

State of California
Air Resources Board

Second Notice of Public Availability of Modified Text and Availability of Additional Documents

Proposed Amendments to the Prohibitions on Use of Certain Hydrofluorocarbons in Stationary Refrigeration, Chillers, Aerosols-Propellants, and Foam End-Uses Regulation

Public Hearing Date: December 10, 2020
Public Availability Date: August 3, 2021
Deadline for Public Comment: August 18, 2021

At its December 10, 2020, public hearing, the California Air Resources Board (CARB or Board) approved for adoption the proposed amendments to sections 95371, 95372, 95373, 95374, 95375, 95376, 95377, 95378, and added section 95379 Article 4, Subarticle 5, Chapter 1, Division 3, Title 17, California Code of Regulations, which prohibits certain substances in refrigeration, air-conditioning (AC), chillers, cold storage, aerosols-propellants, and foam end-uses to reduce high-global warming hydrofluorocarbon (HFC) emissions and support California's greenhouse gas (GHG) emission reduction goals.

In Resolution 20-37, the Board recognized the importance of near-term actions to reduce GHGs, including HFCs, by ensuring successful and orderly transition to lower global warming potential (GWP) refrigerants, which is necessary to reduce the impacts of climate change, and meet California's legal mandate to reduce HFC emissions by 40 percent below 2013 levels by 2030, as identified in section 39730.5 of the Health and Safety Code.

The Board, therefore, approved the adoption of the proposed amendments and found that an additional compliance pathway for AC manufacturers was appropriate.¹ The Board directed the Executive Officer to determine if additional conforming modifications to the regulation were appropriate and to make any proposed modified regulatory language available for public comment, with any additional supporting

¹ See State of California, Air Resources Board, Board Hearing Transcript, December 10, 2020. Available at: <https://ww3.arb.ca.gov/board/mt/2020/mt121020.pdf>.

documents and information, for a period of at least 15 days in accordance with Government Code section 11346.8. The Board further directed the Executive Officer to consider written comments submitted during the public review period and make any further modifications that are appropriate, available for public comment for at least 15 days. The Executive Officer was directed to evaluate all comments received during the public comment periods, including comments raising significant environmental issues, and prepare written responses to such comments as required by CARB's certified regulations at California Code of Regulations, title 17, sections 60000-60007 and Government Code section 11346.9, subdivision (a).

Consistent with Board direction, CARB staff developed modified regulatory language and released it in a first 15-Day Notice. Following consideration of the comments received on the proposed modifications, CARB staff is proposing additional modifications, as described in this second 15-Day Notice.

The resolution and all other regulatory documents for this rulemaking are available online at the following CARB website:
<https://ww2.arb.ca.gov/rulemaking/2020/hfc2020>.

The text of the modified regulatory language is shown in Modifications to the Proposed Regulation Order. The originally proposed regulatory language is shown in ~~strikethrough~~ to indicate deletions and underline to indicate additions. The first 15-day proposed regulatory language was shown in ~~double-strikethrough~~ to indicate deletions and double underline format to indicate additions. New deletions and additions to the proposed language that are made public with this notice are shown in ~~bold double-strikethrough~~ and bold double underline format, respectively.

In the Final Statement of Reasons (FSOR), CARB staff will respond to all comments received on the record during the comment periods. The Administrative Procedure Act requires that staff respond to comments received regarding all noticed changes. Therefore, CARB staff will only address comments received during this 15-day comment period that are responsive to this notice, documents added to the record, or the changes detailed in Modifications to the Proposed Regulation Order.

Summary of Proposed Modifications

CARB staff's proposed modifications to the proposed amendments to the regulatory text in sections 95371 through 95379, Title 17, California Code of Regulations² are summarized below and attached to this notice, titled *Modifications to the Proposed Regulation Order*. The following summary does not include all modifications to correct typographical or grammatical errors, changes in numbering or formatting, nor does it include all of the non-substantive revisions made to improve clarity.

² All subsequent section references are to Title 17, California Code of Regulations unless otherwise noted.

