

CROSS STATION UNIT #2 COAL-FIRED POWER PLANTS

For nearly two decades, the Cross Generating Station has relied on protective coating systems from Tnemec for its coal-fired plants, including a complete repaint of its Unit 2 spanning a several year period. "The Unit 2 project required a dryfall system," recalled Tnemec coating consultant Dan Anderson. "It was used because they could spray-apply it and not have to worry about over-spray damage to employee automobiles and other plant surfaces."

The exterior steel surfaces in the plant were prepared by high-pressure wash and detergent cleaning to remove surface contaminants and loose paint. Rusted areas were prepared in accordance with SSPC-SP3 Power Tool Cleaning. The steel was then spot-primed with Series 135 Chembuild, a polyamidoamine epoxy which offers superior wetting for marginally prepared rusty steel and tightly adhering old coatings. Next, a coat of Series 113 H.B. Tneme-Tufcoat, a waterborne acrylic epoxy, was applied for resistance to staining, abrasion, chemicals and moisture.

A finish coat of Series 30 Spra-Saf EN, an advanced technology acrylic, was then spray-applied to complete the system. Spra-Saf EN is a direct-to-metal coating with very good early flash-rust resistance, as well as long-term corrosion protection and weathering properties. It can be used over aged coatings as it doesn't overly stress the underlining coating.

In the plant's scrubber area, a more chemical-resistant coating system was used over the Chembuild primer. An intermediate coat of Series 66 Hi-Build Epoxoline, a polyamide epoxy, was roller-applied, followed by a finish coat of Series 73 Endura-Shield, an aliphatic acrylic polyurethane. Endura-Shield is highly resistant to abrasion, wet conditions, corrosive fumes, chemical contact and exterior weathering.

Cross Generating Station also used Tnemec coating systems for the Unit 3 coal-fired plant, which became operational in 2007, and for Unit 4, scheduled for completion in 2011. "We used the same coating system on the new plants, although we shop-primed everything with Series 90-97 Tneme-Zinc, a moisture-cured, zinc-rich aromatic urethane," Anderson noted. "More than 18,000 gallons of Tneme-Zinc was used in the shop alone."

"Overall, more than 100,000 gallons of Tnemec coatings have been used for Units 2, 3 and 4," Anderson added.

Santee Cooper, a quasi-public utility of South Carolina Public Service Authority, operates the Cross Generating Station, which consists of three coal-fired units (Nos. 1, 2 and 3). Santee Cooper is in the process of building Cross Unit No. 4, which is expected to go online in 2009.

FEATURED PRODUCTS

Series 30 Spra-Saf EN
Series 66 Hi-Build Epoxoline
Series 135 Chembuild

Series 73 Endura-Shield
Series 113 H.B. Tneme-Tufcoat



PROJECT INFORMATION

Project Location

Cross, South Carolina

Project Completion Date

Spring 2006

Owner

Santee Cooper
Moncks Corner, South Carolina

Architect/Engineer

Santee Cooper
Moncks Corner, South Carolina

Cross Station Unit #2 can be seen in the background of the first photo and all steel surfaces were coated with Series 113 H.B. Tneme-Tufcoat.

