

Massive Cooling Plant Shows Power of Partnership

United Brotherhood of Carpenters
Mid-South Carpenters Regional Council

SUCCESS WAS A MATTER OF DEGREES for members of the UBC's Mid-South Regional Council who recently completed building a record-large cooling tower for the Tennessee Valley Authority's Browns Ferry Nuclear Power Plant.

Key to the job's positive legacy is the high degree of cooperation between union carpenters and the contractor, Composite Cooling Solutions, a Fort Worth, Texas-based designer, engineer, and builder of cooling towers.

The skill and productivity of the UBC members on this \$80 million Athens, Ala., project can be calculated directly by taking the temperature of the water that flows from the cooling system into the Tennessee River.

Browns Ferry, which was the world's largest nuclear plant when it opened in 1974, draws water from the Tennessee River, uses it to help cool its three reactors, and sends it back to the river. The cooling tower is used to cool the water before it leaves the plant.

UBC members logged 55,000 hours over five months on the project, and had no serious injuries.

Partnership Spirit Pays Off in Quality, Delivery, and Costs

James Kerley, executive secretary treasurer of the Mid-South Regional Council*, said executives from Composite Cooling Solutions were extremely impressed with the work they got from the carpenters, adding that the company was a good employer, as well. "This company treats people as well as any company I've ever seen," Kerley said.

The project's spirit of teamwork was reflected in myriad examples—both large and small. Popsicles, Gatorade, and bottles of water appeared during the sweltering northern Alabama summer in company-provided coolers. Pizza parties and Southern barbecues (with UBC members behind the grills) marked milestones on the job.

And company officials kept communication flowing with their workers.

"The people we worked for were concerned if there were issues. If we thought of a way to do something better, they would look at that," said Robert Haddock, a journeyman carpenter with Local 1209 in Florence,

Ala., who was one of the first carpenters on the Browns Ferry job. "They were good to us, and we worked as hard as we could for them."

"It was a true success for everybody involved, and the carpenters played the key," said Salvatore DeBiase, site project supervisor for Composite Cooling Solutions.

"The union gave us 100 percent support," said DeBiase, who credits everyone involved in the project with creating "an environment of partnership, relationship, and respect."

UBC carpenters and millwrights did almost all of the construction, starting with layout on the ground to working on 50-foot scissor lifts. "The components come numbered like an erector set," said Don Finley, business representative for Local 1209. "We did the rigging, put in all the panels, all the fill, all the walls, all the stairwells, and millwrights installed the fans."



The new cooling tower at the Browns Ferry Nuclear Power Plant is the largest in the world made of composite materials.

Environmental regulations designed to protect the river's fish population prohibit the water returning from the plant to the river to be warmer than 90 degrees. When record heat hit in the summer of 2010, the plant had to reduce capacity by half for several weeks to keep water temps in compliance.

The reduction made it necessary for the TVA to purchase more-expensive power elsewhere, which cost ratepayers an additional \$50 million in their electric bills.

In November 2010, the TVA board approved construction of the new cooling tower, which became the seventh cooling tower at Browns Ferry. The mechanical draft tower uses giant fans to draw air past plant cooling water, lowering the temperature of the water as it drains through the structure. When warm weather arrives in 2012, the enhanced cooling system is expected to lower the temperature of the water by 10 additional degrees when it is discharged back into the river.

When it was completed on time and on budget, the new 28-cell Browns Ferry tower became the largest composite unit in the world. Records are nice, said business representative Finley, a 33-year UBC member, but what he'll remember most was the mutual effort between labor and management he saw on the job.

*The Mid-South Council represents carpenters in Alabama, Mississippi and Tennessee, as well as parts of western North Carolina, northern Georgia, eastern Arkansas, and the Florida Panhandle.