



Stationary Sorbent Modules: A Simple and (Cost-) Effective Multi Pollutant Control Technology

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In emerging and developing countries, pollution control technologies should ideally address multiple pollutants in a simple and most cost effective manner. W.L. GORE & Associates has developed a technique that captures Mercury (elemental as well as oxidized) and converts SO₂ into a valuable by-product, Sulphuric Acid.

In India, Gore together with a local engineering partner, is currently running a pilot plant to allow design and budgeting of a full scale plant. That automated pilot unit is already fully functional and is operated by the Indian partner of Gore since beginning of the year. In the workshop we will show results from the pilot tests and a technical and commercial model for an industrial size plant in India.

For a plant in Vietnam a Gore system is currently in the design phase. The main purpose of that project is to improve the performance of an existing wFGD scrubber to reduce emissions primarily of SO₂ to become compliant with the latest environmental regulations, and also to capture Mercury to meet future standards in South East Asia.

This GORE™ Mercury and SO₂ Control System (GMCS) is based on sorbent polymer composite (SPC) material housed within discrete modules. GMCS Modules are stacked to provide the desired level of removal. Plants with wFGDs can install the GMCS Modules in the top of their existing scrubber (zero footprint installation approach). For plants that don't have wet scrubbers, GMCS offers an intriguing alternative to a new wet or semi-dry scrubber at a fraction of the capital and operating cost, with built-in mercury control as an added benefit.

That technique has been applied in the US and Western Europe for some years now and some of the most recent projects, the lignite based heat and power plant in the city of Chemnitz, Germany and near Prague in the Czech Republic will be presented.

In arid regions water consumption is a critical factor that can be prohibitive to use classical techniques that are based on wet scrubbing. After the MEC 12 workshop that was held in Mpumalanga, South Africa, operators and engineers have approached Gore with the request to design a GMCS for a coal fired power plant in RSA, that consumes only a portion of the water that





a wet FGD would need. That project is currently under evaluation by the operator and will be described in the workshop.

In essence, GMCS is an innovative solution that eliminates many of the undesirable complications and high operating costs associated with traditional control systems. It also helps reducing NO_x (in combination with an SNCR, by capturing ammonia slip), PM and mist / droplets emission.

GMCS

- Is simple, passive and low in maintenance.
- Does not consume chemicals.
- Does not generate waste.
- Saves water.
- Can be installed in combination with, or instead of classical techniques, such as wFGD scrubbers.
- Can be scaled to meet the required performance.

Gore is a member of the UNEP Global Mercury Partnership.

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