

**Exhibit Number:**

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EXHIBIT 29  
DATE 2.4.05  
HB 455

December 30, 2004

William Maxwell  
U.S. EPA  
OAQPS, Emission Standards Division  
Combustion Group (C439-01)  
Research Triangle, NC 27711

Dear Mr. Maxwell:

In its Notice of Data Availability (NODA) for the Proposed National Emission Standards for Hazardous Air Pollutants, (Federal Register Vo. 69, No. 230, pp 69864-69878, Dec. 1, 2004), the U.S. Environmental Protection Agency sought updated information on the **current state of activated carbon injection (ACI) technology** for the reduction of mercury emissions from coal-fired utility boilers:

"II.B.4. Electric Utility Modeling: Areas of ongoing EPA research

[T]he Agency is seeking updated information on issues that may be relevant to assessing the assumptions employed in our power plant modeling, (e.g.[:]

- removal efficiencies
- capital and operating & maintenance (O&M) costs
- timeline for commercialization
- balance of plant issues, etc.)

e. EEI estimated that ACI would be less expensive per pound of Hg removed than EPA has estimated. ... Are EPA's Hg control technology cost assumptions reasonable? ...EPA is seeking additional detailed data addressing the validity of the costs assumed for ACI.

d. ...CATF assumed that ACI would be available in 2005 for all coal types, while Cinergy ... assumed ACI would be available in 2005 [in most of its modeling scenarios. Yet the EPA assumed that it would not be available until after 2010.] What assumptions for ACI availability are most appropriate? Specifically, what data of availability for ACI technology is appropriate to consider in a modeling analysis, at what quantities, for what coal types, and why?"

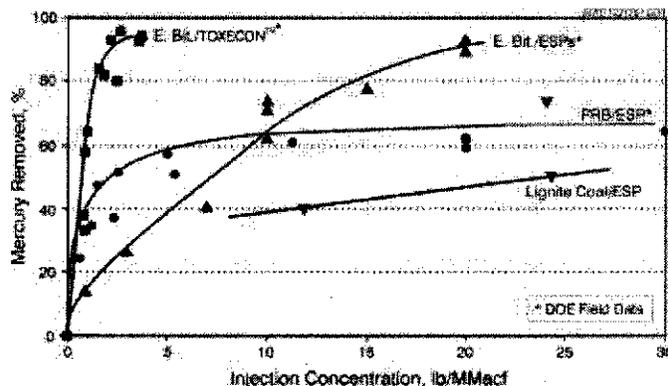
The following are Part I of comments by Sorbent Technologies Corporation intended to assist in the fulfillment of this request. A Part II with Balance-of-plant effects data and other pertinent information for the EPA and public will also be eDocketed. Note that a third group of comments containing Confidential Business Information (CBI) are also being submitted through the EPA's separate channels for CBI and are intended to be read in concert with these non-confidential comments.

Respectfully submitted,

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## Overall Mercury Reduction Results

Previously, at plants with just electrostatic precipitators (ESPs), the dominant industry configuration, maximum mercury reductions of only 50% to 70% were observed with lignites and subbituminous coals (e.g. PRB) at sorbent injection rates of 10 lb or more of powdered activated carbon (PAC) per million cubic feet of flue gas (lb/MMacf). See, for example, the graph below from the June 2003 Congressional testimony of Dr. Steven Benson of the University of North Dakota's Energy & Environment Research Center. High removal rates were previously observed with bituminous coal, but not with PRB and lignite.



In 2004, the U.S. Department of Energy co-sponsored five full-scale ACI utility demonstrations, outlined below. The four with low-chlorine subbituminous coal and lignite used new, inexpensive, pre-brominated carbons, instead of plain carbon.

2004 Full-Scale DOE Activated Carbon Injection Trials

	Plant	Utility	Coal	Configuration	Prime Contractor
1	St. Clair	Detroit Edison	Subbit. (85%)	ESP	Sorbent Technologies
2	Meramec	Ameren	Subbituminous	ESP	ADA-ES/Aistom
3	Holcomb	Sunflower	Subbituminous	DFGD/FF	ADA-ES
4	Stanton	Great River Energy	Lignite	DFGD/FF	UND EERC
5	Yates	Southern Cos.	Bituminous	ESP	URS

The four 2004 ACI trials with the low-rank fuels, summarized in color below, demonstrated extremely high mercury reductions at very low costs with the new brominated carbon technology. In these trials, 90% to 95% mercury reductions at injection rates of 3 lb/MMacf or less were observed. The new brominated PACs that were used in 2004 are estimated to cost only a fraction more than current plain PACs.