A. Modification to Definitions (Cal. Code Regs., tit. 17, § 95373).

The following existing definitions were revised:

- "Air-conditioning Equipment" or "Air-conditioning System": This definition was revised to include the words "residential dehumidifiers" and "other" before dehumidifiers to clarify that both residential and other types of dehumidifiers are covered under this definition but they have different prohibition effective dates in Table 3. Stakeholders requested clarity on what was covered under each compliance effective date. This was added to the existing definition to remove any ambiguity and make it very clear to all stakeholders and the general public that both are included in the definition but have separate effective dates.
- "Date of Manufacture": This definition was revised to remove the word "or" from the second clause and place it after the third clause. The definition was always meant to require provisions (1), (2), (3), or (4) not (1), (2), or (3), (4). This revision was necessary to align with the original intent of the regulation and to clarify that it is not two and two but rather one of the four.
- "Full Charge": This definition was revised to remove the word "and" from subsection (3). As written the definition says the charge can be determined by any of four methods or combination of those four methods. The "and" part is unnecessary extraneous verbiage since "or" will signify that it can be any of those, or any combination of those four methods.
- "Residential Dehumidifier": This definition was revised to add the word "portable." This was necessary to clarify that only *portable* residential dehumidifiers are subject to the 2023 effective date. This aligns the definition with Table 3 in section 95374(c) relating to the specific end uses. Specifically, the 2023 effective date applies to "Room/wall/window air-conditioning equipment, PTACs, PTHPs, portable air-conditioning equipment, and residential dehumidifiers (new)." All other dehumidifiers are subject to the 2025 effective date.
- "Certified Reclaimed Refrigerant": This definition was revised to remove reference to "AHRI 700 standard" and add in "40 C.F.R. Part 82, Subpart F, Appendix A (Specifications for Refrigerants) (January 1, 2017)." This was necessary to correct the document incorporated within. The C.F.R. is largely based on the AHRI standard 700 (the 2016 edition), so it made sense to reference the federal law that, in large part, incorporates the industry standard. The C.F.R. is also referenced in the same definition earlier and was incorporated by reference as part of the first 15-day Notice.

B. Modifications to Table 3 (Cal. Code Regs., tit. 17, § 95374, subd. (c)).

- Chiller Headings: CARB staff split out AC chillers from IPR chillers to remove any ambiguity caused by including AC chillers in with highest temperature IPR chillers. CARB staff also revised the general end-use categories to make this distinction clear. This was necessary to provide clarity to the regulated community. Under Table 3 in section 95374(c) in the “Chillers” section, the headings were revised for clarity. CARB staff removed “Air-conditioning, Industrial Processing Refrigeration” from the “Chiller” heading and split “Chillers – Air-conditioning” (added a row) from “Chillers – Industrial Process Refrigeration,” which is split into three different temperature ranges. CARB staff added the words “Air-conditioning” and “Industrial Process Refrigeration” to the general end-use category for chillers to differentiate between chillers used for air-conditioning (AC) and the chillers used for industrial process refrigeration (IPR) with different temperature ranges. This proposed change is clarifying and no requirements have been changed. The original combined “Chillers-Air Conditioning, Industrial Processing Refrigeration” heading communicated that all AC chillers were required to have a 750 GWP and the same requirement applied to IPR chillers designed for the highest temperature applications ($> +35$ °F (2 °C)). IPR chillers with a temperature below a certain threshold ($\leq +35$ °F (2 °C) and > -10 °F (-23 °C)), were allowed a higher GWP 1,500 (or 2,200 GWP if the temperature threshold was ≤ -10 °F (-23C) and > -58 °F (-50 °C)). During the first 15-day comment period, CARB staff received a comment highlighting the possibility that some IPR chillers using higher GWP refrigerants could be modified to be used as AC chillers with refrigerants with a GWP greater than 750. The original intent as given in the Initial Statement of Reasons (ISOR)³ (and as written in the proposed regulatory text heading) requires all AC chillers (regardless of temperature) to meet the 750 GWP limit. This was designated by the heading “Chillers – Air conditioning, Industrial Process Refrigeration” for the first category of chillers in Table 3 that have a 750 GWP limit.
- Replace “Evaporator” with “Chiller” in Table 3: CARB staff replaced the word “evaporator” with the word “chiller” in the “Specific End-Use” categories for all IPR chillers. As a part of first 15-day change notice, CARB staff modified the language for chillers in Table 3 to clarify that the GWP prohibitions for chillers are based on the temperature of the secondary fluid in the chiller (e.g. water, glycol). However, in response to the first 15-day changes, CARB staff received comments that the language in Table 3 could be further clarified. Specifically, the word “evaporator” was confusing because “evaporator temperature” is not a well-defined term and is related to the temperature of the refrigerant, and not the

³Table 1 in the ISOR clearly states that all new chillers used for air-conditioning will be prohibited from using refrigerants with a GWP greater than or equal to 750, while the GWP prohibitions for new chillers used in IPR depend on the temperature. The ISOR is available online at: https://ww2.arb.ca.gov/sites/default/files/classic/regact/2020/hfc2020/isor.pdf?_ga=2.261908301.1740025608.1626730078-912670513.1542398285.

temperature of the secondary fluid. The Specific End-Use categories for IPR chillers now read "*Chillers (new) designed for chilled fluid leaving the chiller at temperatures*" followed by the temperature value or ranges.

