

Boiler modifications cut mercury emissions

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Lehigh University researchers in Bethlehem, Pa., have developed a cost-effective technique for reducing mercury emissions from coal-fired power plants.

Lead investigator Carlos Romero said the Lehigh system in full-scale tests at three power plants reduced flue-gas emissions of mercury by as much as 70 percent or more, with modest impact on plant performance and fuel cost.

The reductions were reportedly achieved by modifying the physical conditions of power-plant boilers, including flue gas temperature, the size of the coal particles that are burned, the size and unburned carbon level of the fly ash, and the fly ash residence time. The modifications promote the in-flight capture of mercury, Romero said.

The researchers report their findings in an article titled "Modification of boiler operating conditions for mercury emissions reductions in coal-fired utility boilers," which will be published in a forthcoming issue of the journal *Fuel*.

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