



## Franklin Energy and Trident Seafood

### INTRODUCTION

Franklin Energy helps utility companies and large industrial customers identify and implement energy efficiency and renewable energy projects. One of the company's standout energy efficiency projects was completed at Trident Seafood's facility in Motley, Minnesota. Located in central Minnesota, the Trident Motley facility is the largest producer of surimi seafood in North America and employs around 400 full time employees.

With help from a Conservation Applied Research and Development (CARD) grant through the Minnesota Department of Commerce, Franklin Energy worked with Trident's energy teams to implement a number of effective energy efficiency projects.

Franklin Energy first conducted an energy assessment for Trident that identified five efficiency improvement projects, including upgrading the Motley facility's pasteurization unit. These assessments provide Suggested improvements and corresponding savings.



*Upgraded Pasteurizer Unit*

### PASTEURIZER UPGRADE

The Trident Motley facility utilizes a steam pasteurizer to ensure the safety of its food products. The original pasteurizer used large amounts of steam to continually spray packages on the production line and was very poorly insulated, resulting in an inefficient use of energy. Over a period of two years, Trident installed new insulation on the entire pasteurization compartment and replaced the existing spray nozzles with new engineered nozzles that diminish the need for continuous spraying.

<b>Project Cost:</b>	<b>\$309,327</b>
<b>Thermal Savings:</b>	<b>97,867 therms</b>
<b>Final Payback:</b>	<b>2.4 years</b>

**VARIABLE AIR CIRCULATION EQUIPMENT OPERATION**

Trident's existing supply fans, exhaust fans and air makeup units (AMUs) ran in full continuous operation regardless of the level of production occurring at the Motley facility. To increase the efficiency of the air circulation system, Trident first upgraded the AMUs to provide better building air pressure control, improve employee comfort and provide energy savings. This allowed Trident to remove three supply fans and to reduce the AMUs load during times when the facility was shut down for maintenance. Trident also implemented a three-state control system that enabled the facility to switch its air circulation system between three modes (off, production and non-production).

<b>Project Cost:</b>	<b>\$150,000</b>
<b>Thermal Savings:</b>	<b>26,798 therms</b>
<b>Final Payback:</b>	<b>6.88 years</b>



*Upgraded Air Makeup Unit*

**BOILER CONDENSING HEAT RECOVERY**

Trident installed a boiler heat recovery unit on the roof of its Motley facility. Recovering water vapor from air and fuel combustion exhaust helps preheat recycled water that is sent back to the boiler, requiring less fuel to heat water in the boiler. Installing a condensing economizer on this steam recovery system is estimated to provide an approximate 70 percent savings of the recoverable heat, resulting in an annual fuel reduction of 8,400 MMBTU, or \$59,000 per year.

<b>Project Cost:</b>	<b>\$59,000</b>
<b>Energy Savings:</b>	<b>8,400 MMBTU</b>
<b>Payback:</b>	<b>3.8 years</b>



*Rooftop Boiler Heat Recovery Unit*