- Correct Chiller Celsius Temperature Ranges: CARB staff revised the chiller temperature ranges to correct an inadvertent conversion error. The temperature of -10°F was incorrectly converted to -26°C. The Celsius conversion should have been -23°C. The conversion of -26°C to Fahrenheit is -15°F. This revision was necessary to provide clarity as it was unclear which temperature category put this end-use in the lower or higher GWP (-10°F or -15°F). The correction makes the different temperature ranges clear.

C. Modifications to the Refrigerant Recovery, Reclaim, and Reuse Requirements (R4 Program) (Cal. Code Regs., tit. 17, § 95376).

- Added "Other Air-Conditioning" to Optional Early Action Credit: CARB staff added the words "*Other Air-Conditioning*" in section 95376(a)(4)(C) to clarify that "*AC equipment*" with an effective GWP prohibition date of January 1, 2023, is not eligible for early action credit. Only "*other*" AC equipment (already defined) with an effective date of January 1, 2025, is eligible. The type of AC equipment that have a GWP limit of 750 effective January 1, 2023 (as listed in Table 3) are ineligible for the optional early action credit because actions to reduce the GWP to below 750 in those AC equipment types would be business as usual to comply with the regulation and not "*early action*". This change was necessary to distinguish who is eligible for the optional early action credit.
- Added "Baseline Average" for Reclaimed Refrigerant Use Requirements for Variable Refrigerant Flow (VRF): CARB staff added the words "*Baseline Average Pounds of Refrigerant in 2018 and 2019 =*" to section 95376(b)(1). This change was necessary to make the language consistent with section 95376(a)(1), which applies to the AC equipment manufacturers and to clarify that the equation is meant to determine the baseline for those years. This proposed change was necessary for clarity but no requirements have been changed.
- Changes to AC/VRF Final R4 Reports Requirements: CARB staff made the following changes to the Final R4 reporting requirements:
 - Type: CARB staff removed the words "*Type and*" from sections 95376 (c)(2)(C)(1) and (2). This change was necessary to remove extraneous text. CARB staff already specifies in those two provisions that the "*type*" is "*certified reclaimed R-410A*" and there is only one "*type*." R-410A is a type of refrigerant that is a blend of two HFCs: 50 percent R-32 (difluoromethane) and 50 percent R-125 (pentafluoroethane). There are no subclasses of R-410A and the regulated industry is very aware of what is meant by R-410A.

- Reports of Sale and Use: CARB staff added the words “*or sold for use*” to section 95376(c)(2)(C)(2) so it now reads “Quantity (pounds) of certified reclaimed R-410A refrigerant used *or sold for use* in field for charging new equipment or servicing existing equipment.” Some equipment manufacturers have a servicing arm of the company structure while others do not. This change was necessary to clarify that CARB only seeks reports and records for either use or the first point of sale. Where the equipment manufacturers use reclaimed R-410A for field charging or servicing of equipment, they must report the amount used. Whereas equipment manufacturers who do not use reclaimed R-410A for field charging and/or servicing but sell it for these uses instead, they must report the amount sold.
- Added “Optional Early Action Credit” Heading: CARB staff added a heading “*Optional Early Action Credit*” to sections 95376(c)(2)(C)(3) and (4). This change was necessary to provide consistency as all other provisions that apply to the Optional Early Action Credit are flagged by a heading. This change clarifies that the reporting requirements in 95376(c)(2)(C)(3) and (4) only apply to those equipment manufacturers who wish to receive the optional early action credit for entering into commerce in California, new AC and VRF equipment using refrigerants with GWP less than 750 before the regulation requires them to do so. These headings are in line with the same headings used in sections 95376(a)(4)(C) and 95376(b)(4)(C).
- Changes to AC/VRF Recordkeeping Requirements: CARB staff made the following changes to the R4 recordkeeping requirements:
 - Number and Type: CARB staff added in the word “*Estimated*” in section 95376(d)(2). This change was necessary to provide clarity that CARB is seeking estimates, not exact or precise records. Under the R4 requirements, AC and VRF equipment manufacturers will be required to purchase and use certified reclaimed R-410A refrigerant in either new equipment or for servicing existing equipment. Equipment manufacturers must report to CARB the amount used for each of those purposes, as applicable. If manufacturers use reclaimed R-410A in new equipment, they must keep records of the estimated number and types of equipment that contain the reclaimed refrigerant as a way to substantiate the use of reclaimed R-410A in new equipment. Based on stakeholder comments received following the first 15-day notice, CARB understands that manufactures may not have exact records. Thus, estimated numbers and types of equipment may be provided.
 - Names and Addresses: CARB staff removed the words “*(where available)*” and added the words “*first*” in front of “*sold*” and removed the word “*or distributed*” from that same sentence in section 95376(d)(3). Under the R4 requirements, AC and VRF equipment manufacturers will be required to

