



Rhode Island Energy™
a PPL company

Energy efficiency upgrades ensure next generation success

Calise Bakery



We help Calise & Sons Bakery with a major equipment upgrade.

In business for over 100 years, Calise & Sons Bakery in Lincoln, R.I., is renowned for its commitment to the highest quality products – a mission known as the “Calise Way.” To help ensure continued success in the future, the leadership team embarked on a large-scale upgrade to the facility’s aging HVAC, refrigeration, compressed air and lighting systems. In addition to a focus on safety, the company is passionate about reducing its environmental footprint.

All in the family

Founded in the early 1900s, the family-run wholesale bakery is currently in its fourth generation. Calise Bakery’s products are sold to grocery retailers, sub shops, schools and hospitals throughout New England, New York and Virginia.

“This year, Calise Bakery will be celebrating 110 years,” says Peter Petrocelli, Chief Financial Officer. “It is truly remarkable how the company has stayed in the family after all these years. It has grown from a small neighborhood bakery in Rhode Island to a major wholesaler.”

“This project is a pillar that supports the ‘Calise Way,’ which is our mission to produce high-quality breads and rolls in a safe and clean environment.”

— **Peter Petrocelli, Chief Financial Officer, Calise & Sons Bakery**

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Teamwork at its best

Equipping the bakery for another 100 years of success, Calise leadership partnered with Rhode Island Energy, Leidos Inc. and RISE Engineering to get started.

Rhode Island Energy covered nearly 30 percent of costs through the Rhode Island Energy incentive program – a significant savings for the bakery. Leidos consulted with Calise's Chief Engineer John Almagno to identify energy efficiency measures. RISE Engineering handled the lighting component, including ordering materials and installation. Leidos identified the mechanical measures and assisted with energy savings calculations and incentives paperwork. Almagno managed the overall project, including scheduling.

Ready, set, upgrade

The year-long project consisted of four major upgrades to the HVAC, refrigeration, compressed air and lighting systems:



HVAC: Due to aging equipment, the existing chiller and HVAC systems needed to be replaced. According to Almagno, maintaining the right temperature and humidity in the bakery is essential for product quality. In addition, an HVAC system maintains positive pressure, which prevents outdoor air contaminants from entering the facility. This is an important requirement for the bakery's BRC and GFSI food safety accreditations. With the new system, programmable logic controls and added air intakes better maintain positive pressure.



Refrigeration: Calise Bakery has about 1,500 square feet of refrigeration space, including one large freezer and two walk-in coolers. To increase energy efficiency, Freeaire upgraded the condenser and evaporator fan controls. With the new refrigeration system, the bakery has saved more than \$10,000 per year in energy costs.



Compressed Air: Compressed air is a critical part of manufacturing operations. However, this is an inherently inefficient process, as shown in a compressed air survey conducted at the facility. The company previously added a large compressor to augment two smaller compressors. A larger, more efficient compressor was installed. Air leaks were identified and repaired, all incentivized by Rhode Island Energy. The result added to the energy savings.



Lighting: From improving energy efficiency to enhancing product quality, lighting plays an important role in daily operations. The bakery originally used metal halide high-bay lights before switching to fluorescent bulbs about 10 years ago. Now, they were ready to upgrade to LEDs for significant energy cost and maintenance savings and improved light quality.

RISE Engineering changed the facility's fluorescent lights to LEDs. In addition, exterior lighting was upgraded to increase employee safety and security.

In the 55,000-square-foot production area – nearly the size of a football field – the brighter LED lighting allows for more accurate inspections of product colors and textures. The greater visibility also increases employee safety. According to Petrocelli, the old lighting created a dark and dreary facility. Now, the aesthetically pleasing environment has improved employee morale and retention.



Calise Bakery Case Study *(continued)*

A busy bakery

Operating 24 hours a day, six days a week, Calise Bakery is a fast-paced, large-volume manufacturer. As a result, one of the biggest challenges was accommodating the installation around the busy production schedule.

“Due to food safety protocol, we couldn’t have them install equipment around our products,” says Petrocelli.

“The installation had to be completed when we had down time on Sundays and Tuesdays. Although this extended the timeframe, RISE Engineering was very accommodating with our schedule.”



Project Results:

Final cost of Installed ECMs	\$383,052
Authorized Incentive	\$103,442
Customer Cost	\$279,629
Annual kWh Reduction	543,071 kWh
Annual Carbon Reduction	200 metric tons CO ₂ @ 810 pounds per MWh
Annual Cost Savings	\$70,600 @ \$0.13/kWh
Return on Investment (ROI)	25%

A catalyst for change

For bakery management, the partnership with Rhode Island Energy, RISE Engineering and Leidos was the key to success. Instead of tackling it on their own, bakery employees were able to focus on what they do best: producing quality breads and rolls.

“It would be very difficult to do the equipment upgrades on our own,” says Almagno. “In a DIY project, there is always the potential to make mistakes. It was helpful to work with experts who understand what is required and ensure we qualify for the food safety accreditations.”

These equipment upgrades have had a major impact on the bakery, such as significant energy cost savings of over **\$60,000 annually**, improved product quality and safety, and a reduced carbon footprint. “Many customers ask about our sustainability efforts, so it’s great to be able to talk about these upgrades,” Petrocelli says. “This project has helped us pave the way for continued success now and in the future.”

Give your manufacturing facility an upgrade

Rhode Island Energy can help your efficiency projects come to light. We offer technical guidance and can help you learn the best opportunities for energy efficiency.

And when you’re ready to make a change, technical energy advisors are available at no cost through Rhode Island Energy’s industrial initiative in Rhode Island and Massachusetts.

If you’re ready to boost morale, lower energy costs, and increase production, we’re ready to make it happen.

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