

## Washington Beef's Material Handling System Improves 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

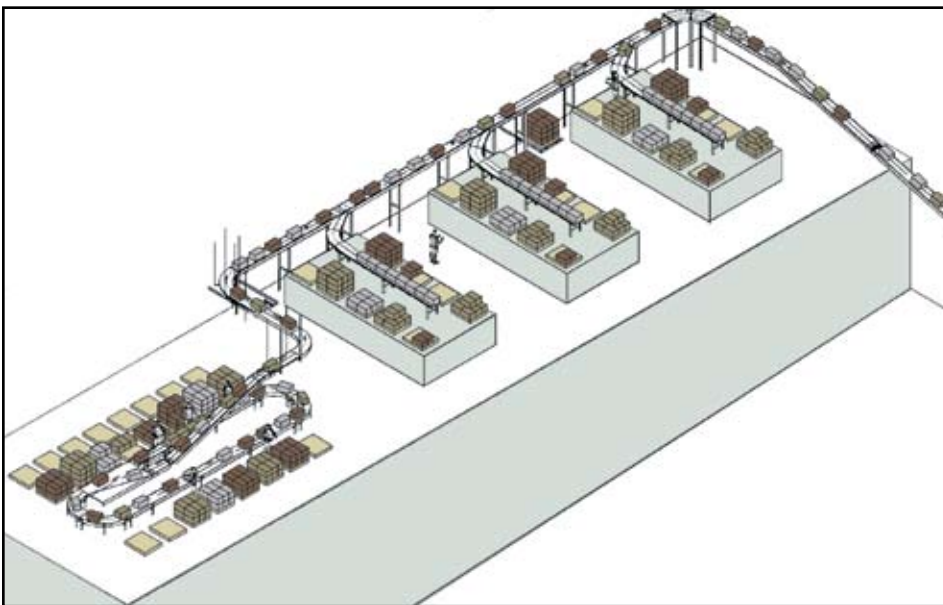
identification.

- 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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