Customer Profile

Trident Seafoods Corporation

gaining production efficiencies in demanding at-sea environment

Customer Need

Trident Seafoods needed a reliable and effective refrigeration solution for one of its main seafood-processing vessels, the 338-foot Alaska Packer. Operating in the rich but unforgiving waters of the North Pacific, the processor ship is an important member of the company's fleet, playing a key role in Trident's "From the Source to the Plate®" fishing, processing and distribution operations.

Logix Solution

Trident Seafoods contracted with Logix to replace a mechanical ship-board system that couldn't deliver the blast tunnel uptime and temperature control parameters required in the demanding at-sea environment. Logix met with Trident, learned the details of their needs, and addressed them with a control solution that included adjustable dwell time "recipes," flexible defrost management tools, an intuitive user interface, and operating data reporting features that provide continuous feedback and aid ongoing improvements to their mission.

Business Value Delivered

The on-board Logix system virtually eliminated unplanned downtime on the ship's two blast freezing lines. This benefit added from 1-1.5 hours processing time per day. In addition, the ship's refrigeration engineer was able to gain in-depth insight into the freezer lines' status and operations, and can now easily alter the freezing cycle to accommodate different fish sizes and species. Overall, the Logix system supports Trident Seafoods' quality objectives by ensuring that the processed fish attains and maintains the optimum processing temperatures.

System Features Easy Adjustability, Fine-grained control

The system's easy adjustability and finegrained control lets the ship-board engineers alter belt speeds, hot gassing and other parameters to accommodate different demands.

LOGIX®

The Story Behind the Logix Solution

In the 46 years since its founding in 1973, Seattle-based Trident Seafoods has grown from its modest fishing roots to become one of the nation's largest and most successful vertically integrated seafood companies. Founder Chuck Bundrant started out as an Alaskan king crab fisherman, but became an industry trendsetter. He decided to use his boat to both harvest and process his catch, rather than simply delivering the crab haul to on-shore processing plants. With Trident, Bundrant applied and expanded his vision, creating a company that catches a wide range of seafood, prepares it both on processing ships and in a number of shore-based plants, and sells and distributes the processed goods around the world.

Processing seafood onboard a ship rather than onshore can reduce the time between the catch and its freezing, resulting in optimal product quality. But ship-board processing requires systems that can function reliably in the harsh marine environment and support the huge production volumes that modern fisheries generate.

Several years ago, one of the mainstay ships in Trident's fleet of processors, the 338-foot Alaska Packer, was seeking to replace its controls for two blast freezer tunnels. Dave Ross, the shore-based vessel manager of engineering for the Alaska Packer and a number of other Trident ships, was introduced to Logix by Seattle Refrigeration, one of Logix's sales and services partners. He was impressed by the capabilities of the firm's electronic controls, but still had his concerns. "We were nervous due to the sensitivity of electronics on vessels," he says. "We didn't know how the Logix controls would handle our power sources and hold up to the rough marine environment." Still, in 2006, Ross and Trident decided to steam forward with a plan to install a Logix system to control, monitor and manage the Alaska Packer's two blast tunnels.

"You can change the defrost sequences at your finger tips in a matter of minutes."

Dave Ross
Trident Seafoods Corporation

"I don't think we were fully prepared for how much we got," Ross recalls. "We couldn't believe the system could tell us so much." The Logix controls and the Clarity PC-based management interface provided the ship's engineers with so much data about the blast tunnels' operations that "we were overwhelmed with the facts we were learning," he says. Over time, the engineers were able to leverage the monitoring data and the adaptable Logix controls themselves to virtually eliminate blast tunnel icing and downtime by the second year of operation.

Prior to the Logix installation, the Alaska Packer's production lines would be shut down for maintenance approximately one to one-and-a-half hours each day, Ross estimates. "Now, with our work-shift structure, we only shut down for two half-hour meal breaks each day, allowing us to run 23 hours of full production daily on the Packer."

Realized Benefits

Not only has Logix virtually eliminated unplanned downtime on the two blast tunnels, the system's easy adjustability and fine-grained control lets the ship-board engineers alter belt speeds, hot gassing and other parameters to accommodate different demands. The Alaska Packer handles both salmon and herring, for example, "and we have modified the two defrost sequences to accommodate the two fisheries," Ross says. Furthermore, salmon can vary considerably in size by season and species, and "you can change the defrost sequences at your finger tips in a matter of minutes."

Trident Seafoods is now looking to replicate the success of the Alaska Packer's Logix installation on another of its processor ships, the 356-foot Independence. The Logix system for the Independence went live in June 2009.

Beyond the obvious benefits Trident has gained in decreased production line downtime and increased throughput, the company is able to process its seafood in a way that ensures maximum quality and safety. For its part, the Logix system has proven its sturdiness and reliability, even in the demanding shipboard environment, and its value both in precise refrigeration-line control and in the generation of useful and actionable operational data.

Logix: Reliable Functionality

Ship-board processing requires systems that can function reliably in the harsh marine environment and support the huge production volumes that modern fisheries generate.