



OFFICE OF ATMOSPHERIC PROTECTION

WASHINGTON, D.C. 20460

May 14, 2024

Mr. Nicholas Poole
Technical Manager
Refrigerant Solutions Limited
8 Murieston Road
Hale, Altrincham, Cheshire, WA15 9ST
United Kingdom

Re: Incompleteness Determination of SNAP Submission for R-480A in MVACs, Chillers, Cold Storage Warehouses, Refrigerated Transport, Vending Machines, Water Coolers, Commercial Ice Machines, and Cellar Cooling

Dear Mr. Poole:

Thank you for Refrigerant Solutions Limited's submission to the U.S. Environmental Protection Agency (EPA). The EPA established the Significant New Alternatives Policy (SNAP) program to implement section 612 of the Clean Air Act. Your application, received on August 2, 2023, with additional information submitted on November 17, 2023 and February 14, 2024, has been reviewed for completeness. We have found the submission to be incomplete. The following information is necessary in order to allow the agency to continue the review of Refrigerant Solutions Limited's submission for R-480A.

1. *End-Use Description.* In Part IV, Section A, Number 2 of the revised SNAP Information Notice, an additional description of the proposed "Cellar Cooling" end-use: "cellar cooling for air conditioning and refrigeration in both residential and commercial" is provided. On February 14, 2024, you provided additional information about this end-use, including that the cellar cooling end-use includes uses for both residential and commercial wine cellars. You mentioned that residential wine cellars are mostly self-contained units, while commercial wine cellars are mostly walk-in coolers with one to two remote compressors. You also mentioned that the expected temperature is 11-13 °C and the equipment capacity ranges between 2-12 kW. You mentioned that a schematic or diagram of the proposed systems are unavailable. Based on the descriptions you've provided so far for the Cellar Cooling end-use in residential and commercial settings, we would like to know more information to better understand under which SNAP subsector each end-use falls.

- a. For residential wine cellars:

- i. How are these self-contained units installed? For example, are these units installed through the wall of a cellar, remote located and ducted to the cellar, or more akin to a household refrigerator with wine bottles stored inside the self-contained units?
 - ii. Which industry standards would this equipment follow? (E.g. UL 60335-2-24)
 - b. For commercial wine cellars:
 - i. Are the one- or two-compressor systems specifically dedicated to just walk-in coolers? Or are they intended only to be used in supermarkets? Or would they be used in other commercial settings? If the latter, please specify.
 - ii. Which industry standards would this equipment follow? (E.g. UL 60335-2-89)
- 2. *End-Use Specific Standards.* In Part IV, Section A, Number 9, the submission indicates that ASHRAE Standard 34 is relevant for this alternative in the proposed end-use(s). As in questions 1.a.ii and 1.b.ii of this letter, are there other standards that are relevant for this alternative in other end-uses? If so, please list the standards with their associated end-uses.
- 3. *MVAC Technology Changes.* In Part IV, Section A, Number 3, part (a), the submission indicates that the technology changes needed for any type of vehicle in the MVAC sector would use a “set of fittings unique to R-134a.” Under the regulations at 40 CFR part 82 subpart G, Appendix H, all fittings for alternative motor vehicle refrigerants must meet the following requirement: “for each type of container, the fitting for each refrigerant must differ from the fitting for that type of container for all other refrigerants.”
 - a. Noting that unique servicing fittings are required for new and retrofit motor vehicle air conditioners, please describe your plans to implement such requirements. Refer to 40 CFR part 82, subpart G, Appendix H, for the criteria for uniqueness of fittings, [linked here](#).
- 4. *Confidential Business Information (CBI).* If you wish to claim any of the information submitted in response to the requests above as CBI under the Clean Air Act, please provide two copies of your response: a public version with all CBI removed, and a copy for the EPA containing the CBI (include a claim of the information to be confidential and the reason for confidentiality).

Here is a summary of information concerning your submission:

Substitute name: R-480A

Sector: Refrigeration and Air Conditioning

End-uses: MVACs, Chillers, Cold Storage Warehouses, Refrigerated Transport, Vending Machines, Water Coolers, Commercial Ice Machines, and Cellar Cooling

New or retrofit usage: New and retrofit equipment

Date received: August 2, 2023

Additional information received: November 17, 2023; February 14, 2024

Status of submission: Incomplete

The information requested above is necessary for us to continue our review. If you have any questions about your submission or would like to make arrangements for secure transmission of any confidential business information, please contact me at (202) 564-2473. You may instead send the information via e-mail, at Silver.Joshua@epa.gov, if you are willing to accept the risks associated with e-mail transmission.

Sincerely,

A handwritten signature in black ink that reads "Joshua Silver". The signature is written in a cursive, flowing style.

Joshua Silver
Case Manager
Technology Transition Branch
Stratospheric Protection Division