

Recovery After Explosion

INDIANA GRAIN HANDLER ADDS SOME NEW STORAGE, PERFORMS EXTENSIVE REPAIRS



Co-Alliance, LLP
Avon, IN • 317-745-4491

Founded: 1927
Storage capacity: 33.7 million bushels at 11 locations
Annual volume: 65 million bushels
Annual revenues: \$950 million
Number of members: 7,500
Number of employees: 500
Crops handled: Corn, soybeans, soft red winter wheat
Services: Grain handling and merchandising, feed, agronomy, energy, farrow-to-finish swine production

Key personnel at Union Mills:

- John Stark, grain manager
- Brian Gall, agronomy manager
- Matt Gourley, superintendent
- Jan Van Dusen, office manager

Supplier List

Aeration fans.....The GSI Group
Bearing sensors..4B Components Ltd.
Bin erector....Hershberger Bin Jackers
Bin sweep.....The GSI Group
Bucket elevators.....The GSI Group
Concrete repair.....C-Tec Inc.
Contractor..... Carroll Construction Co.
Conveyors.....The GSI Group
Distributor.....Schlagel Inc.
Electrical contractor.....MP Baker Electric
Elevator buckets..... Maxi-Lift Inc.
Grain dryer..... Zimmerman Grain Dryers
Grain temp. system..Rolfes@Boone
Level indicators..... BinMaster Level Controls
Manlift.....Sidney Mfg. Co.
Millwright..Carroll Construction Co.
Motion sensors..4B Components Ltd.
Motors.....Baldor Motors
Steel storage.....The GSI Group



Co-Alliance, LLP's 3.1-million-bushel grain elevator at Union Mills, IN, a little over a year after an explosion damaged portions of the concrete workhouse and adjacent grain dryer. The 700,000-bushel GSI steel tank at left is new. Photos by Ed Zdrojewski.

As the 2014 harvest got underway in northwest Indiana, Co-Alliance, LLP was anticipating a normal, if busy, season at its 3.1-million-bushel branch elevator in Union Mills, IN (219-767-2251).

That wasn't the case a little over a year ago, after an explosion ripped through the headhouse atop the 1968 slipform concrete workhouse at Union Mills. No cause was ever determined for the blast that occurred June 24, 2013.

The explosion destroyed two inside legs and a manlift. Also destroyed was the roof over three tanks inside the slip. Only one of three receiving pits were operational, and one of two grain dryers was damaged by falling debris.

Immediate Repairs

"We looked into tearing down the elevator and replacing it with an entirely new one,"



Closeup of the new GSI corrugated steel tank.

says Grain Manager John Stark, who joined Co-Alliance in August of 2012.

“But, after the concrete headhouse was inspected by River Consulting, Columbus, OH, the engineers found that aside from the normal 45 years of wear and tear, the concrete headhouse was deemed structurally sound, and it was determined to repair what we already had.”

Co-Alliance brought in C-Tec Inc., York, NE (800-345-2822), which was able to realign some of the silos to allow use of them.

Meanwhile, the cooperative hired Carroll Construction Co., Sears, MI (989-382-5650), to clear out the debris, repair the roof and other portions of the concrete structure, and make repairs to the propane-fired, 4,000-bph Zimmerman grain dryer that had been damaged.

“Carroll has done a lot of work for Co-Alliance in the past,” Stark comments.

As a result, Co-Alliance was able to handle a limited amount of grain during the 2013 harvest, with the rest being sent to nearby Co-Alliance facilities in Malden, LaCrosse, and Rolling Prairie, IN.

2014 Improvements

The aftermath of the 2013 explosion had cut the elevator’s rated storage capacity from 2.6 million to 2.4 million bushels. As a result, the co-op decided to add a new 700,000-bushel steel tank, as well as replacing two of the old inside legs with new outside bucket elevators. Carroll Construction remained on the job for this work.

The new GSI tank stands 85-1/2

feet tall at the eave, 113 feet tall at the peak, and is 105 feet in diameter. It is equipped with outside stiffeners, flat concrete floor, 12-inch GSI sweep auger, 24-cable Rolfes@Boone grain temperature monitoring system, and BinMaster level indicators. Six GSI 50-hp centrifugal fans provide approximately 1/7 cfm per bushel of aeration through in-floor ducting.

Carroll added a new 1,000-bushel enclosed mechanical receiving pit, which feeds a new 25,000-bph GSI receiving leg. The new leg is situated outside of the concrete structure and replaces the two inside legs that were destroyed. The leg is equipped with two rows of Maxi-Lift 14x8 Tiger-Tuff buckets mounted on a 30-inch Goodyear belt supplied by All-State Industries.

The big new leg deposits grain into a new Schlagel six-hole rotary distributor, which can reach most of the concrete house via gravity spout and the rest of the grain storage via overhead GSI 25,000-bph drag conveyors. The new 700,000-bushel bin reclaims into a new above-ground GSI 25,000-bph conveyor running back to the new rail receiving pit.

“Before the explosion, if we were loading railcars,” Stark says, “everything had to be routed through the concrete workhouse. Now we can reach truck or rail loadouts from anywhere in the facility.”

Ed Zdrojewski, editor



Producer deposits a load of grain into a new receiving pit, which feeds a new 25,000-bph GSI outside leg at right.