

Connection to the World

ILLINOIS COOP, CHS BUILD RIVER TERMINAL TO REACH EXPORT MARKETS



Grain storage and drying equipment at the new Market Street Terminal built by Northern Partners Cooperative and CHS Inc. in Peru, IL. Aerial photo by Brian Thomas Photography, Rockford, IL.

**Northern Partners
Cooperative**
Your Link to Success



CHS/Northern Partners Cooperative
Mendota, IL • 815-539-6772

Founded: 2009

Storage capacity: 11 million bushels
at six locations

Annual volume: 15 million bushels

Annual revenues: \$100 million

Number of members: 500

Number of employees: 80

Crops handled: Corn, soybeans

Services: Grain handling and merchandising, feed, seed, agronomy, energy

Key personnel at Peru:

- Eric Anderson, CEO
- Brian Jackson, terminal manager
- Mark Corrigan, director of agronomy
- Heather Thacker, blend tower operator

- Dave Lewis, operations
- Bruce Pinter, operations
- Craig Atkinson, operations
- Danny Jaggers, operations

Supplier List

Bin sweeps	GSI
Bucket elevators.....	InterSystems
Catwalks	Tri-Co Fabrication, LLC
Distributor.....	InterSystems
Dust collection system.	AIRLANCO
Elevator buckets	Tapco Inc.
Engineering	CHS Construction Division
Facility design, contractor procurement, and construction management	CHS Construction Division
Fertilizer automation	Kahler Automation, Inc.
Fertilizer blending tower.....	InterSystems
Fertilizer plant	SMA, LLC
Fertilizer receiving equipment	InterSystems
Grain control systems....	Jakes Electric
Grain dryer	Zimmerman
Loadout spout	Premier Fabrication Inc.
Millwright...	Buresh Building Systems
Site preparation	Advanced Asphalt
Steel storage.....	GSI
Steel tank erection	Alliance Tank
Tower support system	Tri-Co Fabrication, LLC
Truck probe	Gamet Mfg., Inc.
Truck scales.....	Fairbanks Scales



Barge loading station on the Illinois River serviced by a 40,000-bph InterSystems belt conveyor and a movable Premier loadout spout. Photos by Ed Zdrojewski.

In 2009, four northern Illinois cooperatives based in Mendota, Triumph, Van Oren, and Utica merged to form Northern Partners Cooperative.

The merger consolidated their might in grain origination, but more needed to be done, says CEO Eric Anderson, who originally headed the Triumph cooperative.

"We needed to offer our member-owners and area producers a connection to the end user," Anderson says. "Producers were adding more storage and dryers on-farm. We needed to stay relevant to them to stay in a relationship with them."

Northern Illinois offers a powerful

transportation resource to link local producers with end users worldwide – the Illinois River. The coop in 2016 partnered with CHS Inc., Inver Grove Heights, MN, to build a \$35 million barge-loading terminal at a site on the west side of Peru, IL.

The new Market Street Terminal, located at mile marker 221 on the river, began loading grain onto barges on Aug. 25, 2017.

