

# **Regarding Fuel Switching**

**MACT Working Group Meeting**

**Washington, DC**

**March 4-5, 2002**

# **Residual Question from the February WG Meeting**

- ◆ **Can a boiler that was designed for a particular coal (rank) burn a different coal (rank)?**

# Answer & Question

- ◆ The short, albeit qualified answer is:

**YES**

- ◆ Is it as simple as switching from Pepsi<sup>®</sup> to Coke<sup>®</sup>?

**NO!**

# Engineering Case Study

## ◆ Boiler Issues

- Slagging and fouling
- Efficiency

## ◆ Pulverizer Issues

- Heating value
- Grindability
- Abrasiveness

# Case Study (Cont'd)

## ◆ Fan Issues

- Utility boilers require three types/kinds of fans
  - ◆ Primary air (PA)
  - ◆ Forced draft (FD)
  - ◆ Induced draft (ID)
- The issue for each fan type is capacity.

# Specific Example

- ◆ **What big problem is anticipated when switching from a lower rank coal (e.g., subbituminous) to a higher rank coal (e.g., bituminous)?**
- ◆ **Maintaining proper superheat and reheat temperatures.**

## Example (Cont'd)

- ◆ So what are the consequences of decreased superheat and reheat temperature?
- ◆ Anything between simply losing boiler efficiency (increasing heat rate) to inoperability (e.g., tearing up the turbine with condensate).

# Conclusions

- ◆ **Switching coals is not without costs and is not done willy-nilly.**
- ◆ **A large swing in coal markets can have other, very significant economic consequences.**
  - **Adequate coal supplies**
  - **Displaced mining jobs**
  - **Infrastructure issues**