



COAL-FIRED ELECTRIC UTILITY BOILER CLEANING SERVICE “CHEMVACTOR™” “IS TURNKEY SOLUTION FROM ENVIRONMENTAL ENERGY SERVICES (EES); ChemVactor Cuts Operation Costs At Large Powder River Basin Unit

May 9, 2011 (Newtown, Conn) – Environmental Energy Services, Inc. (EES), a leading global provider of utility and industrial oil and coal-fired boiler fuel treatment programs and stack emission monitoring services that increase energy efficiency and environmental compliance, has received positive customer feedback from the first deployments of a turnkey cleaning service called ChemVactor™ that already has cut one utility boiler operator’s cost of treating fuel additives.

EES (www.eescorp.com) developed ChemVactor™ to reduce slagging, fouling, and corrosion problems that plague coal-fired electric utility boilers and cause efficiency, health and safety concerns.

EES Presents ChemVactor™ at Electric Power Conference (Booth 553) May 10-12, 2011 at the Stephens Convention Center in Rosemont, Illinois.

The service came together after EES acquired an exclusive license to a fuel additive injection system from New Mexico-based Power & Control Solutions, Inc. (PCS). That system is a key component to the ChemVactor™ service that is proven to be a better, more economical method for removing slag without generating thermal stresses in boiler tubes. The ChemVactor™ process uniquely utilizes soot blowers to distribute CoalTreat® fuel additives (liquid or solid) directly onto existing slagging or fouling deposits for maximum chemical penetration and reactivity.

The first step in the process is to conduct patent pending High Temperature Probe (HTP) tests in the subject areas to obtain a chemical profile of the deposits formed. EES uses that data to formulate its own CoalTreat chemical blend boiler fuel treatment and dosage plan for that specific area.

The second step is the boiler cleaning service in which EES provides the chemicals, injection systems, soot blower nozzle retrofit, expertise and supervision to complete the job. ChemVactor™ uses existing soot blowers to directly embed CoalTreat chemicals into tenacious boiler tube deposits. ChemVactor™ changes the melting characteristics of the ash, thus reducing ash buildup and slagging. In addition to inhibiting the formation of slag, ChemVactor™ reacts with pre-existing deposits to break their bonds to internal boiler components, essentially reversing the problematic effects of reflective ash deposits that reduce heat transfer.

The ChemVactor™ concept proved successful at a 600MW opposed wall fired unit burning PRB coal that was experiencing fouling in the primary superheat section of the furnace. Increased soot blowing cycles and peak impact pressures were not effective in reducing fouling deposits. Frequent derates and water lancing during peak season were troublesome to plant operations. EES was invited in to conduct High Temperature Probe testing to classify the type of deposit being formed and determined the appropriate EES CoalTreat blend of chemicals.

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A demonstration system was installed and tested during which CoalTreat chemicals were applied through the ChemVactor™ system with each soot blowing cycle to an identified area where it successfully modified the ash melting point without chemical waste. Rapid cleaning was observed after the first soot blowing cycle. After four separate eight minute cycles the area was dramatically cleaner to the customer's satisfaction. Work with the customer continues to optimize soot blowing cycles, CoalTreat dosage and peak impact pressures on this unit.

About Environmental Energy Services: In addition to EES' success with the ChemVactor utility boiler cleaning service, the company has also achieved strong results with applications of EES' stack emissions Continuous Pentol SO3 Analyzer which has proven capable of keeping coal-fired boilers operating at full capacity while staying within environmental compliance.

EES is also working on a mercury control technology and a performance combustion catalyst that increases efficiency of fuel while reducing carbon emissions; a mercury and heavy metals remediation technology; a range of performance combustion catalysts that increase efficiency of fuel while reducing emissions; and various enhancements to conventional SCR and SNCR technologies.

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