"CHS had its big export terminal in Myrtle Grove, LA but didn't have an ►



Eric Anderson

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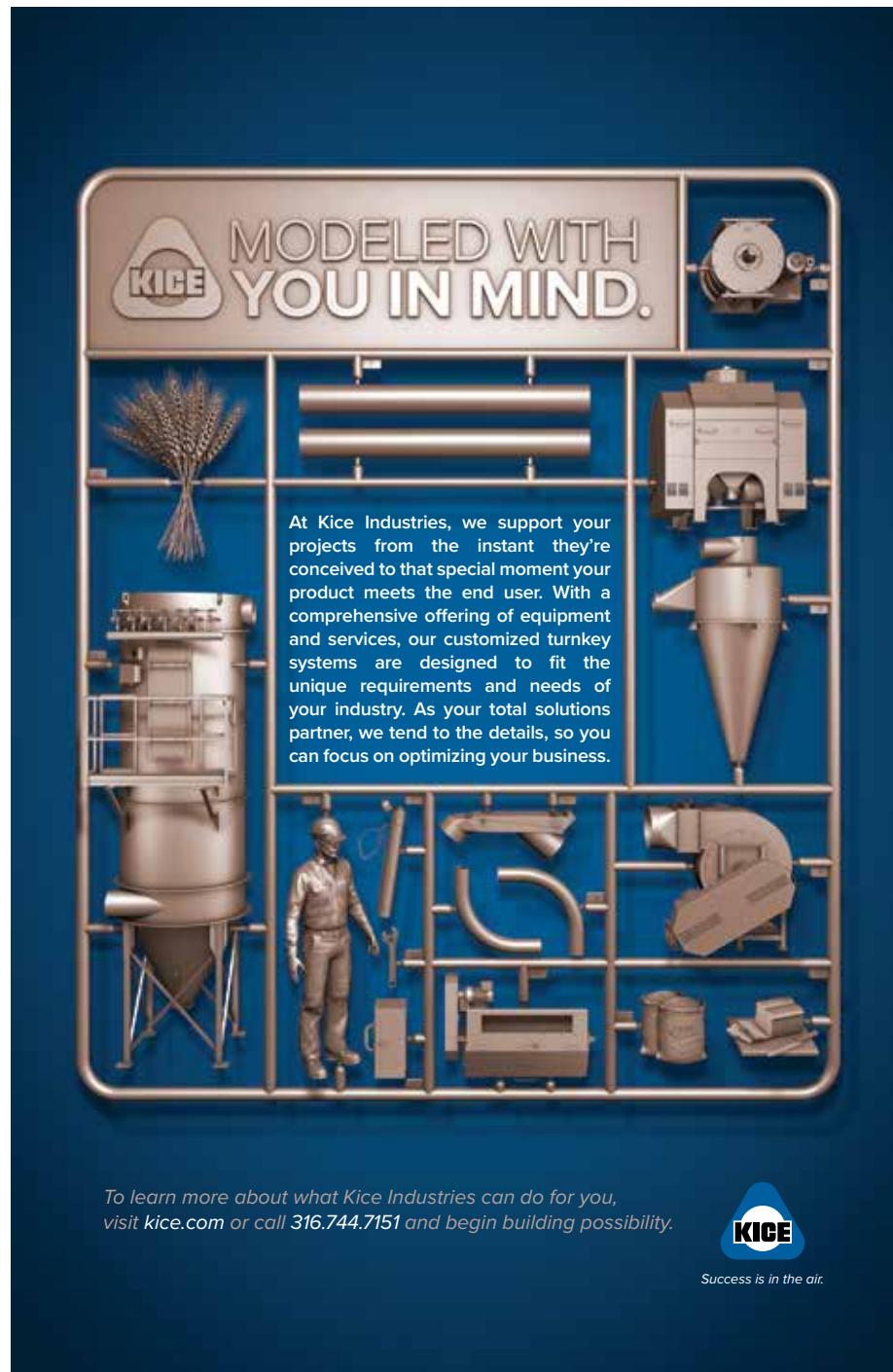
origination point on the northern Illinois River,” Anderson continues. “The setup is that CHS purchases all of the grain that crosses the scale at Peru, and they handle all of the back office functions, while Northern Partners manages the day-to-day operations at the terminal.”

The coop found an 18-acre site on a hillside overlooking the river offering easy access to Interstates 39 and 80. With 84 feet of fall on the property, extensive earth work was done to flatten the site. The lowest point of the property is well above the river, so it will not flood. The

riverfront offers enough space to position two barges, with 9-1/2 feet of draft.

Construction

The partners in the Market Street Terminal venture brought in CHS' in-house construction division, under the leadership of Jim Gales, to design the facility and serve as owner representative and construction management. The CHS division also led the procurement efforts of the contractors needed for the overall project. Market Street Terminal Manager Brian Jackson served as site lead.



Closeup view of the facility's 7,000-bph Zimmerman grain dryer, 20,000-bph InterSystems receiving leg, and four-hole InterSystems distributor.

