026, each supplier and reclaimer must submit an annual report to the department on March 31st for the previous year. The report must include the following:
  - Total quantity of regulated substances supplied to New York State in the calendar year.
    - Pre-charged equipment/products shall estimate using 40 CFR section 98.433(a).
    - Reclaimed substances should also include the percentage of virgin substances.
    - The quantity reported shall include the following information:
      - Total statewide annual aggregated weight in pounds of each type of regulated substance purchased or received for subsequent resale or delivery in New York State for any purpose other than reclamation or destruction.
      - Total statewide annual aggregated weight in pounds of each type of regulated substance sold, supplied, or distributed to a facility in New York State.
  - Total quantity in mass of regulated substances collected in New York State that were reclaimed or destroyed in the calendar year, including the following:
    - Total statewide annual aggregated weight of each type of regulated substance collected in New York State that was reclaimed or supplied to another person for reclamation.
    - Total statewide annual aggregated weight in pounds of each type of regulated substance collected in New York State that was destroyed or supplied to another person for purposes of destruction in the calendar year.

General Record Keeping Requirements

- As of the effective date of this regulation, suppliers and reclaimers must maintain five years, and make available within 90 days upon request by the department, the following information:
  - Invoices of all regulated substances distributed or received in New York State through sale or transfer, indicating business names, business addresses, the date of sale or transfer, the quantity of each type of regulated substance sold or transferred, and the name and email address of an authorized representative for the supplier and recipient.
  - A list of all known suppliers, purchasers, or other recipients for the previous five years, including business names, business address, and the name and email address of an authorized representative for each business.
  - Include each facility's mailing address and the name, title, and email address for an authorized representative for each manufacturing, distribution, wholesale, destruction, or reclaim facility under the operational control of the person/business registered.
  - Any other records used to determine or verify the quantities under annual reporting.