purchase and use certified reclaimed R-410A refrigerant in either new equipment or for servicing existing equipment. Equipment manufacturers must report to CARB the amount used for each of those purposes, as applicable. If manufacturers sell reclaimed R-410A for use in field charging or servicing, they must keep records of names and addresses of entities to whom the refrigerant was sold. The addition of "first" before "sold" clarifies the CARB seeks records of the first point of sale of reclaimed refrigerant made by the equipment manufacturers to distributors or servicing companies, as applicable. The removal of "or distributed" was necessary after reading through multiple stakeholder comments that indicated some do not have this information. For example, a manufacturer may not know the names and addresses of entities in the chain of sales. This change makes clear that the only information CARB seeks is the names and addresses of the first sale of the reclaimed refrigerant and if the manufacturer distributes, those names as well. The proposed amendments were not meant to add requirements on these AC and VRF manufacturers to gather records that they do not already have access to, so the change was necessary to clarify this aspect.

However, it should be noted that if an AC and/or VRF manufacturer is seeking Optional Early Action Credit, they must prove that the equipment is actually entered into commerce in California so in this instance, the VRF/AC manufacturer may need to reach out to the distributor to gather proof. However, the Optional Early Action Credit is just optional, so manufacturers who do not want to take the extra step to gather the information to show the equipment has entered into California need not take action.

D. Cross-Reference Corrections.

- Definition of Applicant Cross Reference: CARB staff revised the definition of "Applicant" in section 95373(a) to correct an incorrect cross-reference. The definition included a cross reference to section 95377. The definition is supposed to reference the "Variance" section, which it did in the initial 45-Day Notice. However, after the initial 15-Day Notice, CARB staff updated the numbering scheme, which required a change in the cross reference. The revised regulatory language provides for the correct section cross-reference to section 95378.
- Foam Attestation Cross Reference: CARB staff revised section 95375(a)(4)(B) to correct an incorrect cross reference. CARB staff had added section 95378 "subsections (c)(3) through (c)(7)" as a cross-reference instead of just section 95378(c). The purpose of this cross reference was to provide direction to the regulated industry on where and how to submit the attestation. Section 95378(c) is the variance section but provides instructions on submitting documents to CARB, so CARB just referenced that section. However, only

subsections (c)(3) through (c)(7) are relevant as those are the directions for submitting information to CARB. The other provisions (c)(1) through (c)(2) reference provisions that are only applicable to the variance process and would be confusing as it relates to the foam attestation. The changes were necessary to clarify that for submitting attestations, only subsections 95378(c)(3) through 95378(c)(7) must be followed, not all of 95378(c).

- Registration Requirements for Retail Food Facilities Cross-Reference: CARB staff revised section 95375(d)(5)(D) to correct a reference to section 95375(3), which was incorrect. The cross-reference should be "section 95375(d)(5)." There is no section 95375(3) as the California Code of Regulations subsections begin with (a), (b), (c) etc. As written this is unclear what information must be submitted by the January 1st deadline and a change was necessary to improve clarity.

Environmental Analysis

These proposed modifications do not change implementation of the regulation in any way that affects the conclusions of the environmental analysis included in the ISOR. The proposed modifications consist primarily of definitions, corrections, and provisions to ensure clarity of aspects of the rulemaking. The proposed modifications to definitions and provisions do not alter the compliance responses; therefore, no additional environmental analysis or recirculation of the analysis is required. Given the foregoing, the proposed modifications continue to be exempt for the same reasons provided in the ISOR and, therefore, do not trigger the need to alter the environmental determination provided in the ISOR.

