

# CROSS STATION UNIT #3 & #4 COAL-FIRED POWER PLANTS

Long before Santee Cooper started construction on a pair of new 600-megawatt coal-fired power plants at the Cross Station in South Carolina, a protective coating system from Tnemec had generated confidence among project engineers. "The new plants joined an existing coal-fired facility where the same coating system had been used," according to Tnemec coating consultant Dan Anderson. "The deciding factor was the success Santee Cooper has had with Tnemec products over the past 15 years. Rather than choosing coatings based solely on initial price, Santee Cooper investigated the life cycle cost of the paint based on company experience."

Prior to selecting the Tnemec coating system, Santee Cooper subjected other manufacturers' products to head-to-head testing against Tnemec in a third-party laboratory. "Tnemec coatings outperformed all challengers," Anderson reported.

After surface preparation in accordance with SSPC-SP6/NACE No. 3 Commercial Blast Cleaning, all interior and exterior steel at Cross Station Units 3 and 4 was shop-primed with Series 90-97 Tnemec-Zinc, a moisture-cured, zinc-rich aromatic urethane. After the steel was erected and spot-primed, a full coat of Series 113 H.B. Tnemec-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.

Unit 3 includes state-of-the-art environmental control technology, including a selective catalytic reduction (SCR), wet-flue-gas desulfurization system (or scrubber) and continuous emissions monitoring equipment to help reduce emissions of nitrogen oxide and sulfur dioxide. The SCR was shop-primed with Tnemec-Zinc primer followed by a shop-applied 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.

Unit 3 was constructed in 30 months, which was an aggressive schedule for a project of this magnitude. "Because the Tnemec system dries so fast, applicators were able to get more done in a day," Anderson added. "Plus they were able to work around the weather."

Construction work continues on Cross Unit 4, which is on track to become operational in January 2009. When completed, it will bring the total output generated at Cross Station to 2,425 megawatts, making it the largest coal-fired generating unit in both North and South Carolina. Santee Cooper is South Carolina's state-owned electric and water utility and services more than 155,000 residential and commercial customers.

## FEATURED PRODUCTS

Series 30 Spra-Saf EN  
Series 90-97 Tnemec-Zinc

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



## PROJECT INFORMATION

### Project Location

Cross, South Carolina

### Project Completion Date

Spring 2006

### Owner

Santee Cooper  
Moncks Corner, South Carolina

### Engineer

Santee Cooper  
Moncks Corner, South Carolina

### Applicator

Avalotis  
Pittsburgh, Pennsylvania

All exterior steel on units #3 and #4 at the Cross Station Coal-Fired Power Plants was primed with Series 90-97 Tnemec-Zinc and topcoated with Series 30 Spra-Saf EN.

