



BCI Materials' operator has a clear view of the dual-truck load-out platform. Photo courtesy of Heatec.

by Curtis Kieres

Blythe Takes on Company's Emulsion Needs

It took more than a year and a half to complete, but Blythe Construction, Inc., Charlotte, N.C., (part of the Hubbard Group of Companies) personnel worked with a team from Heatec, Chattanooga, to build the company's first emulsion plant to support its paving operations.

"This is the first emulsion plant for BCI and the first for the Hubbard Group," Allen Hendricks, vice president asphalt division manager said. "However, our parent company, Eurovia, operates several emulsion plants in Europe and Canada."

Europe's way too far to go for materials if you're the leading highway construction company in the southeastern United States. "We will supply materials for any Hubbard Group operations in this area," Hendricks explained. "For example, we have a sister company called RMI that does microsurfacing, chip seal, full depth reclamation (FDR), etc.

We will most likely fulfill their emulsion needs when they are in the local area."

To take care of the loads both Hubbard crews and customer crews would require, BCI, operating as BCI Materials, needed to build in good capacity, and room for growth. The building itself was designed to be a 3,200 square-foot pre-engineered metal structure. "We have three 30,000-gallon storage tanks for base asphalt stock with room to grow to six if needed. We have six 20,000-gallon storage tanks for finished emulsion products with room to grow to nine. We have two 8,500-gallon storage tanks for emulsifiers also. We can also make smaller runs out of totes or barrels if needed."

Construction began in late 2009 and was completed with the company ready for outside FOB sales by March 2011. To get the blending controls together, BCI selected MINDS, Inc., Boisbriand, Quebec, to install the Emultronic system.

"The Emultronic system tracks/controls everything in the plant," Hendricks said.

Emultronic is a Windows-based automation system designed to control emulsion and modified bitumen plants. The MINDS personnel worked closely with BCI to design a fully integrated system at the new plant with four display monitors for the operator.

Screen #1 displays status of the emulsion tanks and related equipment. Screen #2 displays production-related information (aqueous and anhydrous phases). Screen #3 displays bitumen tanks and related equipment. Screen #4 is the ticketing and loadout display.

The process is controlled on screen only. Both continuous and discontinuous processes can be controlled with software showing 3D graphics of the actual plant. The interface is visual and intuitive to allow the operator to easily understand the plant conditions.

Another system BCI installed was safety. "We have eyewash/showers at all unloading stations and inside the mill room," Hendricks reported. But the preventive comes in with automation and control. "No pump can be turned on without the plant operator's authorization. We have cameras positioned around the plant to give the operator positive visual control over all operations. We only allow our employees to position loading arms and operate pumps on site. We have overflow sensors on all tanks and filling devices so that no tank or truck can be overfilled."

With the installation of the controls, the loadout and ticketing software, called Tessera, allows BCI personnel to print tickets after material has been loaded onto a truck. Built on industry standard MySQL server for database, Tessera is designed to integrate with SAP (used by BCI) or any accounting system; modular

add-on architecture allows BCI team members to custom import or export functions to accommodate the import and export of all data stored in the database.

Gaetan Nantel was the project manager from MINDS who worked with BCI crew onsite. "Our ability to be flexible and accommodating to Blythe's project schedule was key," Nantel said. "We worked with third-party vendors, such as Heatec, collaboratively and remained flexible to ensure the end product worked seamlessly."

"MINDS was an integral part of this project from the beginning," Rick Owens, former emulsion manager for BCI said. "Without the close support from the MINDS team, we wouldn't have been able to accomplish this."

For more information, contact Curtis Kieres at (250) 862-8813 x226 or ckieres@mindsinc.ca, or visit www.mindsinc.ca.



Heatec also provided and built the motor control center for the new emulsion plant. Photo courtesy of Heatec.



This is the main production screen for the Emultronic system. Image courtesy of MINDS, Inc.



BCI Materials built in room for growth at their Charlotte, N.C., emulsion plant. Photo courtesy of Heatec.system.

BCI Launches First Heatec Emulsion Plant

Not everyone knew it, but the managers at BCI Materials, Charlotte, N.C., took advantage of the expanded asphalt industry services over at Heatec, Chattanooga, Tenn., for storage terminals and asphalt emulsion plants. The companies teamed up to make the facility in North Carolina the first new emulsion facility that Heatec has built and the largest emulsion project that Blythe's parent company, Eurovia, has undertaken.

Heatec designed the major systems for the plant and installed virtually all of the equipment, according to Heatec representatives. The equipment included major components built at the Heatec manufacturing facility in Chattanooga and shipped to the Blythe site for installation and testing. The list includes:

- * Hot oil and warm oil systems
- * Instant hot water heating system
- * Hot oil piping systems
- * Motor control system
- * Tank truck load-out station with scales
- * Load-out system for small trailers
- * Emulsion blending system
- * Heater and tank controls
- * Three 30,000-gallon asphalt storage tanks
- * Six 20,000-gallon emulsion tanks
- * Two 8,500-gallon surfactant tanks
- * A 5,000-gallon hot water tank
- * Melter for residual asphalt and emulsion used for testing