Incorporated Documents Added to the Record

In the interest of completeness and in accordance with Government Code section 11347.1, subdivision (a), CARB staff has also added the following records to the rulemaking record:

- Updated Costs and Benefits Analysis (included as Attachment B in this notice)
- The Environmental Investigation Agency (EIA) and International Institute of Ammonia Refrigeration (IIAR) Letter to Chair Mary Nichols, <150 GWP Refrigerants for Ice Rink Refrigeration Systems (September 10, 2020)
- Underwriters Laboratories (UL) Standard 60335-2-40, Edition 3, for Household and Similar Electrical Appliances: Particular Requirements for Electrical Heat Pumps, Air-Conditioners and Dehumidifiers (Published November 1, 2019)

- Northeast Energy Efficiency Partnerships Inc. (NEEP), *Variable Refrigerant Flow (VRF) Market Strategies Report* (September 2019)
- American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) Standard 15-2019, *Safety Standard for Refrigeration Systems* (2019)
- American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) Standard 34-2019, *Safety Standard for Designation and Safety Classification of Refrigerants* (2019)
- Heating, Air-conditioning and Refrigeration Distributors International (HARDI), *Historical R22 Sales and Margins Data Spreadsheet* (May 19, 2021)
- U.S. Environmental Protection Agency (U.S. EPA), *Summary of Refrigerant Reclamation Trends-U.S. EPA ODS and HFC Refrigerant Reclamation Table* (July 10, 2020)

These documents are available for inspection at the California Air Resources Board, 1001 I Street, Sacramento, California, 95814, between the hours of 9:00 a.m. to 4:00 p.m., Monday through Friday (excluding holidays). Because of current travel, facility, and staffing restrictions, the California Air Resources Board's offices may have limited public access. Please contact Bradley Bechtold, Regulations Coordinator, at bradley.bechtold@arb.ca.gov (916) 322-6533 if you need a physical copy of the documents, except for ASHRAE Standards 15-2019 and 34-2019, and UL Standard 60335-2-40 (Edition 3), which are copyrighted but will be on file as part of the public record.

Agency Contacts

Inquiries concerning the substance of the proposed regulation may be directed to Glenn Gallagher, Staff Air Pollution Specialist, F-gas Reduction Strategy Section, at glenn.gallagher@arb.ca.gov or Richie Kaur, Air Pollution Specialist, F-gas Reduction Strategy Section, at richie.kaur@arb.ca.gov.

Public Comments

Written comments will only be accepted on the modifications identified in this Notice. Comments may be submitted by postal mail or by electronic submittal no later than the due date to the following:

Postal mail: Clerks' Office, California Air Resources Board
1001 I Street, Sacramento, California 95814

Electronic submittal: <https://www.arb.ca.gov/lispub/comm/bclist.php>.

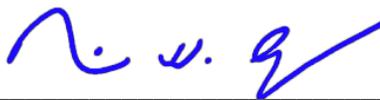
Please note that under the California Public Records Act (Gov. Code § 6250 et seq.), your written and verbal comments, attachments, and associated contact information (e.g., your address, phone, email, etc.) become part of the public record and can be released to the public upon request.

In order to be considered by the Executive Officer, comments must be directed to CARB in one of the two forms described above and received by CARB no later than the deadline date for public comment listed at the beginning of this notice. Only comments relating to the above-described modifications to the text of the regulations shall be considered by the Executive Officer.

If you need this document in an alternate format or another language, please contact the Clerks' Office at (916) 322-5594 or by facsimile at (916) 322-3928 no later than five (5) business days from the release date of this notice. TTY/TDD/Speech to Speech users may dial 711 for the California Relay Service.

Si necesita este documento en un formato alternativo u otro idioma, por favor llame a la oficina del Secretario del Consejo de Recursos Atmosféricos al (916) 322-5594 o envíe un fax al (916) 322-3928 no menos de cinco (5) días laborales a partir de la fecha del lanzamiento de este aviso. Para el Servicio Telefónico de California para Personas con Problemas Auditivos, ó de teléfonos TDD pueden marcar al 711.

CALIFORNIA AIR RESOURCES BOARD



Richard W. Corey
Executive Officer

Date: August 3, 2021

Attachment(s)