South Texas Cold Storage is a freezer warehouse in Corpus Christi, Texas that plans to use PACE to upgrade its facility.

**THE PROBLEM:**
In a facility where downtime and system issues can cost hundreds of thousands of dollars, the operational conditions at this Texas’ storage warehouse created a need for a comprehensive solution.

The existing facility relies on 1959 Frick reciprocating compressors with brine circulation and natural convection freezer coils. Ongoing issues include ammonia leaks and extensive ice buildup. The temperatures in the freezers are approximately 30 degrees warmer than design points, which can ruin the products being stored. Blast freezers use a 1963 model Niagara glycol absorption coil-dehumidifier system that requires a boiler to boil glycol free of absorbed water. Stucco cracks and extremely low temperature vapor drive leaking air and moisture into the blast area creating huge ice formations.

The lighting is original T12 fluorescent, which is a 30- year-old technology with extremely short lifespans, using 65% more energy than new technology. Additionally, the water cooler condensers have no metering, eliminating the opportunity for sewer drainage credits. Annual electrical costs exceed $150,000, with additional annual gas and water expenses of $61,000.

**THE PACE SOLUTION:**
This voluntary financing tool is transforming how industrials look at projects, proving that there is a clear path forward to operational savings brought about by energy efficiency, distributed generation, and water use reduction improvements in existing buildings.

South Texas Cold Storage plans to utilize the Nueces County PACE program to access affordable, long-term private capital to finance a holistic overhaul of the facility. The roof will be updated to 6” urethane and an R-4 total. The building envelope will be repaired to correct 2 ½” stucco cracks and vapor barrier breaches, which cause vapor ice buildup. New loading dock doors with frame and seals will be installed. Mechanical systems will be more efficient and lighting will be retrofitted with LEDs. The PACE project will eliminate the boiler, glycol, and T12s completely, creating a facility that is more efficient, comfortable, and productive.

The refrigeration equipment will be upgraded to a new ammonia refrigeration system with conversion from circulated brine to direct expansion evaporation. The project will also include dehumidification systems (lithium chloride desiccant based) to remove moisture in the building delivery corridor and limit freezer latent load. New freezer doors on two units will be installed.

These upgrades will restore the reliability and productivity that is necessary for this warehouse to be successful, providing an immediate annual reduction in utility and operating costs of more than $250,000.

Stringent ROI requirements and limited capital funds typically force owners to forego efficiency projects. However, by utilizing TX-PACE and financing efficiency projects over a long term, owners see an immediate increase to net operating income and find investing in efficiency a business-savvy proposition.

**ABOUT TEXAS PACE AUTHORITY: IMPROVING PROPERTIES. INCREASING CAPITAL.**
Texas PACE Authority (TPA) is a nonprofit organization that uniformly administers PACE programs by taking a market-based approach to energy finance and economic development. TPA works with all parties – property owners, contractors, and capital providers to bring energy and water improvements that are both economically sound and environmentally friendly.