TECHNOLOGY BRIEF

DRY SORBENT INJECTION (DSI) FOR HCl REMOVAL

MACT Drives need for HCl Removal for Coal, Oil, and Biomass Units

The Plant Challenge: Reduce HCl Emissions

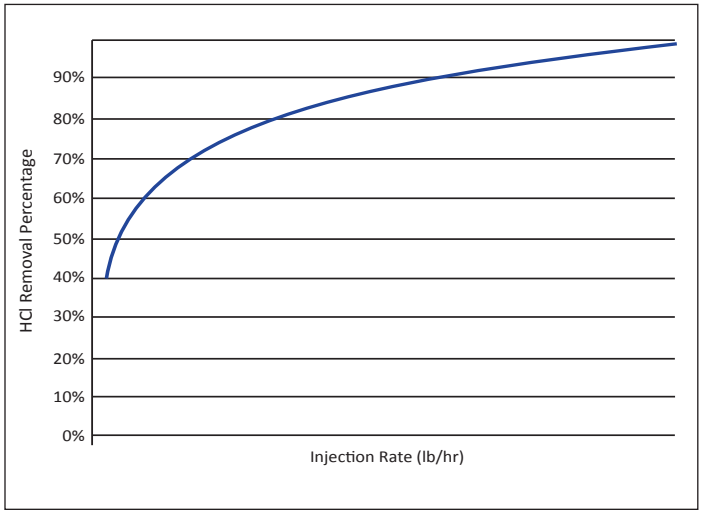
With the EGU MACT and the Industrial Boiler MACT, many power generating units and other coal/oil/biomass fired boilers that do not currently have scrubbers find that they are now required to reduce HCl emissions.

The UCC Solution: DSI Systems Are a Viable Solution

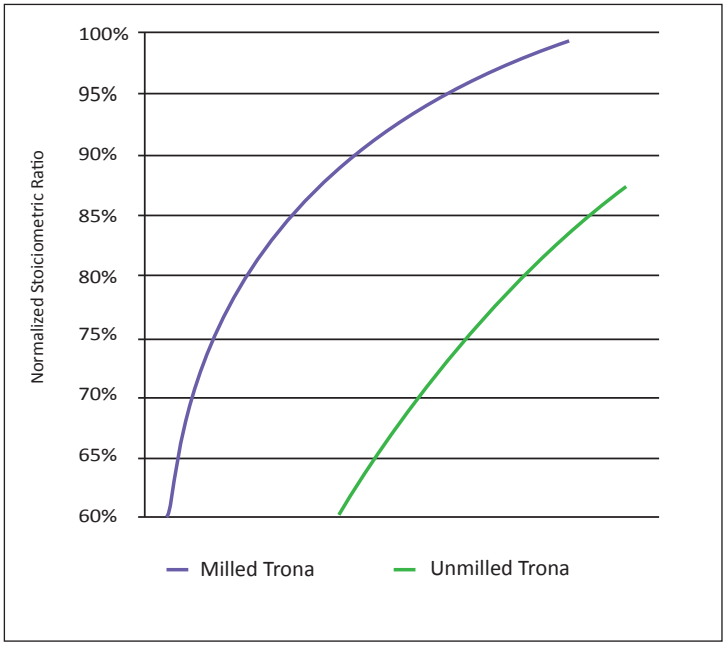
UCC has substantial experience using either hydrated lime, trona, or sodium bicarbonate injection for HCl removal. This experience includes tests and permanent systems operated for HCl removal alone, or in combination with SO_2 removal. When trona or sodium bicarbonate is used, UCC VIPER™ Mill technology has been proven to reduce sorbent usage by 30 to 50 percent, which can save utilities millions of dollars over the life of the system. In addition, UCC has shown that HCl emissions can be reduced to < 2 ppm with milled trona.

Typical performance achieved with UCC DSI technology is shown below.

HCl Removal - Coal



HCl Removal Percentage - Biomass



Affects on Ash Removal/Disposal

Since injection rates are low for HCl-only removal, modifications to existing ash removal systems are generally not needed. Sale of ash containing hydrated lime injection by-products is generally not affected. However, sale of ash for beneficial re-use may be impacted by trona or sodium bicarbonate injection if SO_2 removal is also accomplished due to the volume of sorbent injected. Use of in-line milling and other techniques for minimizing trona injection rates may be enough to retain ash sales.

The Benefits:

UCC is leading the industry in dry sorbent injection for HCl. Our experience and technology results in the most econmical and efficient system for our customers.