

NCRA REFINERY

The NCRA (National Cooperative Refinery Association) Refinery located in McPherson, Kansas, produces more than 85,000 barrels of fuel per day for use by farming communities throughout the North Central United States. The petroleum cooperative is the McPherson community's second largest employer with more than 600 employees. In 2007, Tnemec was specified for three projects at NCRA including two tank shell overcoats, a roof overcoat and roof recoat.

The first tank shell overcoat was a 50-foot high, 134-foot diameter floating roof style tank. Upon evaluation, Tnemec coating consultant Rick Penner noted an average of 8 mils dry film thickness (DFT) of existing coatings on the tank along with minimal rusting and many rough or dry spray areas. The majority of the tank was sanded with 80-grit sandpaper followed by a power wash and surface preparation in accordance with SSPC-SP3 Power Tool Cleaning.

Series 1 Omnithane, a moisture-cured urethane primer containing micaceous iron oxide and zinc, was brush- and roller-applied to spot prime the surface. Series 1029 Enduratone, a High Dispersion acrylic polymer, was then brush- and roller-applied to stripe coat the welds as well as topcoat the entire surface.

The roof overcoat to the floating roof-style tank specified a hot power wash at 10,000 psi and surface preparation in accordance with SSPC-SP3 Power Tool Cleaning. Series 1 Omnithane primed the surface area, followed by two coats of Series N69 Hi-Build Epoxoline II, a polyamidoamine epoxy with superior resistance to abrasion and chemical exposure.

The third refinery project included a 100-foot diameter cone roof style tank. "The epoxy on the shell was beginning to show its age but was in good condition overall," said Penner. "However, the coatings on the roof were delaminating and failing in multiple places on this tank. We recommended a shell overcoat and a recoat of the roof area."

Series 1 Omnithane was used to prime the shell walls, followed by a topcoat of Series 1029 Enduratone. For the roof recoat, Series 90-97 Tneme-Zinc, a two-component, zinc-rich aromatic urethane primer was applied, along with a topcoat of Series 1029 Enduratone.

"NCRA has traditionally been removing the existing coatings whenever any of their tanks needed a recoat, which can be quite costly," added Penner. "We were able to work closely with the owner and suggest appropriate overcoat systems that would perform well with the existing coatings and, in effect, control costs."

FEATURED PRODUCTS

- Series 1 Omnithane
- Series N69 Hi-Build Epoxoline II
- Series 90-97 Tneme-Zinc
- Series 1029 Enduratone



PROJECT INFORMATION

Project Location

McPherson, Kansas

Project Completion Date

October 2007

Owner

NCRA Refinery

Applicator

Rob Carroll Sandblasting & Painting
Arkansas City, Kansas

Tnemec protective coatings were chosen to overcoat two tank shells at the NCRA Refinery in McPherson, Kansas.

