

Solutions at Two Terminals

EXPANSION HELPS OHIO COOPERATIVE DEAL WITH SOME TRICKY BOTTLENECKS

Sunrise Cooperative Inc.
Fremont, OH • 419-332-6468

Founded: 1990
Storage capacity: 26.3 million bushels at five locations
Annual volume: 50 million bushels
Annual revenues: \$600 million
Number of members: 3,100
Number of employees: 180
Crops handled: Corn, soybeans, soft red winter wheat
Services: Grain handling and merchandising, feed, energy, agronomy

Key personnel at Clyde:

- Brian House, plant manager
- Roger Miller, scale operator
- Sharon Bollenbacher, scale operator
- James Fox, foreman
- Steve Holm, foreman

Key personnel at West Clarksfield:

- Clark Smith, plant manager
- David Thayer, superintendent
- Mark Yetter, office manager
- Lori Miller, originations
- Susie Spettle, originations

Supplier List

Aeration fans.....Rolfes@Boone
Bin sweepsThe GSI Group
Bucket elevators...Hawthorne-Seving
Catwalks Hawthorne-Seving
Concrete silo.....Hoffmann Inc.
Contractor/millwright Elevator Services & Storage Inc.
ConveyorsHawthorne-Seving, The GSI Group
Distributor.. Hayes & Stolz Ind. Mfg. Co. Inc.
Dust filters.....Donaldson Torit
Elevator buckets Maxi-Lift Inc.
Grain dryer Zimmerman Grain Dryers
Grain temperature systemRolfes@Boone
Level indicators..... BinMaster Level Controls
Manlift.....Sidney Mfg. Co.
Scale automation CompuWeigh Corp.
Steel storage..... Behlen Mfg. Co.
Tower support system Hawthorne-Seving
Truck scale.....Rice Lake Weighing Systems



Installation at Sunrise Cooperative's Clyde, OH terminal includes a 250,000-bushel Hoffmann jumpform concrete silo, 10,000-bph Zimmerman tower dryer, and 15,000-bph Hawthorne-Seving wet and dry legs with six-hole Hayes & Stolz rotary distributor visible behind the tank. Photos by Ed Zdrojewski.



Sunrise Cooperative's 8.4-million-bushel rail terminal at West Clarksfield, OH. A new Behlen 1.1-million-bushel steel tank is the foremost tank in the photo, and a new 1,000-bushel receiving pit with Donaldson-Torit baghouse dust control system is visible in the center of the photo.

Operating three large rail terminal elevators, covering a wide swath of north central Ohio, and handling 50 million bushels of grain annually, Sunrise Cooperative often finds itself needing to make facility improvements.

The year 2012 was no exception. While severe drought devastated crops elsewhere in the Midwest, rains were a little more timely in northern Ohio, and Sunrise Cooperative found itself needing to handle and dry a surprisingly large amount of grain.

"At harvest, 95% of our corn handle comes in wet from the field," says Brian House, plant manager at Sunrise's 8.1-million-bushel terminal at Clyde, OH (419-547-9588), for the past 17 years. "We needed more drying capacity and wet storage. The way we were laid out, it was hard to get wet grain to the dryer."

The solution the cooperative found in 2012 was to add a large second dryer, a new receiving pit, and a jumpform concrete wet holding silo.

Thirty-two miles to the east at West Clarksfield, OH (419-929-1568), the 8.4-million-bushel Sunrise terminal faced a somewhat different challenge.

"The challenge is to get trucks in and out quickly during harvest," says Location Manager Clark Smith, who came to West Clarksfield in 2011 after 20 years at a Sunrise elevator in Monroeville, OH. "We draw from a large area, as far away as western Pennsylvania, and our harvests are busy."

At this location, Sunrise added a 1.1-million-bushel Behlen corrugated steel tank – West Clarksfield's third million-bushel-plus tank – a new receiving pit and leg, and a CompuWeigh SmartTruck scale automation system. (A SmartTruck system also was added at Clyde.)



Elevator Services & Storage, Inc. (ESSI), Beavercreek, OH (419-643-5111), general contractor for these 2012 projects, has been overseeing the upgrades and expansion of all of Sunrise Cooperative's facilities.

Construction for 2012 got underway in February and was completed in August for an undisclosed cost.

