Hot Topic Hour
4/18/13

Mercury Control – Activated Carbon Update
Outline

- Cabot Norit Activated Carbon introduction
- Factors impacting the demand on activated carbon
- Latest testing on Cabot Norit developments
- Current view of activated demand
- Impact on suppliers
Cabot Norit Activated Carbon

- The world’s largest producer of activated carbon products
- Manufacturing locations in Brazil, Canada, Italy, Mexico, the Netherlands, UK, and US
- Acquired by Cabot Corporation in 2012
Cabot is Geographically Diversified

46 manufacturing sites in over 20 countries, all with local management teams

*EMEA*
Factors impacting the demand for activated carbon.

- Activated Carbon is the leading mercury removal technology for coal fired utilities.
- Factors impacting performance
  - APC configuration
  - SO3 content
    - Native
    - Injected
  - Mercury Oxidation
    - Fuel halogen level
    - SCR
    - Fuel additives
  - Many others
- Activated carbons are being developed to limit the effect of negative impact factors
Activated Carbon Efficiency Improvements

In-flight Capture (ESP) on a lignite fuel

Mercury Removal Efficiency vs. Injection Rate (lb/MMacf)

- EXP623
- Hg-LH EXTRA
- Hg-LH
- EXP590

- 62.0%
- 27.1%
- 15.8%
What impacts the demand of activated carbon?

- Optimization of activated carbon utilization
  - System (ACI) improvements
  - Product/product combination improvements
- Alternative technologies
  - Non-carbon sorbents
  - Boiler additives
    - Advantages
    - Disadvantages
- Co-benefit technologies
  - DSI
    - Advantages
    - Disadvantages
  - Wet scrubbing
    - Re-emission
    - Water treatment regulations
Market Demand Growth Through 2017

Coal Fired Utility Activated Carbon Demand

Lb/year (Millions)


5-95% Range
Demand (lb)

Cabot Norit Activated Carbon prepared for expansion
Conclusions

- Market size uncertainty diminishing
- Product and system optimization more clearly defining applications and rates
- Cabot Norit permitted for sufficient production and mine expansion to meet market needs
- Early adoption by utilities still critical to planning
Thank-you

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