Background

20 VIC Management is a property management company in Canada that is conscientious about reducing the environmental footprint of their facilities. 20 VIC had a major air conditioning retrofit project in Victoria, British Columbia, at their shopping complex, Hillside Centre. Hillside Centre has a collection of over 100 shops and services, and comfort cooling of the 500,000 square foot facility is of paramount importance to the facility’s management.

Operations Manager Mark Evans, aware of the looming R-22 phaseout, wanted to reduce Hillside’s dependence on R-22. He was looking for product retrofit options. The project was a large one, with approximately 100 rooftop A/C units that would be retrofitted. Mr. Evans consulted contractor Heinz Rudolph of Island Pacific Systems, who in turn worked through his local HVAC wholesaler (Refrigerative Supply) and
Chemours technical representatives. Freon™ MO99 was suggested as “the easy to use” product of choice.

Freon™ MO99 is a retrofit refrigerant that combines the pressure-enthalpy characteristics of R-22 with mineral oil compatibility in a unique refrigerant that can be used to replace R-22 in air conditioning and refrigeration equipment covering a wide range of evaporator temperatures.

Project Details
The Freon™ MO99 retrofit involved a variety of air conditioning units from Carrier, Lennox, Trane, and York. A total of 95 units are being converted, with 60 already completed.

No oil change was needed in the retrofit. The Schrader core and liquid line driers were replaced. Mr. Rudolph commented, “The retrofit couldn’t have been easier—it was essentially a drop-in.”

In a retrofit using Freon™ MO99, the steps to complete the process include recovering the R-22, charging the refrigerants, changing critical seals, restarting, and monitoring the system for potential leaks.

The retrofit involved Copeland® and Carlyle compressors, reciprocating and scroll. Refrigerant charge size was 1,000 pounds.

Results
Heinz Rudolph was very pleased with the results of the retrofit. He said, “Freon™ MO99 works better than R-22, and better than I expected. I enjoyed working with the Chemours tech guys and with our distributor, RSL, on this project. It was a great learning experience. I would definitely recommend Freon™ MO99 for A/C.”

Conclusion
Mr. Rudolph said, “I was really impressed with how Freon™ MO99 works with the units. The systems have been operating with no problems since the retrofit. It’s been great.”

Mark Evans concluded, “We have properties all over Canada, and we are looking at Freon™ MO99 for our other facilities. I recently presented this success story in Toronto to my colleagues to show them there is an easy way to get out of R-22.”