

Case Study: Engine-Driven Refrigeration – Standard Meat Company
Location: Dallas, TX

Dallas Meat Processor Cools 100 percent with Natural Gas Power



The Standard Meat Company maximizes its energy savings by relying on natural gas engine-driven industrial refrigeration units exclusively to cool its new 48,000 square-foot plant in Dallas.

"Other operations in the Dallas area use natural gas-powered engines in hybrid systems for peak shaving," comments Werner Gerling of Northwest Natural, who heads the gas industry's Industrial Refrigeration Consortium. "But Standard chose from the beginning to use natural gas engines exclusively, and they're saving more money as a result -- as much as \$15,000 each month."

Extensive pre-construction planning focused on delivering a highly efficient state-of-the-art operation, especially in areas related to fiscal operation, energy consumption and resource management. To achieve these goals, David Boldrick, president of Raider Refrigeration, system designer, specified five TecoFROST™ engine-driven ammonia screw compressor packages. The system serves the freezer and blast freezer (with temperatures to minus 20°F), plus two coolers maintained at 32°F, and two production rooms kept at 40 to 44°F, with tight humidity control.

"We operate with no boiler or hot water heater," reports Will Davenport, plant engineer at Standard Meat Co. "Instead, waste heat recovered through a closed-loop engine cooling system is used to heat water for sanitation purposes, as well as office space and an employee lounge." Unused heat captured from the engines is stored in a 25,000-gallon tank for later applications such as daily washdown.

"Standard Meat is always challenging its suppliers to find new ways of running things more efficiently," says Boldrick. "At the same time, you have to be concerned about things like reliability. At any given time, the company may have \$5,000,000 worth of high-quality beef in storage that's totally dependent on refrigeration."

Boldrick's company, a specialist in food plant refrigeration, managed to meet Standard's demands in both areas. "The gas-powered refrigeration system is saving the company about 50 percent in energy costs compared with electric-drive units," Boldrick points out, "and gives them the reliability they need to protect their inventory."