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Advertising, but some good information. I made a judgment call

BRUKS News!

Coal to Biomass Conversions – Not a Simple Solution for US Power Producers

As renewable energy continues to gain popularity among some power producers in the United States, several power plants are being converted mostly in states with RFS (Renewable Fuel Standards). In other states, conversions are being completed in advance of a formal government requirement. Some municipalities, utilities, private developers, and coal-powered electrical generating plants are prioritizing a biomass conversion as their primary fuel source since they are able to make use of existing assets and a well-established means of distribution.

BRUKS has supplied equipment to several newly converted plants now producing power in California and Virginia. These plants alone introduced over 100 MW of biomass power over the past two years, requiring a substantial amount of woody biomass. DTE and Dominion Energy, where the conversions were implemented, opted for high-capacity, fully-automated designs in their wood yards. There is a distinct difference between handling coal as compared to wood waste. A typical plant can consume upwards of 500,000 tons of "green" wood chips on an annual basis. Receiving, processing and storing this volume of wood can be challenging, and requires a drastic change from typical coal yard operations.

The new, state-of-the-art wood yards include Truck Dumpers, Conveyors, Screens, Hogs and Stacker Reclaimers. This equipment is not a novel idea, however the installations capitalize on years of engineering practices for handling true "wood waste" materials. In most cases, material classified as "wood waste" is non-uniform in size and is quite often contaminated with non-desirable materials. The BRUKS design process overcomes these characteristics, providing uninterrupted material flow to the processing system.

Conversion projects can present economic challenges, however with the introduction of government mandates or incentives, many power plants are considering it as a viable opportunity. Natural gas prices remain at or around $6/MMBtu, and should pricing regress to 2008 levels, conversions will become more attractive to producers.

Process conversion from coal to biomass is not simple. A conversion requires modifying the coal Handling system to a biomass handling system, indicating significant changes. The largest impact is actual space required for a biomass system as compared to a coal system. The typical wood yard can consume upwards of 5 acres of real estate as compared to a coal yard that can often be as simple as a single silo and contained on 1 acre or less.

A new facility also needs to receive biomass by truck, and then store and recover the bulky and wet biomass. The biomass is screened before sizing it to the boiler's requirements. Once the process is

complete, the biomass is delivered at consistent rates for base-load power generation. Modifications to the boiler, ash-handling system, exhaust gas processing, and many other changes are also required.

As political and economic factors become more attractive, coal to biomass conversions will likely gain popularity, and quickly become the norm among US power producers. Using new material and equipment may challenge operations, however conversion projects are most successful with a team of experienced engineering and equipment suppliers. For additional information on these or other biomass conversion projects, please visit our website at www.bruks.com.

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