



## Westar Uses Limestone Slurry Piping to Reduce Plant Down Time

### Custom FRP.

1

Westar Energy is the largest electric power producer in Kansas. From their various

“energy centers” they produce electricity from wind, coal, nuclear, natural gas and landfill gas.

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After some time in operation, it was determined that there were areas of “high wear” in one of the 8 inch fiberglass pipe lines at some of the elbow locations. In order to replace the worn elbows, it required the shutting down of the system, draining of the lines, and time for fiberglass service crews to cut out and replace the elbow sections with butt

**Opportunity:** Three years ago, in one of Westar's coal-fired centers, they refurbished a Flue Gas Desulfurization (FGD) system. The purpose of this system is to remove the sulfur dioxide (SO<sub>2</sub>) from the flue gas emissions. Limestone slurry is a product used in the flue gas emissions process to remove SO<sub>2</sub>. The limestone is abrasive and requires an abrasive resistant piping system. Abrasion resistant fiberglass pipe was chosen to move the limestone slurry within the system.

**Solution:** The Beetle Plastics LLC Technical Services Group, along with our sales representative Steve Furman of Tompkins, Furman & Associates, worked with Westar personnel at the site to understand the problem and to develop a design change to reduce their downtime due to these “high wear” elbows. The end design was to replace the “butt and wrap” fiberglass pipe elbows with flanged elbow connections. This design allows quick change out of the elbows when the wear issues occur. These change outs can be done by plant personnel without the time and expense for outside fiberglass field service crews, thus reducing cost and shortening the down time for the replacements.

**Comments:** The cost to shut down a power plant for an emergency repair is very high, both in the cost of power generation lost and manpower to make the repair. The solution developed through the cooperation between the personnel at Beetle, Westar and Tompkins, Furman will help to reduce future pipe maintenance costs in this FGD system and assure continued supply of electric power to Westar's many customers.

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