

# TECHNOLOGY BRIEF



## DRY SORBENT INJECTION (DSI) FOR MERCURY REMOVAL

### MACT Drives need for Mercury Removal for Coal-Fired Boilers

#### The Plant Challenge: Reduce Hg Emissions

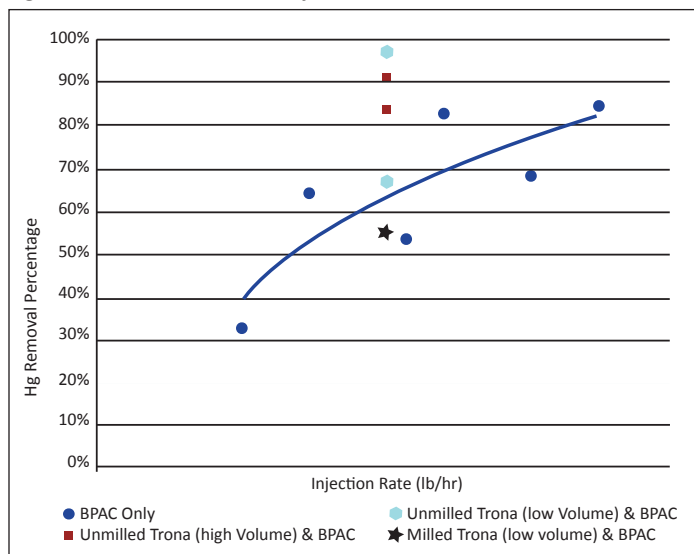
With the EGU MACT and the Industrial Boiler MACT, many power generating units and other coal-fired boilers find that they are now required to reduce mercury (Hg) emissions.

#### The UCC Solution: DSI Systems Are a Viable Solution

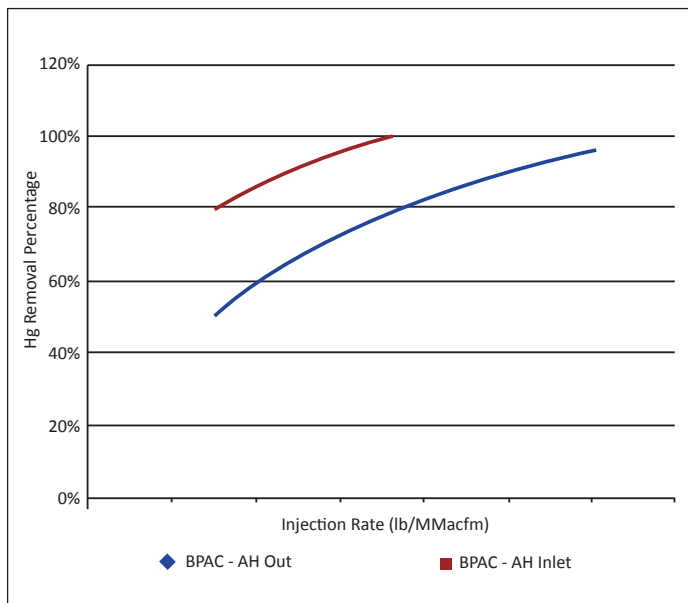
UCC DSI has substantial experience using powdered activated carbon (PAC), brominated activated carbon (BPAC), concrete compatible activated carbon (CPAC), and several novel carbon or non-carbon based sorbents for Hg removal. This experience includes tests conducted for Hg removal alone, or in combination with SO<sub>2</sub>, SO<sub>3</sub>, or HCl removal. We have achieved Hg removal levels of 95% or more.

Typical performance achieved with UCC DSI technology is shown below.

#### Hg Removal Percent - BPAC Injection



#### % Hg Removal vs ACI injection Rate



#### Affects on Ash Removal/Disposal

Since injection rates are low for Hg removal, modifications to existing ash removal systems are generally not needed. However, activated carbon products can change the material handling properties of ash and the sale of ash for beneficial re-use may be impacted. Using DSI to remove SO<sub>3</sub>, which interferes with Hg capture, and other techniques for minimizing injection rates may be enough to retain ash sales in some applications.

#### The Benefits

UCC is highly experienced in DSI for mercury removal and leads the industry in using DSI for mercury removal combined with SO<sub>2</sub>, SO<sub>3</sub> and/or HCL removal. Our experience and technology results in the most economical and efficient system for our customers.