



Mirant Environmental Technologies: Making Electricity Cleaner

Mirant is proving that it *is* possible to make older, coal-fired generating plants fit modern-day environmental standards. Since acquiring power generation plants across the U.S. in 1999 and 2000, Mirant has spent more than \$180 million on projects to reduce power plant emissions—with tremendous results. Our improvements are not over; in Maryland alone, we are in the process of investing more than \$1.6 billion in additional air quality control technologies in compliance with the Maryland Healthy Air Act.

A variety of environmental solutions have been implemented across the Mirant fleet. Our options are based on the characteristics of the plant, fuel type and economics; what works for a peaking unit might not be a prudent approach for baseload generation. Some of our chosen solutions include:

- Low sulfur coals;
- Low-NO_x (nitrogen oxide) burners; and
- Separated over-fire air (SOFA) technology.

These strategies have resulted in significant reductions of SO₂ and NO_x gases.

Scrubbers and SCRs

There are other, larger-scale technologies that yield a very high degree of SO₂, NO_x and mercury removal, and they are a key part of Mirant's environmental strategy. These consist of:

- Flue gas desulfurization (FGD) systems—commonly known as “scrubbers”—for SO₂ removal; and
- Selective catalytic reduction (SCR) systems for NO_x removal.

Both technologies are regarded for providing some of the highest removal rates for these pollutants. In addition to these gases, scrubbers also reduce mercury and particulate (also known as PM_{2.5} and PM₁₀) emissions. Mirant has chosen wet scrubbers that will achieve 98 percent removal of SO₂ and create a recyclable byproduct that doesn't need to be landfilled. SCRs throughout our fleet consistently achieve between 60–90 percent NO_x reduction, depending on technical specs.

Innovation in the mix

At other Mirant facilities, where the scrubber systems do not fit due to technical limitations or physical space constraints, we have taken an innovative approach to environmental solutions. Our Potomac River Generating Station in Alexandria, Va., is one such location that required a unique solution to reduce SO₂ emissions. The process involves a dry powder injection system utilizing trona, the base mineral for baking soda. This has provided substantial reductions in emissions that enable the Potomac River Station to operate within regulatory environmental standards. Specifically, the Potomac River plant has seen up to 80 percent reduction in SO₂ emissions since introducing trona.

For more information, please contact:

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