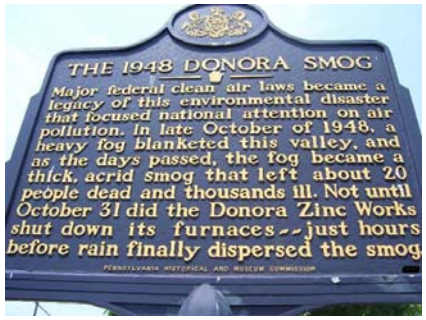
REINHOLD ENVIRONMENTAL Ltd.

2011 APC Round Table
& Expo Presentation

July 11-12, 2011, in Cleveland, OH / Hosted by FirstEnergy

Where has the Pendulum Swung?



Donora @ High Noon

No Controls

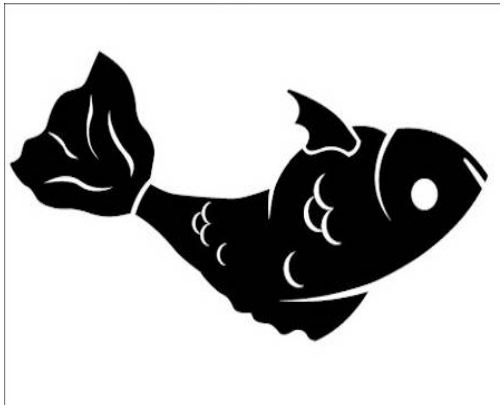
Excessive Controls

What will it cost?

$$ 10 Billion $$

U - MACT

Hg Limit – 1 lb/TBTU



Hg Control

Post-Combustion Controls			Mercury Capture Efficiency		
PM	NOx	SO2	Bituminous	Subbituminous	Lignite
ESP	None	Wet FGD	66%	16%	44%
ESP	None	Dry FGD	36%	35%	0%
ESP	SCR	Wet FGD	90%	66%	44%
ESP	SCR	Dry FGD	36%	35%	0%
None	None	Wet FGD	42%	30%	0%
None	None	Dry FGD	40%	15%	0%
None	SCR	Wet FGD	90%	51%	0%
None	SCR	Dry FGD	40%	15%	0%

Ways to enhance Collection

- ACI
- Alkali
- Halogen Oxidizer
- Proprietary Chemicals
- Co-benefits from Acid Gas Reductions

ACI Collection		
HS Bituminous	CS ESP	73%
LS Bituminous	CS ESP	94%
LS Bituminous	HS ESP	65%
Sub-Bituminous	CS ESP	25%

ACI Side Affects

- Loss of Ash Sales
- Affects on ESP
- SO3 Capture Interference

Will ACI or Dry Sorbent Injection trigger NSR?

- Was the ESP enhanced to meet 0.03 (PM & Cond.)?
- How much of the injected material will be collected?

If the Hg CEMs reading increases?

- Has the coal changed?
- Has conditions changed in the SCR?
- Has the injection media changed?
- Has the FGD chemistry changed?