State of California
AIR RESOURCES BOARD

EXECUTIVE ORDER H4-24-001

Variance from Prohibitions on Use of Certain Hydrofluorocarbons in Stationary Refrigeration, Stationary Air-conditioning, and Other End-Uses Requirements

SMC Corporation
Industrial Process Refrigeration Chillers

Model Year 2024

WHEREAS, pursuant to California Health and Safety Code sections 39730, 39730.5, and 39734, the California Air Resources Board (CARB) has established prohibitions on the use of certain hydrofluorocarbons (HFCs) in stationary refrigeration, chillers, aerosols-propellants and other end uses, as described in California Code of Regulations, title 17, section 95371 et. seq. (HFC Regulation);

WHEREAS, pursuant to California Health and Safety Code section 39734, CARB has established a list of prohibited substances, as set forth in California Code of Regulations, title 17, sections 95371-95379;

WHEREAS, under California Code of Regulations, title 17, section 95734, a manufacturer may not use a substance with a global warming potential (GWP) of 750 or greater in Industrial Process Refrigeration Chillers (new) designed for chilled fluid leaving the chiller at temperatures > +35 ºF (2 ºC) as of January 1, 2024;

WHEREAS, under California Code of Regulations, title 17, section 95734, a manufacturer may not use a substance with a GWP of 1,500 or greater in Industrial Process Refrigeration Chillers (new) designed for chilled fluid leaving the chiller at temperatures ≤ +35 ºF (2 ºC) and > -10 ºF (-23 ºC) as of January 1, 2024;

WHEREAS, under California Code of Regulations, title 17, section 95734, a manufacturer may not use a substance with a GWP of 2,200 or greater in Industrial Process Refrigeration Chillers (new) designed for chilled fluid leaving the chiller at temperatures ≤ -10 ºF (-23 ºC) and > -58 ºF (-50 ºC) as of January 1, 2024;

WHEREAS, California Code of Regulations, title 17, section 95378 allows an Applicant to submit a request for a variance from the requirements of sections 95374 and 95375;

WHEREAS, the Executive Officer may grant a variance if the Executive Officer determines that the Applicant has proven by clear and convincing evidence that the criteria for a variance specified in section 95378, subsection (b) has been met and that

the Applicant has complied with all application requirements specified in section 95378, subsection (c);

WHEREAS, under section 95378, subsection (b)(1), the Executive Officer may grant a variance for impossibility if the Applicant cannot comply with the regulatory requirements, and the Applicant can demonstrate all of the following criteria: (1) A lower-risk substitute is not currently or potentially available; (2) An exemption will not increase the overall risk to human health or the environment; and (3) The Applicant has used best efforts to anticipate and address the impossibility and any potential noncompliance;

WHEREAS, SMC Corporation (SMC) applied on January 3, 2024, for a variance from the prohibitions on the use of certain HFCs in Prohibitions on Use of Certain Hydrofluorocarbons in Stationary Refrigeration, Stationary Air-conditioning, and Other End-Uses Requirements for its Industrial Process Refrigeration (IPR) chiller products for model year 2024;

WHEREAS on January 9, 2024, a delegee of the Executive Officer determined that the variance application was complete;

WHEREAS, a delegee of the Executive Officer posted SMC's variance application for public comment beginning January 18, 2024, and ending February 17, 2024, during which time public comment was invited, and eight comments were received. Five comments were provided by SMC customers in support of granting the variance, one was against the granting of variances in general, and two were unrelated to the SMC variance application;

WHEREAS, SMC presented evidence that SMC began development of IPR chillers capable of using compliant refrigerants in 2020, including R-32, R-1234yf, and R-454C, but has encountered federal regulatory barriers and technological barriers to completing the transition due to the lack of approval of the use of these refrigerants under the U.S. Environmental Protection Agency's (USEPA) Significant Use Alternatives Policy (SNAP) Rule 26, and lack of component availability due to the small size of SMC's supply chain and current lack of demand for components compatible with compliant refrigerants;

WHEREAS, a delegee of the Executive Officer affirmed that the products meet the definition of "Industrial Process Refrigeration – Chiller" as described in section 95373 of the HFC Regulation, and are prohibited from containing a substance with GWP of 750, 1500, or 2,200 or greater, depending on the applicable operating temperature range, if manufactured after January 1, 2024, as described in Table 3 in section 95374 of the HFC Regulation;

