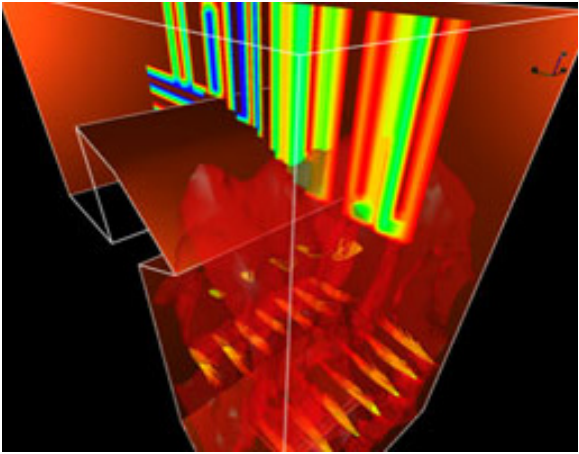




TIFI® Targeted In-Furnace Injection



The TIFI program is a furnace injection application of aqueous magnesium hydroxide slurry. The slurry, diluted with water and then atomized with air, is sprayed into the boiler (or other combustion unit) at computer-determined locations that enable complete coverage of boiler problem areas. The problem areas are caused by ash in the fuel that, depending upon fuel type, can cause sintered hard deposits or running slag (molten ash). These problem areas can be found on

boiler water walls, burner locations, pendant superheaters and reheaters, platen superheaters and economizers. Among the many manifestations of slag or sintered deposits are decreased heat transfer, increased fan power requirements, decreased capacity factor, and an increase in unit forced outages. From an energy balance perspective, the decreased heat transfer in the boiler results in decreased unit thermal efficiency which causes more coal to be burned to produce a megawatt-hour of electricity. In this circumstance, CO₂ emissions increase. Increasing boiler cleanliness by utilizing a TIFI program decreases CO₂ emissions per megawatt-hour electricity produced. A TIFI program requires zero capital expenditure. Currently, 30 coal-fired utility boilers in the U.S. use this type of program. Among those owners who carefully computed unit heat rate improvement (unit efficiency), TIFI was credited with improvements ranging from 50-150 Btu/kwh. This range roughly equates to an average improvement of 1% unit efficiency. The benefit in one 500 MWe base-loaded bituminous coal-fired boiler, would be a reduction of CO₂ emissions by 44,000 TPY.

*More information can be found on www.ftek.com