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June 16, 2015

Mr. David Mehl
California Air Resources Board
Industrial Strategies Division
P.O. Box 2815
Sacramento, CA 95812

BY ELECTRONIC TRANSMISSION

RE: Comments to ARB Short-Lived Climate Pollutant Strategy Concept Paper

Dear Mr. Mehl:

Daikin U.S. Corporation is pleased to submit these comments to the "Short-Lived Climate Pollutant Reduction Strategy Concept Paper" released in May by the California Air Resources Board ("ARB"). Daikin U.S. Corporation ("Daikin") is a subsidiary of Daikin Industries, Ltd., the world's largest air conditioning equipment manufacturer. The Daikin Group in the United States also includes Daikin Applied (formerly Daikin-McQuay) and Goodman Manufacturing Company.

Energy Efficient Cooling and Heating

Daikin is committed to delivering technologies, products and solutions that optimize energy efficiency and reduce greenhouse gas emissions. Daikin pioneered the use of inverter systems in our industry. Inverter technology enables the variable – and minute – control of room temperature, and can reduce annual power consumption by approximately 30% compared to non-inverter models, while also being very compatible with demand response technologies. Daikin is also a leader in developing space and hot water products using energy-efficient heat pump technology. This technology, which is also used for air conditioning, draws heat from the air and transfers it for use in cooling and heating. Compared with space or water heating methods that use a larger amount of external energy to transfer heat, heat pumps result in significantly fewer carbon emissions. Daikin also incorporates variable refrigerant volume ("VRV") technology in many of its products. Among other benefits, VRV technology allows for customized temperature zoning, another feature that can dramatically improve the applied energy efficiency of air conditioning and heating.

Daikin will continue to work with the ARB and its sister agencies to ensure the accelerated adoption of these and other technologies that will help the state meet its "AB 32" goals, as well as its more recently announced 2030 targets. We are confident that our technologies and products can play a critical role to helping California meet its energy efficiency, GHG reduction, demand response, and green building targets.

Low-GWP Refrigerants

In addition to manufacturing highly energy efficient air conditioning and heating equipment, Daikin is also a manufacturer of refrigerants, and in particular, HFC32 ("R-32"). We have highlighted the environmental and climate change benefits of R-32 in a Significant New Alternatives Policy ("SNAP") petition that we filed with the U.S. Environmental Protection Agency ("EPA") under the Clean Air Act requesting approval to use R-32 as an alternative refrigerant in packaged terminal air conditioners ("PTACs") and packaged terminal heat pumps. U.S. EPA approved Daikin's R-32 SNAP petition earlier this year, and we are now preparing to introduce R-32 PTACs in the U.S. market in the near future.

In summary, R-32 yields substantial climate benefits as a refrigerant in air conditioning and heat pump applications. As noted in Daikin's SNAP petition, R-32 has *one-third of the global warming potential (GWP) of R-22 (an HCFC that it will replace), and R-32 systems perform with 70% of the charge volume required for systems that use R-410A (a widely used, high-GWP HFC).* R-32 energy performance is 2-3% better than that of R-22 and R-410A. Due to its much lower GWP, its reduced charge size compared to the refrigerants it will replace, and its high energy efficiency, R-32 reduces CO_2-equivalent emissions by up to 75% in its applications. Because of these characteristics, the use of R-32 as a refrigerant will result in *a substantial reduction of direct and indirect greenhouse gas emissions* related to air conditioners and heat pumps. For these reasons, R-32 will be an effective, low-GWP alternative that will help California achieve these goals.

Consistency with National and International Efforts.

Daikin supports California's efforts to work with the U.S. EPA and international efforts to "develop programs to phase-down HFC production and import by about 80% by 2030." We also concur with staff's general approach to be consistent with any agreed international HFC phase-down requirements (including the European F-Gas regulation), while also looking for ways to "explore additional steps that California can take to reduce the use of HFCs in the State." Consistency with these efforts, particularly as to mitigation fees and sector-specific or other sales prohibitions, is critical. Daikin believes these tools can be useful when designed carefully and with close coordination and consistency with federal and international efforts.

Daikin is ready to work with ARB as it considers "developing regulatory requirements to use low-GWP refrigerants in new commercial refrigeration systems by feasible effective dates, as well as potential future bans or other regulatory requirements or programs for existing systems." As noted, Daikin believes that future reduction efforts, as well as requirements for existing systems, are best considered with close coordination with federal and international efforts in mind. We believe this will help ensure that programs and measures are implemented in California in a cost-effective manner which is also commercially consistent with global efforts.

Incentivizing Low-GWP Refrigerants.

Daikin also supports the Concept Paper's call "to ensure that appliances with low-GWP gases are incentivized." Daikin believes that incentives are a very effective tool in accelerating the transition to low-GWP alternatives, such as R-32. We support the use of direct rebates and other financial incentives for equipment that uses low-GWP refrigerants. These can be reflected in

state legislative decisions providing such incentives, but also in the way that the California Public Utilities Commission, California Energy Commission and the ARB choose to direct state and ratepayer proceeds to focus on these alternatives.

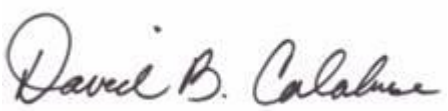
Moreover, we support the Concept Paper's call to review utility-based incentives programs and "expand them and link them with energy efficiency programs in cases where the use of low-GWP refrigerants can also reduce energy use." This raises another critical issue: the need to consider low-GWP refrigerants in light of their effectiveness in also promoting energy efficiency. We strongly endorse ARB's assertion that "[s]witching to low-global warming potential ("GWP") refrigerants in air conditioning systems can also improve their energy efficiency, which can help to cut…electricity bills." For example, as noted, R-32 is both a low-GWP refrigerant and has been shown to increase energy efficiency in the range of 2-3% over other refrigerants.

It is also critical to consider and balance other criteria when looking at low-GWP refrigerants, and to approach phase-out on a sectoral basis. In the air conditioning and heat pump field, there is likely not a "one-size fits all" solution, and it is critical to consider other criteria such as safety, energy consumption, availability, price, recyclability, recoverability and total GWP. Specific GWP value, though a critical factor, should not be the only consideration in California's strategy.

In closing, Daikin is ready to work with ARB as it considers both regulatory and incentive-based approaches to accelerating the move to low-GWP refrigerants, and strongly encourages the state to continue its close coordination with federal and international efforts in this area. Daikin is particularly interested in ARB's call for California to work with stakeholders to "identify collaborative approaches" to overcome barriers and transition to low-GWP alternatives as soon as possible. We look forward to continued dialogue with the ARB, and to helping to develop creative, scalable solutions, as it develops its Short-Lived Climate Pollutant Strategy.

Thank you for the opportunity to provide these initial comments.

Sincerely,



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