

our improvements have pushed training above and beyond average compliance. Our outstanding new program was first implemented in our Mount Pleasant facility and now in our new Utah facility. We couldn't be happier." (See side bar for more information.)

Clean suits are required in all of slicing cells and the IQF packaging area. "To our knowledge that's the first time any meat company has ventured into clean-suit technology in IQF packaging," Lessard says.

Enhancing food and worker safety, brighter lighting is incorporated in the facility. "It's probably one of the brighter



**Frett**

plants that you'll go into," Lessard says. "This not only enhances the quality of the finished products because blemishes and defects can be more easily identified during the packaging operation, it also provides an environment that's more conducive for worker safety."

Looking forward, the facility is designed to house 20 slicing cells, and it could double the size of its fabrication area as well as the number of smokehouses. Currently, the facility is in the process of adding five more slicing cells to the five already in place, which will be operating by July. A second IQF line will be running by September.

Despite all of the "firsts" at this plant, WLF executives are very open about its food-safety features.

"WLF's philosophy is 'Let's raise the bar on food safety and bring everybody else along because we think we can do it better'...and we'll be out front doing something different," Frett says. "By the time everybody else catches up, we'll be even further ahead."

Schallenberger adds: "When you take an approach like this, you have to be running far ahead of the rest of the pack." **M:P**

## Beyond the industry norm

Much thought and effort was put into training employees before they were placed on the floor – or even hired – at West Liberty Foods' new Tremonton, Utah plant. "All potential associates undergo an intensive food-safety training program prior to being considered for hire," says Gerald Lessard, COO. "They had to pass a written test at the end of this training to even be considered for employment. As part of the ongoing operation, we continue to emphasize food safety in various refresher courses throughout associates' careers with WLF."

Supervisors and line technicians on the IQF line went through three weeks of classes and two weeks of hands-on training with equipment vendors before we started the line up, adds Dave Frett, plant manager.

WLF hired a trainer who is considered an expert of its new program to continuously train all employees. "This keeps our employees up to date with new food-safety techniques and constantly refreshes their abilities through training," Lessard says. "We are able to give all employees who receive our revolutionary training a certification for a continued education unit directly from Iowa State Univ. This is not only an investment in our food safety, but our employees receive a real sense of pride from completing the course."

Meat specialists from ISU visit the Tremonton facility each quarter to evaluate its program and ensure associates are abiding by set standards. "Eventually, we hope that our training will transfer to other companies

and facilities to push the entire industry to a new level of food safety," Lessard says.

Employee feedback is welcomed and results in improvements. "Our 'clean room' personal sanitary suits utilized in our Mount Pleasant facility are an integral part of our multi-step approach to reducing or eliminating microbial contamination," Lessard says. "Due to employee feedback, the company improved three key design elements to these suits in Tremonton. It replaced all snaps with zippers to increase the sealing component throughout the suit to decrease outside contamination; loose-fitting pant leg holes were replaced with a tighter elastic seal; and the polyester fabric was replaced with cotton."

Many who were hired at the Tremonton facility are new to the meat industry.

"Thanks to a concerted effort between operations and R&D, led

by Allen Forkell with the help of Scott Schallenberger, the Tremonton team has developed specific job specifications that include written directions coupled with a pictorial overview of each phase of the job. The production supervisors have taken a hands-on approach to this development," Frett says. "You can hand a sheet of paper to someone who has never done that job and they can figure out what they need to do to get the job done correctly. We even include pictures in the specs.

"This process takes some of the art form out of the meat industry," he adds. "It results in more consistent product from batch to batch, day to day."





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## Operations & Engineering

April 2008



# **LOGGING IN A NEW ERA**

**West Liberty Foods' new sliced meats/IQF plant in Utah is far from ordinary**

# Logging in a new era

West Liberty Foods' new plant in Utah is far from ordinary in processes, equipment and food-safety strategies

By Bryan Salvage  
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**W**est Liberty Foods' new 217,000 square-foot, flagship co-packing facility in Tremonton, Utah, which opened Aug. 7, 2007, is anything but ordinary. Many industry "firsts" are incorporated here including the manufacture of 10-foot logs of lunchmeat for slicing; a modified robot that stacks the protein logs onto 1,400 lb. racks in preparation for cooking; a real-time data-gathering system that allows employees to adjust operations on the fly; and a variety of equipment and tools that were modified to accommodate 10-foot logs.

"This facility is the most state-of-the-art meat processing facility in the country, if not in the world."

"This facility is the most state-of-the-art meat processing facility in the country, if not in the world," said Ed Garrett, WLF president and CEO, at the facility's grand opening last year. "Even the equipment suppliers brought on board for the Tremonton facility had to devise a plan for constructing equipment that could handle the 10-foot logs."

The complex consists of three facilities: a log fabrication/IQF facility managed by Allen Forkell; a slicing facility managed by Kent Rogers; and housed



between these facilities is a 68,262 square-foot Millard Refrigerated Services cold storage distribution center, which palletizes, stores and transports all finished products. Dave Frett, plant manager, oversees the entire WLF facility.

WLF's newest processing facility, which is also the firm's first facility built outside the state of Iowa, produces 10-foot turkey, chicken, ham and beef logs for slicing, as well as IQF strips, nuggets, meatballs, fajita meat and patties. "We have the capability to produce in excess of 100 million lbs. annually of sliced product and 50 million lbs. of IQF products," says Gerald Lessard, the company's COO. Products are distributed to customers in 11 states west of the Rocky Mountains.

