

Project Profile

SUPERVALU Opens First All-Natural-Refrigerant Grocery Store

When SUPERVALU decided to remodel their Albertson's grocery store in Carpinteria, Calif., Richard Heath, Director of Energy Innovations and Projects, took the opportunity to push the envelope and convert the refrigeration system to all-natural refrigerants.

"This history-making project is SUPERVALU's showcase project for the Department of Energy's Better Buildings Challenge. The move to natural refrigerant solutions is eminent and the right thing to do for the environment," says Heath. "This project gave us the opportunity to design, install and test the first all-natural-refrigerant store in the U.S. and learn in a real-world environment."

Given the nature of this project, Heath called upon Source Refrigeration & HVAC. This decision was based on Source's experience in providing turnkey installation and ongoing service for advanced refrigeration systems.

"We selected Source because of their commitment to training a workforce for next-generation refrigeration and because of their executive-level commitment to being involved with, and accountable for, the success of this history-making project," Heath says.

When asked about commitment and dedication to the project, Brad Person, Senior Vice President of Operations for Source, states, "Projects of this scope and inherent uncertainty are very risky propositions in what has been a tough economy." He continues, "But when you come across an historic opportunity to be part of the first all-natural refrigerant commercial retail project in the U.S., with one of your valued long-term partners (SUPERVALU), you don't hesitate to commit your organization and yourself!"

Teamwork Was Essential

A project of this size requires many resources and much collaboration. The Source team worked closely with the architects/engineers, equipment manufacturers and builders. "This project was unique in that companies that often compete in the market were brought together on



the same team with the common goal of delivering a high quality, efficient and safe installation," explains Fred Stockert, Source's director of construction.

Source played a critical role in key stages of the project, including the design/review process, project phasing and scheduling, technology implementation, installation, operational review and validation, and operational/functional sustainability.

Safety Was Emphasized

A safety training and awareness program involving the application of the natural refrigerants being used – carbon dioxide (CO₂), ammonia and propane – was developed and implemented by Stockert. "The installation was continuously evaluated throughout the process, much like a research and development project," he says.

The all-natural design also includes self-contained display cases that utilize propane as the refrigerant. These cases received on-site UL certification with Source working with the certifying agent to ensure all safety concerns were addressed. A representative from the case manufacturer

came to the U.S. to train the teams on installation and long-term service. In addition to the Source team that installed this system, many other Source service teams were brought in for training on CO₂ and Ammonia installation and operation.

One challenge outside the norm for supermarket installations was that the CO₂ cascade piping to the ammonia system had to be run through steel piping with industrial-grade insulation instead of the traditional copper. There was concern that copper in contact with ammonia might eventually create a problem.

In spite of the challenges faced and the number of teams that had to communicate, collaborate and cooperate, the installation was a tremendous success and the store opened as planned on July 25, 2012.

Since the system startup and grand reopening, Source has been working directly with the ammonia system OEM and the SUPERVALU team to develop a service plan similar to that of a conventional supermarket refrigeration system. This is a critical step in making this technology feasible for the supermarket industry.



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