Project at Clyde

To make room for the project at Clyde, Sunrise demolished its old office building and constructed a new single-story wood frame office building on the east side of the property adjacent to an existing 70-foot truck scale. That scale now is handling outbound trucks only.

The cooperative installed a 70-foot Rice Lake pit-type scale adjacent to the first scale to serve as an inbound truck scale. An existing truck probe remains in place between the two scales. Plans call for replacing the existing outbound scale with a used scale to be brought up from another Sunrise location at Bucyrus, OH.

The scales now are equipped with SmartView message boards to direct trucks to the appropriate receiving pit and a scale ticket printer adjacent to the outbound scale.

Near the location of the old office at the center of the grain storage complex, ESSI subcontracted Hoffmann Inc., Muscatine, IA (563-263-4733), to build a 250,000-bushel jumpform concrete wet silo standing 58 feet in diameter and 120 feet tall. To support the weight of the new silo on the local soils, 13 30-inch-diameter, 20-foot-deep concrete caissons were poured.

The flat-bottom tank includes, a 12-inch GSI sweep auger, eight-cable Rolfes@

Boone grain temperature monitoring system, and a SmartBob level indicator. A set of four 50-hp Rolfes@Boone centrifugal fans supply 1/7 cfm per bushel of aeration with five roof exhausters.

Adjacent to the new tank, ESSI installed an enclosed 1,100-bushel gravity pit that feeds a 20,000-bph Hawthorne-Seving leg. (Hawthorne-Seving is ESSI's manufacturing and fabrication business.) This leg is equipped with two rows of Maxi-Lift HD-MAX 14x8 low-profile buckets mounted on a 30-inch Goodyear belt. A Donaldson-Torit baghouse filter is designed to eliminate dust emissions from the new pit and leg.

The leg deposits grain into a six-hole Hayes & Stolz rotary distributor. This unit can deliver grain into the new tank via gravity spout or onto four drag conveyors that can carry it anywhere throughout the facility. During the course of the project, ESSI replaced three 20,000-bph drag conveyors with 40,000-bph drags and added two new 20,000-bph drag conveyors manufactured by GSI and Hawthorne-Seving at various locations around the facility.

Both the distributor and the new wet tank can send grain to a new 10,000-bph Zimmerman tower dryer, the facility's second dryer. The dryer is serviced by a pair of 15,000-bph Hawthorne-Seving wet and dry legs outfitted with a single row of 18x8 Maxi-Lift low-profile buckets on 20-inch Goodyear belts.

Brian House notes that with a relatively wet fall, the natural gas-fired dryer got quite a workout. The facility's two dryers processed a total of 2.15 million bushels of corn and soybeans.

Adjacent to the dryer, Sunrise installed a natural gas metering system connecting to a nearby 12-inch gas main



New office building at Clyde and adjacent inbound and outbound truck scales outfitted with a CompuWeigh SmartTruck truck traffic management system.

operated by Columbia Gas of Ohio.

Project at West Clarksfield

At the West Clarksfield terminal, ESSI erected a 1.1-million-bushel Behlen tank standing 131 feet in diameter, 85-1/2 feet tall at the eave, and 120-1/2 feet tall at the peak.

This tank is outfitted with outside stiffeners, a 16-inch GSI sweep auger, and a 35-cable Rolfes@Boone grain temperature monitoring system. Six 50-hp Rolfes@Boone centrifugal fans provide 1/9 cfm per bushel with 17 roof exhausters.

The tank is filled by an overhead 20,000-bph Hawthorne-Seving drag conveyor and empties onto another 20,000-bph Hawthorne-Seving drag in an above-ground tunnel.

ESSI also installed an enclosed 1,000-bph mechanical receiving pit that serves a 20,000-bph Hawthorne-Seving leg identical to the receiving leg installed at Clyde. The leg feeds into a four-hole Hayes & Stolz rotary distributor, which can send grain on to any location in the facility. This pit also is serviced by a Donaldson-Torit baghouse dust system.

A CompuWeigh SmartTruck truck and scale management system with RF card reader, SmartView message boards, and scale ticket printer was installed at the facility's inbound and outbound scales. House noted that SmartTruck systems are scheduled for installation at the cooperative's other rail-loading terminals at Clyde and Crestline, OH.

Ed Zdrojewski, editor



Brian House



Clark Smith