

PERFORMANCE

MATERIAL HANDLING OPTIMIZATION

Washington Beef's Material Handling System to Improve Case Sealing & Palletizing Operations

Improvements offered by the new conveyor system include enhanced computer control, operation flexibility, better ergonomics



Washington Beef, Inc., a beef processing/fabrication facility located in the Northwest, needed to relocate and expand its material handling system from a single line scale/labeling operation to an expanded dual line scaling/labeling operation. The system feeds a new palletizing sortation mezzanine located in the storage cooler.

The situation

Cases were packed onto a single line, feeding a single scale line in which sealed cases were conveyed directly into the case sealer and out to manual palletizing. Strapped cases were transferred at 90 degrees onto a gravity conveyor feeding two strappers and then pushed onto the palletizing conveyor. No-reads

or rework cases were diverted onto a gravity rework conveyor.

Process bottlenecks due to the older material handling system were becoming more common. Washington Beef needed to increase its ability to quickly and accurately meet orders.

The desired solution

- Increase System Flexibility.
- Improve inventory control.
- Increase production rate.
- Reduce potential for handling related injuries
- Minimal interruption to normal plant operations

Solution implemented

Integrated material handling system featuring Conveyors, Lifts and Weld Deck Mezzanines. A multistage installation approach to implement the project was taken, due to the obstacles that had to be overcome in an operating meat processing facility.

The case handling system added a new parallel line to the south pack-off conveyor. This allows cases to be conveyed to either scale line or a single scale line for any reason. Sealed cases are conveyed primarily on the west scale line, which allows cases to go directly into the case sealer from the in-motion scale line. Sealed cases that are scaled on the east line are diverted at 90 degrees onto a gravity conveyor and manually introduced onto the line feeding the case sealer. Strapped cases on the east line convey directly to a case strapper at the end of the scale line.

Operators can also divert strapped cases to a secondary strapping line that is tied into the west scale line. Cases from both scale lines are conveyed to a 2-1 merge conveyor located on a mezzanine above the two scale lines. Cases are then combined onto a single line feeding the sortation mezzanine. Cases travel up a belt incline and are scanned for diverting to one of three palletizing platforms or the case will continue to the carousel loop for manual palletizing. No-read cases or those with bad bar codes will also be sent to the carousel. An ink jet printer marks these cases for

Overhead rail systems support tool balancers, making the subassembly process efficient and ergonomic

identification.

- The new in-motion scale line with all of the controls and communication had to be installed and operational prior to the first of 3 week-end tie-ins.
- The first of three tie-ins included tying in the new scale line into the pack-off feed conveyors and the temporary relocation of the case sealer along with temporary installation of conveyors for the rework, strapped case line and a temporary tie-in to the existing palletizing conveyor.
- Relocation of the existing scale line was next. Moving the existing scale system required several conveyor modifications and tie-in to the existing pack-off conveyors. In addition to the relocation of the existing scale line, permanent changes were made to the temporary conveyors installed on the new scale line.
- The second of three tie-ins took place shortly after the existing scale line was tested and operating.
- In conjunction with the case sealer room expansion, a second crew installed the material handling equipment located on the sortation mezzanine. Equipment located on the sortation mezzanine includes a 90° SC belt sorter designed to handle 40 cases per minute, feeding palletizing platforms and a palletizing carousel. Each of the three palletizing platforms includes a gravity accumulation conveyor off of the sorter and eight specially designed pallet lifts to provide operators with an ergonomically favorable manual palletizing operation.
- The third system tie-in consisted of moving the case sealer into its final position and installing the remain-



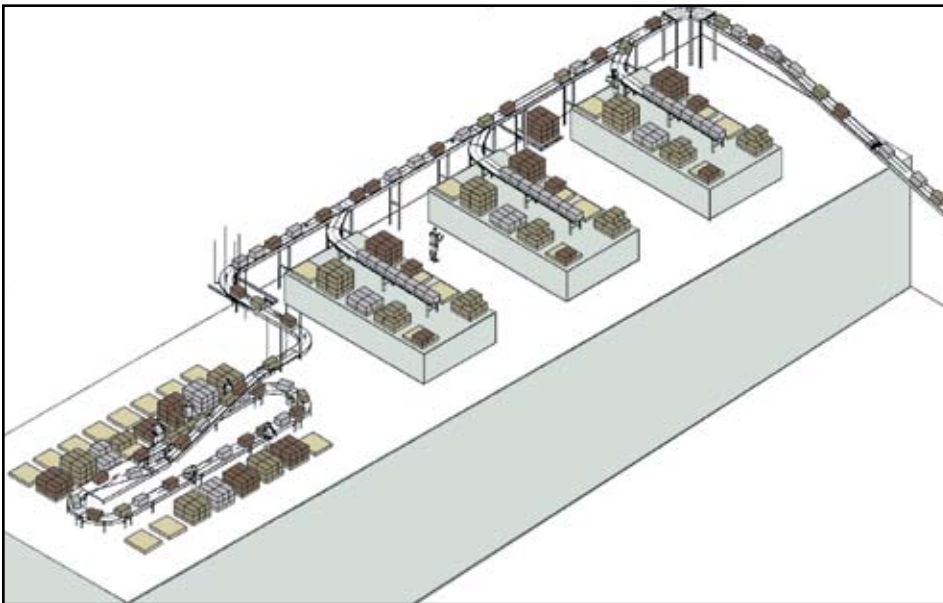
ing conveyors from the two scale lines into the sortation mezzanine feed conveyors.

Once the new scale line was operational, the first of three system tie-ins was implemented. The first tie-in required Cisco-Eagle to relocate an existing automatic case sealer and temporary conveyor modifications to feed the existing palletizing line, as well we had to make a permanent tie-in to the existing pack off conveyors. After acceptance of the new scale line, the existing scale line was relocated to its new permanent position.

The Results

Improvements offered by the new conveyor system include enhanced computer control, operation flexibility, better ergonomics and enhanced customer service.

Cisco-Eagle implemented the project over several months in a way that allowed Washington Beef to maintain its daily production schedules. This approach to minimize downtime required extensive planning by Washington Beef, Cisco-Eagle and other parties involved in the facility construction and planning.



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