

# RAINEY STATION

# FUEL STORAGE TANKS



Santee  
Cooper  
POWER



## FEATURED PRODUCTS

**Series N69 Hi-Build Epoxoline II**   **Series 90-97 Tneme-Zinc**   **Series 161 Tneme-Fascure**  
**Series 73 Endura-Shield**

The South Carolina foothills are not the most hospitable climate for applying protective coatings, especially during the winter. So when engineers for the John S. Rainey Generating Station needed two 2.5 million gallon fuel storage tanks coated in the winter of 2001, the forecast called for cold weather coatings. "We had to use all low-temperature cure coatings," reported Tnemec coating consultant Dan Anderson. "They can be applied in temperatures down to 35 degrees F when used with an accelerator."

Surface preparation for both tanks consisted of abrasive blast cleaning according to SSPC-SP6 for the exterior and SSPC-SP10 for the interior. The interior of each tank received two spray-applied coats of a polyamidoamine epoxy, Series N69 Hi-Build Epoxoline II, at 4.0 to 6.0 mils DFT per coat. A modified amine accelerator for epoxies, Series 44-700, was added to the coating to allow for a cure rate at temperatures down to 35 degrees F. "It's pretty unique to have an interior lining that can be applied at these lower temperatures," Anderson noted. "We also recommended dehumidification equipment on the tanks to help speed the curing process."

Exterior steel was shop-primed using Series 90-97 Tneme-Zinc, a two-component zinc-rich aromatic polyurethane, at 2.5 to 3.5 mils DFT, followed by an intermediate coat of Series 161 Tneme-Fascure, a low-temperature cure, corrosion-resistant polyamide epoxy, which was spray-applied at 4.0 to 6.0 mils. The exterior finish coat was an aliphatic acrylic polyurethane, Series 73 Endura-Shield, which has a minimum cure rate of 35 degrees F and is highly resistant to abrasion, wet conditions, corrosive fumes, chemical contact and exterior weathering. It was spray-applied at 3.5 to 5.0 mils.

The fuel tank coatings were only part of those used on Rainey Station, which is owned by South Carolina's state-owned electric and water utility, Santee Cooper. "Tnemec coatings were used for the entire project, from the turbine building floor to the high-heat stacks to every tank lining on the site," Anderson recalled. "Overall, the project required thousands of gallons of protective coatings and took one year to complete."

Regardless of where or under what conditions the coatings are applied, energy companies such as Santee Cooper rely on formulations that last. "Everything is long-term because once a power plant is up and running, it's very expensive to take it down for maintenance," Anderson added.

## PROJECT INFORMATION

### Project Location

Starr, South Carolina

### Project Completion Date

September 2001

### Owner

Santee Cooper  
Moncks Corner, South Carolina

### Architect/Engineer

Santee Cooper Engineering Dept.

### Contractor/Applicator

Carolina Painting Company  
Easley, South Carolina



Tnemec coatings were used to protect the Rainey Generating Station, including fuel storage tanks, the turbine building floor, the high-heat stacks and all tank linings on the site.

