

Replacement Barge Loader

AFC TEARS DOWN OLD TERMINAL, BUILDS A NEW ONE ON THE TENNESSEE RIVER

Alabama Farmers Cooperative
Decatur, AL • 256-353-6843

Founded: 1936
Storage capacity: 6 million bushels at 7 locations
Annual volume: 30 million bushels
Annual sales: \$125-200 million
Number of members: 37,000
Number of employees: 4,500
Crops handled: Corn, soybeans, soft red winter wheat, sorghum, oats, feed ingredients
Services: Grain handling and merchandising, feed ingredients

Key personnel at Florence:

- Garry Follis, location manager
- Dealona Bozeman, office manager
- Anita Horton, grades and weights
- Jeff Stutts, barge loading
- Brad Borden, PLCs/grain receiving
- Mark McLemore, quality control
- Larry Kirby, barge deckhand

Supplier List

Aeration fans..... GSI Group, LLC
Bin sweepsSioux Steel Co.
Bucket elevators... GSI Group, LLC
CatwalksWarrior Mfg., LLC
ConcreteZanneco, Inc.
Contractor/millwright Industrial Systems of Cape Girardeau
Control system.....iRely LLC
Conveyors GSI Group, LLC
Distributor.... Hayes & Stolz Ind. Mfg. Co. Inc.
Elevator buckets Maxi-Lift Inc.
EngineeringSKS Engineers LLC
Grain dryer Zimmerman Grain Dryers
Grain temp system... Rolfes@Boone
Level indicators..... 4B Components Ltd.
Moisture meter.. DICKEY-john Corp.
Motion sensors 4B Components Ltd.
Samplers Gamet Mfg. Inc.
Steel storage..... GSI Group, LLC
Tower support system Warrior Mfg., LLC
Truck probe Gamet Mfg. Inc.
Truck scales..... Rice Lake Weighing Systems



Alabama Farmers Cooperative's new barge loading terminal on the Tennessee River in Florence, AL replaces an outdated facility dating back to the 1950s. Article and photos by Ed Zdrojewski.

On the site of Alabama Farmers Cooperative's (AFC) new barge terminal in Florence, AL (256-308-1680), there had been a barge-loading elevator since the 1950s. But it had been updated very little since then, and it was slow, with long lines during harvest. It was hard enough to persuade farmers and truckers to drive into the middle of the northern Alabama city without the lines.

So AFC in 2014 completely tore down the old barge terminal and built a brand new one.

"We handled over 2 million bushels in wheat, and the harvest was done in 26 days," said Facility Manager Garry Follis in early June toward the end of the northern Alabama winter wheat harvest. "The Florence facility had never done more than 1 million bushels in any combination of crops before." (Follis came to AFC in October 2014 from a Cargill river terminal in Memphis, TN.)

AFC broke ground on the 738,000-bushel, all-steel terminal in March 2014, and the facility went operational in April 2015.

The general contractor on the proj-

ect was Industrial Systems, Cape Girardeau, MO (573-334-5766).

Other contractors active on the project included: SKS Engineers, LLC, Decatur, IL (217-877-2100), performing structural engineering; C&E Design, Huntsville, AL (256-461-9993), providing PLC and elevator automation; Garnett Electric Co., Inc., Sheffield, AL (256-381-4062), as electrical contractor; Zanneco, Inc., Cape Girardeau (573-651-0323), for concrete foundations; and B.H. Craig Construction, Florence (256-766-3350), for the office building, MCC shed, and river slope stabilization.

The Terminal

The facility includes four GSI corrugated steel tanks with outside stiffeners, with plans to add three more in the future:

- A 470,000-bushel dry storage tank standing 90 feet in diameter and 80-1/2 feet tall at the eave. It includes a Sioux Steel Daay paddle sweep; 16-cable Rolfes@Boone grain temperature monitoring system; and four GSI 50-



hp centrifugal fans providing 1/10 cfm per bushel of aeration through in-floor ducting.

- A 210,000-bushel tank standing 60 feet in diameter and 83 feet tall at the eave. This tank has a Daay paddle sweep, 12-cable Rolfes@Boone temperature system, and two GSI 50-hp centrifugal fans providing 1/10 cfm per bushel of aeration.

- Two 50,000-bushel steel hopper tanks standing 36 feet in diameter and 53 feet tall at the eave. These wet tanks are equipped with aeration.

Trucks delivering grain utilize 70-foot Rice Lake Weigh Systems pitless inbound and outbound truck scales under the control of iRely software and adjacent to a new office building. The inbound scale has an Apollo truck probe that delivers grain samples to a testing lab inside the building. The outbound scale has a scale-side ticket printer for drivers.

Incoming drivers then deliver grain to one of two 1,300-bushel mechanical receiving pits. The pits deliver grain to a pair of 24,000-bph GSI legs outfitted with two rows of Maxi-Lift CC-MAX 14x8 buckets mounted on 32-inch rubber belts. The two legs are enclosed in a 20-foot-x-20-foot-x-140-foot Warrior



At left, a 4,000-bph Zimmerman tower dryer. At right, twin GSI 24,000-bph receiving legs, 30,000-bph jump leg, and five-hole Hayes & Stolz swing-type distributor are enclosed by a Warrior support tower with switchback stairs.

tower with switchback staircase.

The legs deposit grain into a Hayes &

Stolz five-hole, swing-type double distributor. The distributor delivers grain via gravity spout to the two wet tanks, via 20,000-bph GSI belt conveyor to the 470,000-bushel tank, via 30,000-bph GSI drag to the 210,000-bushel tank, or direct to barge loading via 30,000-bph GSI enclosed belt conveyor.

The wet tanks empty into a 6,000-bph GSI jump leg that deposits grain into a 4,000-bph natural gas-fired Zimmerman tower dryer. “We’ve dried about 450,000 bushels so far this year, and the dryer has performed as advertised,” Follis said in June. The dryer, in turn, can send grain to dry storage or out to barge loading.

The dry tanks empty onto above-ground reclaim conveyors that match their fill conveyors. The reclaims run back to the receiving legs or a 30,000-bph jump leg that deposits grain onto the belt conveyor running out to the barge loading station.

Industrial Systems custom-designed the dockside 30,000-bph barge-loading system, which includes a telescoping spout capable of moving 180 degrees horizontally or vertically.

Ed Zdrojewski, editor