"We decided to consolidate all of Northern Partners' agronomy operations at Peru, and that was the first phase of the project," Anderson says. CHS hired SMA, LLC, Monticello, MN (888-259-9220), to build a 26,500-ton fertilizer plant on the site. Construction on that began in May 2015, and startup was in fall 2016.

Other major subcontractors CHS procured:

- Buresh Building Systems, Inc., Hampton, IA (641-456-5242), was brought in to serve as millwright.
 - Jakes Electric, Clinton, WI (608-295-2470), served as electrical contractor and supplied control systems.
 - Alliance Tank Service, Cushing, OK (855-557-1010), erected two 2-million gallon UAN tanks.
 - Advanced Asphalt, Princeton, IL (815-872-9911), did site preparation work and continues to complete road construction.

Grain Storage and Handling

The barge-loading operation is designed for high-speed turnaround, so there isn't a huge amount of storage onsite. The bulk of the storage is contained in a pair of GSI 95,000-bushel corrugated steel tanks. These stand 48 feet in diameter, 59 feet tall at the eaves, and 72 feet tall at the peaks.



Twin 1,000-bushel mechanical receiving pits with an AIRLANCO baghouse dust control system designed for use in an urban environment.

These tanks are outfitted with flat floors, outside stiffeners, and 12-inch GSI X-Series zero-entry sweep augers. However, they have no grain temperature monitoring or aeration fans.

Anderson notes that his company anticipates such fast turnaround on grain that no temperature monitoring or aeration is needed, although the tanks are designed for the addition of aeration fans in the future if needed.

In addition to the two larger tanks, storage also includes a 55,000-bushel GSI hopper tank for wet grain storage.

This feeds a 7,000-bph, natural gas-fired Zimmerman tower grain dryer. The dryer is serviced by an InterSystems 10,000-bph wet leg, which is outfitted with a single row of Tapco 12x8 heavy-duty buckets mounted on a 14-inch belt. Dry grain is carried via a 10,000-bph InterSystems drag conveyor back to the facility's main receiving legs.

Incoming grain trucks deliver grain with stops at a Gamet Apollo Model 17 truck probe for sampling and an 80-foot Fairbanks pitless scale. Jakes Electric installed a Kennedy Scales radio tag reader

to supply information on the trucker and origin producer, as well as a scale ticket printer at the outbound scale, so the driver doesn't need to leave the truck.

Trucks continue to a pair of enclosed 1,000-bushel pits, which discharge into a transfer belt that discharges into a two-way valve. That sends grain to either the barge loadout belt or to an InterSystems 20,000-bph receiving leg outfitted with a single row of Tapco 20x8 heavy-duty buckets on a 22-inch belt.

The leg discharges grain into a four-hole InterSystems swing-set distributor, which in turn deposits grain onto InterSystems overhead drag conveyors for distribution to storage.

The storage tanks empty onto a 40,000-bph InterSystems belt conveyor running out to a dockside surge tank. Grain is loaded onto barges via a Premier electric movable spout. "We can load a 55,000-bushel barge in a couple of hours," Anderson comments.

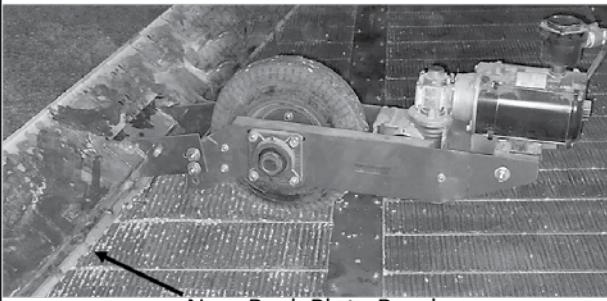
He notes that there is enough space on the site for the additional storage tanks.

Ed Zdrojewski, editor

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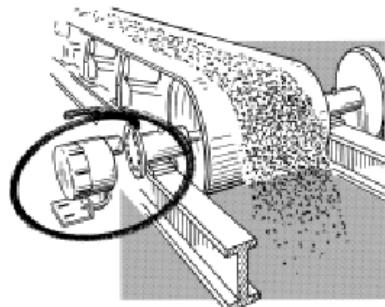
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