### Truly unique

What's most unusual about the plant is that it's designed to process 10-foot logs. "Ten-foot logs enhance food safety because there's less handling," Lessard says. "They're unique to the U.S. meat industry. Being specifically designed



**Garrett**

for 120-inch logs, this operation requires a little bit more real estate. The cook racks are larger and longer, and it takes different types of equipment to move those racks

throughout the facility. A scale to obtain weights must be three times longer than typical meat plant scales." The meat industry has been handling six-foot logs for 25 years, Frett adds. Moving to a 10-foot log required a robot to load logs onto specially designed racks prior to cooking.

"We took a basic multi-functional robot with a simulated arm system and added an attachment that could retrieve the 10-ft. logs from a conveyor and deliver them to the racks. The robot is programmed to release the logs onto the racks so they sit in exactly the same spot every time."

WLF's robot currently transfers 4.5 logs from conveyor to rack per minute –



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or 270 logs per hour, 4,131 logs per day. Approximately 75 lbs. per log equals 300,000 lbs. per two-shift operation, Frett says. "We are looking into modifying the layout to achieve eight logs per minute, or 550,000 lbs. per two-shift operation," he adds.

One rack loaded with 10-foot logs is impossible to push by hand, Frett says. Each rack weighs more than 1,400 lbs. without product. The racks were designed by the oven manufacturer to ensure maximum performance from the oven, which consist of four cells. Each cell holds four racks. During *M&P's* visit, Subway turkey was among the products being cooked and there were 3,500 lbs. of logs on each rack. The oven's walking-beam system has roller racks and roller hydraulics help push the racks through the ovens.

"We even designed special pallet jacks to lift those racks," Frett says, for loading product onto trucks.

And the Tremonton facility's spiral steam cooker separately and automatically controls temperature, humidity and air speed in both the front and back half.

Thanks to the facility's unique inventory tracking system, Frett can sit at his desk and locate any product at any location within the facility. "We know where everything is at all times," he says.

### Vendors 'step up'

"Initially suppliers were very concerned about how we were going to be able to deal with 10-foot logs that weighed anywhere from 70 to 108 lbs. each and the modifications that would be required to their existing equipment to accommodate this size," Lessard admits. "I'm happy to say that all of our vendors stepped up and worked very well together to provide solutions for every challenge that was identified during the planning phase of this project."

Everywhere in the plant, something had to be made a little longer than what's in standard stock, Frett says. Smokehouses, blast cells and sizers are among the array of equipment that had to be modified to accommodate the 10-foot logs. Plant scales had to handle 12-foot racks. Because suppliers don't sell 12-ft long scales, WLF placed a five-foot-by-seven-foot scale and a five-foot-by-five-foot scale side by side to fit one rack.

A specially designed automatic system loads metal vats into a washer by placing it in upside down where it is sprayed, cleaned and sanitized. Tanks throughout the complex are the same dimensions and size to enhance cleaning and sanitation.

And a specially designed rack washer cleans and sanitizes all racks.

When it came to buying equipment, purchasing decisions weren't based on price breaks.

"Our executives looked at the quality of manufacture, the systems support and training," Frett says. "Kudos to Ed [Garrett] and Gerald [Lessard] for making those decisions. We purchased the equipment we needed to get the job done."

### Real-time solutions

A real-time data gathering system provides immediate feedback to plant workers on their performance throughout the day, Lessard says. Wall-mounted monitors at various places in the plant connect to a scale and scanner at packaging. Every box of product passes through the scan. By reviewing data

on these monitors, team members can see how many cases have passed through and been weighed.

"We also can see weight per package," Frett adds. "A



**Schallenberger**

person on a slicer can make adjustments [on the fly] for packages so we're not giving away much product or ending up underweight for the day."

There's a genuine sense of satisfaction at the end of the day because associates don't have to wait until the next day to find out how they did from the accounting group, Lessard says. "We're seeing a higher degree of satisfaction in the jobs they're doing, as well as enhanced ownership," he adds.

### Food-safety focus

The new facility is also designed with food safety in mind. Its rooms and hallways are spacious and equipment and systems aren't shoehorned into place. "On our slice side in the single-cell slice lines, the way each slice cell is set up, the stainless steel floor drains and encapsulated suits among other things... each is a food-safety insurance step.



Moving to a 10-foot log required a robot to load logs onto specially designed racks prior to cooking.

From a microbiology standpoint, we placed as many hurdles as we could put in each cell and throughout the plant," says Scott Schallenberger, director of product and process development, Western Division, who was hired to help bring the plant on line.

"Our Mt. Pleasant, Iowa plant was the first of its kind; but we learned from that facility that we needed to make our slicing cells even bigger in Tremonton; so they're 20 feet, 4 inches by 81 feet," he says.

Every log entering a slice cell has been through a lethality treatment... sanitizer or temperature in the oil fry operation. Sliced product is conveyed through a wall slot to the next station to minimize handling and enhance sanitation. Even the flooring in the slice cells feature antimicrobial properties.

The robot loads all logs onto racks and puts them through a cooking process. The logs do not come into human contact until they are in their specified ready-to-eat areas and run through a

sanitation wash. The robot ensures sanitary consistency across all product lines, increasing product quality and employee safety.

The new Tremonton facility does not use re-work. "Most companies have a 93 percent slice yield where 7 percent is unusable. We sell our re-work to a customer as number-two product in 40-lb bags," Schallenberger says.

The facility moves products by trucks from one building to the next. "I've been in plants where a hallway is the separation between raw and cooked," Schallenberger says. "Trust me, I'd rather haul product with a truck from one building to another for a clear separation from a food-safety standpoint."

WLF partnered with Iowa State Univ. to design and implement an extensive food-safety program for incoming employees.

"We not only wanted to be compliant by government standards, but we wanted to live up to our own food-safety standards," Lessard says. "As a result,