

# Risk Management in Coal Combustion

by Rod Hatt, President . Coal Combustion, Inc.  
859-873-0188

## *Risk = Probability x Consequences*

Speaking with a power plant engineer the other day, he told me that he read an article that mentioned that **Risk** is equal to the **Probability** of an event happening times the **Consequences**. This idea has intrigued me and I have tried to apply the concept to a modern coal fired utility plant.

The main risks involved in operation of a coal plant involve profit, legal, and safety.

Recent **EPA** toxic pollutant rules and regulations requiring **MACT**, high capital costs, variable coal costs and qualities, and the high cost of derates and outages due to slag and tube leaks represent the **Consequences**.

The key to minimizing profit risk is to reduce the **Probability** of derates and outages while burning low cost coal.

Higher sulfur and higher ash coals cause more slags and tube leaks than lower sulfur and ash coals.

**Low NOx** combustion process coupled with high load operation causes increased slagging and tube leaks

Slag and tube leaks due to ash correspond to coal quality and the combustion process.

The cost (**Consequences**) of slag and tube leaks is always high: At a minimal derates. The high end includes mutable outages, days in length, with increased maintenance costs.

Restated; to minimize **Risk** (profit, safety, legal) at a coal plant you have to reduce the **Chances** of slag and tube leaks by managing and improving coal quality and combustion.

**This is what we do for you at CCI, help you manage your risk!**  
by improving your understanding of Coal Quality and Combustion

**reducing the chances of slag and tube leaks**

**Risk \$ = Coal Quality & Combustion X \$\$\$\$\$\$\$\$ derates & outages**

Please visit [www.coalcombustion.com](http://www.coalcombustion.com) for more info