

For Immediate Release

EMx Technology Update

(October 25, 2002)

KNOXVILLE, TN – After six (6) years of EMx™ (the second-generation of the SCONOx™ NOx Absorber technology) systems operating in commercial power generating plants, EmeraChem is pleased to announce that EMx™ is now more cost competitive versus other mature technologies in the marketplace, in addition to achieving the lowest emission rates from gas-fired turbines.

Continuous improvements from our expertise in catalysis and surface chemistry have dramatically improved the EMx™ catalyst formulation resulting in nearly a 40% reduction in required catalyst volumes. Design and process improvements have yielded a 20% cost reduction in system components. Combining these advances, the total system cost has been significantly reduced.

These technology improvements and cost reductions become particularly evident in BACT analyses. Even when these BACT analyses ignore additional SCR costs, the “economic gap” between EMx™ and conventional SCR has been closed with regards to quantitative NOx removal rates (\$/ton).

Additionally, the use of new generation Dry Low NOx (DLN) combustion technology has pushed conventional SCR technology beyond its range of capability. DLN combustors can produce NOx concentrations of less than 10 ppm. As the NOx concentration decreases from the DLN, the required molecular interaction becomes more difficult to achieve between the ammonia and the NOx molecules. This increases the SCR catalyst volume and the quantity of excess ammonia reagent emitted into the atmosphere.

This increase in “ammonia slip”, i.e. the emission of unreacted ammonia, exhausts directly into nearby communities and has proven to have negative health effects upon residents. Ammonia slip is also a known precursor to particulate matter (PM) formation. Using SCR in most applications will increase PM emissions while trying to achieve NOx Reduction. Due to this efficiency trade-off, SCR systems have not demonstrated <2.0 ppm NOx emissions while simultaneously keeping ammonia slip below 2.0 ppm.

In contrast, EMx™ system performance is the only technology that offers less than 2 ppm NOx guarantees, less than 1 ppm CO emissions, and a 20% reduction in fine particulate for natural gas power plants. This performance has been demonstrated on gas turbines equipped with conventional and DLN combustion technology, and EMx™ has no ammonia emissions regardless of the application since ammonia is not used in the process.

The “emission gap” between EMx™ technology and SCR technology has always been distinctive. Now, thanks to EmeraChem’s advances in catalyst formulation and process improvements, EMx™ technology is being offered at prices consistent with conventional SCR technology while achieving superior performance.

EmeraChem LLC, is a privately held manufacturer and developer of catalytic products for air pollution control and fuel cell systems in the electricity generation market, industrial manufacturing, distributed power generation and transportation industries.

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SOURCE: EmeraChem LLC www.emerachem.com

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