WHEREAS, SMC will need to redesign the products to bring them into compliance with

the HFC Regulation Requirements, and the company presented evidence that it cannot complete the redesign, testing, manufacturing, and certification process for compliance before model year 2025;

WHEREAS, SMC stated that without a variance, a total of 856 units/year, or sales totaling about $18.2 million, are expected to be lost in its California market;

WHEREAS, a delegee of the Executive Officer did not dispute SMC's assessment of the time SMC would need to bring the (product or products) into compliance with the HFC Regulation Requirements and did not dispute SMC's quantification of economic losses if a variance was not granted;

WHEREAS, SMC proposed in its variance application to sell 856 IPR chillers using refrigerant with a GWP above the applicable prohibitions until January 1, 2025, and mitigate the excess emissions through the purchase of equivalent carbon emission offsets;

WHEREAS, SMC has demonstrated that they cannot comply with the regulation;

WHEREAS, SMC has demonstrated that a lower-risk substitute is not currently or potentially available because the USEPA has not finalized SNAP Rule 26 which would allow the use of lower GWP refrigerants in IPR chillers;

WHEREAS, SMC has demonstrated that an exemption will not increase the overall risk to human health or the environment because they will purchase carbon emission offsets equivalent to the excess emissions expected from their sale of non-compliant chillers;

WHEREAS, SMC has demonstrated that it has used best efforts to anticipate and address the impossibility and any potential noncompliance;

NOW, THEREFORE, I, Michael FitzGibbon, based on materials submitted by SMC and additional information and testimony received during the public comment period, find that:

1. SMC cannot meet the HFC Requirement for model year 2024 for reasons beyond its control, including the lead time required to design, test, manufacture, and bring to market fully compliant products;

2. Requiring SMC to comply with the HFC Requirements in model year 2024 would result in extraordinary economic hardship;

3. SMC will mitigate the noncompliance to the maximum extent feasible by agreeing to purchase 2,200 metric tons of carbon offset credits from a reputable

provider to fully offset any excess emissions from the noncompliance, as specified further in the approval conditions below;

4. SMC has submitted a compliance plan that can reasonably be implemented and will achieve compliance as expeditiously as possible, which is full compliance with the HFC Regulation Requirements by model year 2025; and

5. Based on the entire record, SMC has proven by Clear and Convincing Evidence that it has met the criteria for issuance of a variance to SMC for model year 2024 with the conditions specified below because SMC has demonstrated: (a) A lower-risk substitute is not currently or potentially available; (b) An exemption will not increase the overall risk to human health or the environment; and (c) The Applicant has used best efforts to anticipate and address the impossibility and any potential noncompliance.

IT IS ORDERED AND RESOLVED that SMC is granted a variance for model year 2024, so that 856 IPR chiller units, comprising 120 chiller models, do not need to comply with the HFC Regulation Requirements for Industrial Process Refrigeration – Chiller as described in California Code of Regulations, title 17, section 95734.

This variance is granted subject to SMC's compliance with each of the following conditions of approval, and the variance will cease to be effective if any of the following conditions are not met, as provided in California Code of Regulations, title 17, section 95378, subdivision (f).

IT IS FURTHER ORDERED that SMC implement as its compliance plan the following schedule for bringing the products into compliance with the HFC Regulation Requirements:

Development Phase	Time Period
1. Convert 33 chiller models to compliant refrigerant	For sale in 2024
2. Convert 81 chiller models to compliant refrigerant	For sale in 2025
3. Convert 6 chiller models to compliant refrigerant	For sale in 2025

This paragraph specifies increments of progress necessary to assure timely compliance with the HFC Regulation Requirements. The Executive Officer or a delegee may authorize in writing minor deviations from this schedule if staff determines that SMC has shown good cause for the deviation and demonstrated to the Executive Officer's satisfaction that the deviation will not delay the final compliance date, as set forth in the compliance plan.

IT IS FURTHER ORDERED that SMC will complete the purchase of 2,200 (two thousand two hundred) metric tons of carbon offset credits from a reputable provider within 30 days of the execution of this agreement.

IT IS FURTHER ORDERED that the final date that compliance will be achieved for the product covered by this variance is January 1, 2025.

Executed in Sacramento, California, March 1, 2024.

Mike FitzGibbon

Michael FitzGibbon, Chief
Atmospheric Science and Climate Strategies Branch
Research Division
CALIFORNIA AIR RESOURCES BOARD