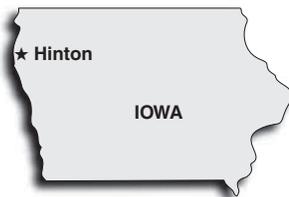


Rebuilding a Third of an Elevator

CVA INCREASES STORAGE, GRAIN HANDLING CAPACITY AFTER EXPLOSION



Central Valley Ag rail terminal in Hinton, IA added three McPherson Concrete Storage Systems tanks (center) and a Brock grain dryer in 2017. Aerial photo by Judy Hemphill.



Central Valley Ag
York, NE • 402-362-0246

Founded: 2003
Storage capacity: 88.5 million bushels at 52 locations
Annual volume: 130 million bushels
Annual revenues: \$1.1 billion
Number of members: 10,000+
Number of employees: 900
Crops handled: Corn, soybeans, hard red winter wheat, sorghum, oats
Services: Grain handling and merchandising, feed, agronomy, energy, marketing services

Key personnel at Hinton:

- Stanley Kallhoff, grain operations manager
- Kyle Sitzman, Region 8 operations manager
- Jason Myers, CVA ProEdge merchandiser



Stanley Kallhoff



Supplier List

- Aeration fans.....** AIRLANCO
- Aeration system** North American Equipment Co. Inc.
- Aeration system installation...** Drake Inc.
- Bucket elevators.....** Schlager Inc.
- Concrete** Aschoff Construction
- Concrete tank builder.....** McPherson Concrete Storage Systems
- Contractor ...** EBM Construction Inc.
- Control system.....** Kasa Controls & Automation
- Conveyors (belt)...** Hi Roller Conveyors
- Conveyors (drag)** Schlager Inc.
- Demolition** ABC Crane Inc.
- Distributor.....** Schlager Inc.
- Dryer installation.....** McCormick Construction Co.
- Electrical contractor.....** Thompson Electric Inc.
- Elevator buckets** Maxi-Lift Inc.
- Engineering** VAA LLC
- Grain dryer** Brock Grain Systems
- Grain temp system ...** Tri-States Grain Conditioning, Inc.
- Level indicators.....** Safe-Grain, Inc.
- Millwright....** EBM Construction Inc.
- Roof exhaust controls ...** Safe-Grain, Inc.
- Steel storage.....** Lowry Mfg. Co.

The Central Valley Ag (CVA) rail terminal that operates in Hinton, IA (712-947-4212) does so with higher storage, receiving, and drying capacities than it did before a March 2016 explosion that heavily damaged a portion of the facility.

The Hinton facility stretches north and south along a Union Pacific/BNSF main line in the middle of town. The blast, which injured two employees, damaged the “No. 1 house,” or the central portion of the elevator, including 180,000 bushels worth of concrete storage and a 15,000-bph leg.

“We looked at rebuilding that portion of the facility, but the cost-effectiveness wasn’t there,” says Grain Operations Manager Stanley Kallhoff, who moved to the Hinton location shortly before the explosion from a CVA elevator in Elgin, NE. “We tore down that portion of the elevator and built new storage and equipment, and in the process, we gained 450,000 bushels of new storage.”

The Project

In spite of the damage, the north



Closeup view of three new McPherson jumpform concrete tanks, receiving pit, and Schlagel leg, and a Brock 4,700-bph tower dryer (not pictured is a Brock 4,000-bph dryer). Ground-level photos by Ed Zdrojewski.

and south sections of the elevator were unharmed and were able to remain in operation during the reconstruction process.

Work already had been scheduled at Hinton in 2016. McCormick Construction Co., Greenfield, MN (877-554-4774), had been hired to move ►

two Brock grain dryers (4,700 bph and 4,000 bph) from the old elevator north to its new location. VAA, LLC, Plymouth, MN (763-559-9100), did structural design on the dryer and leg foundations and bracing.

That work was completed during the summer of 2016, while demolition work was underway and the dryer was used that fall, using a new wet leg and new dry leg that were installed next to the No. 2 house.

CVA brought in ABC Crane Co.,

Cedar Falls, IA (800-886-0485), to handle the demolition of the No. 1 house. That work was completed and the debris removed so that new construction could begin by the late fall.

For the new construction, CVA took bids and hired EBM Construction, Norfolk, NE (800-356-0782), as general contractor and millwright in November 2016. The company also brought in McPherson Concrete Storage Systems, McPherson, KS (800-999-8151), to construct three new jumpform concrete



Pair of Brock tower dryers provide 8,700 bph of drying capacity at five points of moisture removal.

tanks. Additional contractors on the project:

- Aschoff Construction, Osmond, NE (866-748-3551), designed and excavated new receiving pits.

- Drake Inc., Waco, NE (402-362-1863), installed KanalSystem air-assist aeration/unloading floors in the three new tanks.

- Thompson Electric Inc., Sioux City, IA (712-252-4221), served as electrical contractor.

- Kasa Controls, Salina, KS (785-825-7181), did the automation systems.

The new section of the elevator was up and running by the end of August, Kallhoff says.



Rooftop equipment, above, includes the head section of a Schlagel 20,000-bph receiving leg and four-hole Schlagel distributor, as well as a 20,000-bph Schlagel drag fill conveyor. At right, a new 1,000-bushel enclosed receiving pit feeds grain into the receiving leg.

The New Construction

The three new McPherson tanks stand 48 feet in diameter and 140 feet tall and hold 217,000 bushels each. Each tank is outfitted with seven-cable TSGC temperature monitoring systems, Safe-Grain radar-type

level indicators, and KanalSystem aeration and air-assist unloading floors.

Each tank is equipped with two 40-hp AIRLANCO centrifugal fans plus a 5-hp roof exhauster for aeration at 1/11 cfm per bushel on coarse grains. Two of the



tanks have additional 30-hp fans and one a 50-hp fan for air-assisted unloading. The project also includes a 1,000-bushel enclosed mechanical receiving pit, one of three at Hinton. It feeds grain into a 20,000-bph Schlagel receiving leg equipped with a single row ►



Central Valley Ag's rail terminal at Hinton, IA, above, with three new McPherson jumpform concrete tanks and a Schlager receiving leg visible just left of center. Below right, an AIRLANCO centrifugal fan provides power for a KanalSystem aeration and air-assist unloading floor.

of Maxi-Lift 20x8 Tiger-Tuff orange buckets mounted on a 22-inch Continental Pathfinder belt.

The leg deposits grain into a six-duct Schlager flat back Syncroset distributor with electric EDI controls. The grain can be directed to fill two of seven tanks or can be conveyed to the other five. Additionally, the leg and distributor can be used to fill the 3,500-bushel Lowry loadout bin.

The new tanks empty via side taps into above-ground 20,000-bph Hi Roller enclosed belt conveyors running back to an existing shipping leg. Two of the tanks used the KanalSystem floors to send grain back to the receiving leg, one via gravity and one via drag conveyor.

Kallhoff says all of the new storage and equipment has performed satisfactorily since startup.

Ed Zdrojewski, editor

