

CUSTOMER CASE STUDY

Dominion Energy Clover FGD Mixing Blades

Mid-Atlantic (VA)



PROJECT OVERVIEW

CUSTOMER:

Dominion Energy

PRODUCTS USED:

Chesterton ARC-ceramic
epoxy coating

LOCATION:

Mid-Atlantic (VA)

CHALLENGE:

Restore and provide optimal protection from abrasion to the FGD mixer props to improve reliability.

SOLUTION:

A high ceramic content epoxy from Chesterton applied to major wear areas on the blades.

OUR ADVANTAGE:

- Turnkey solution
- Work performed in house
- NACE III inspector QA'd the job
- Material selected could be re-applied without equipment disassembly or burn permit

“The Chesterton products continue to provide quality and value to our customers. We exceeded Dominion Energy’s expectations by delivering cost savings and reduced downtime.” – Chuck Kohstall (Area Sales Manager)

PROJECT SUMMARY

A coal-fired power plant was having issues with premature wear on the FGD mixer props, resulting in replacement every 18 months and costing \$8,000 per prop. These props are subject to very high abrasion and high chloride content. Like many plants, they had tried rubber-coated impellers and exotic metallurgy. Previous attempts to combat wear and chemical attack had failed within 18 months. The rubber liners would delaminate, leaving exposed 316 metal which couldn’t resist the high chloride content. The exotic metals, including Hastelloy-C, would not withstand the abrasion.

Our solution was to use Chesterton’s ARC (advanced reinforced composites) product to protect the props. This product is engineered using the latest technologies and advanced material formulations—from ceramic bead reinforcement to nanotechnology—to withstand the most challenging environments. A single coat of ARC MX1, high ceramic coating, was applied to the outside 1” area of each blade at approximately 250mils. Then, ARC 855 was applied in two coats (15mils each) to the entire blade for chemical protection.

After 30 months of service, no wear on the leading edge of the props was noticed, and they will go back in service for another 1.5 years before the entire mixer assembly is overhauled, resulting in extensive cost savings. The Chesterton ARC product has extended service life, proven to be cost effective and increased operational efficiency due to less downtime for repair.

CUSTOMER

Dominion Energy, headquartered in Richmond, Virginia, is one of the nation’s largest producers and transporters of energy with a portfolio of approximately 26,200 megawatts of generation, 15,000 miles of natural gas transmission, gathering and storage pipeline, and 6,600 miles of electric transmission lines. They supply electricity to parts of Virginia and North Carolina and natural gas to parts of West Virginia, Ohio, Pennsylvania, and North Carolina. Dominion also has generation facilities in Indiana, Illinois, Connecticut, and Rhode Island.

