

Executive Summary

RAM-3 Combustion Technologies is the exclusive supplier of this patented process for the thermal coal power generation industry. With over a decade of experience solving wet fuel processing problems involving coals from around the world we stand ready to assist your operation with the following issues:

- Derating and outages related to wet fuel.
- Reduction or elimination of hazardous and costly wet fuel cleanup operations.
- Lost efficiency of SCR and other heat related emission control technologies.
- Interruptions in generation to native customers, often resulting in costly grid purchases.

RAM-3 can put you in contact with existing users, arrange site visits to see our technology in action, and visit your operation to provide a site specific proposal. We have a history of success and are continually expanding our capabilities to serve the thermal coal industry around the world.



Conclusions

The **RAMsorb™** process has resulted in significant savings for our customers, year after year. The generation lost to wet fuel processing problems for this customer group has been decreased by over 85%. As RAM-3 attracts more customers in regions of the world that experience seasonal rains we will incorporate the resulting data into our experience base and expand our references on a global basis.

In short, **RAMsorb™** has improved every operational performance metric compared to baseline wet fuel conditions. As our customers grow accustomed to the performance of **RAMsorb™** they are adjusting their fuel types to find even greater savings potential during wet fuel operations. These operational and emission benefits together with no risk factors and a low capital investment make **RAMsorb™** the solution to wet coal processing problems.



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Answering the Challenge of Wet Coal Processing

The Case for the **RAMsorb™ Process**

A large thermal coal generator evaluated the patented RAMsorb™ process in response to problems with wet coal and the associated loss in generation, outages, increased emissions and worker safety issues.

CHALLENGE

The plugging of conveyors, crushers, chutes, bunkers and mills were causing numerous recurring losses in generation. Workers were exposed to the hazardous situations created by spontaneous mill combustion and the laborious process of restoring fuel flow.

CONSEQUENCES

Disruptions in fuel processing caused significant financial impacts to the operation. Clean up operations from these events were the largest single causes of worker lost time accidents. In addition, the operation switched to higher cost fuels in an attempt to mitigate the problems.

ENVIRONMENTAL

During these wet fuel events SCR units were routinely by-passed as a result of low stack temperatures. This resulted in increased NOx emissions and depletion of valuable NOx credits.

ECONOMIC

The loss of revenue due to derating the station, the labor associated with the cleaning of the feed system, the loss of NOx allowances, and the inability to use alternative fuels resulted in a significant loss in efficiency.

Previous solutions to this condition have been to mechanically clean the milling system utilizing heavy equipment and labor to dislodge accumulated fuel deposits. This method can be a time consuming and hazardous undertaking. The economic impact may be significant, with each incident resulting in a minimum of 8 hours of lost production and many man-hours of labor. Other solutions currently available include using various dispersing and lubricating chemicals to prevent the accumulation of wet coal on the surfaces of the milling equipment. Many of these chemical solutions were deemed ineffective as they did not address the problem of excess moisture reacting with finely milled coal and the plugging problems associated with this condition. In fact, many of these technologies added moisture to the process.

