



Hatfield's Ferry Power Station

About the 'scrubber' project

As part of its environmental commitment, Allegheny Energy will invest approximately \$650 million to install a flue-gas desulfurization system at its Hatfield's Ferry Power Station near Masontown, Pa. When completed in 2009, the "scrubbers" will remove approximately 95 percent of the sulfur dioxide (SO₂) emissions and significantly reduce mercury emissions from the station.

In addition to improving the environment, the scrubber system will enable Hatfield's Ferry to purchase more local coal, which will preserve regional coal mining and related coal mining support jobs.

The project will bring approximately 350 construction jobs to the region for a period of about three years. Additional full-time positions will be added to operate and maintain the scrubbers.

The scrubber system will include equipment to remove the sulfur dioxide created when coal is consumed to produce energy, as well as a new chimney that will exhaust the scrubbed gases from the plant.

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How does a scrubber work?

The 1,710-megawatt Hatfield's Ferry Power Station produces enough electricity to serve hundreds of thousands of customers in the Allegheny system, which includes parts of West Virginia, Pennsylvania, Maryland and Virginia. In that process, Hatfield's Ferry consumes approximately 9,000 tons of coal a day to generate electricity.

Sulfur dioxide is one of the by-products of the coal combustion process. The burning coal produces gases, as well as tiny particles called "fly ash." Electrostatic precipitators work like magnets to trap the fly ash before it can be released into the air. The gases, meanwhile, are pushed by giant fans into the spray towers of the scrubber's absorber modules.

The gases are then mixed with limestone slurry in a mist comparable to a heavy downpour of rain.

This limestone and water mixture captures approximately 95 percent of the sulfur oxides to form a new substance, calcium sulfate. The gases, now "scrubbed," go up the new chimney and are released into the atmosphere.

The slurry mixture in the absorber module is pumped to a dewatering area where the calcium sulfate is removed from the slurry to produce synthetic gypsum, a by-product that can be sold to manufacture wallboard for construction use. The water is piped back into the tower to be used again.

In one year, the Hatfield's Ferry scrubbers will produce approximately 1.5 million tons of gypsum, which will be sold or placed in an environmentally safe disposal area located on the Hatfield's Ferry site. Eventually, the disposal area will be covered with topsoil and planted with a suitable ground cover.

