

BIG RIVERS ELECTRIC CORPORATION
REGULAR BOARD OF DIRECTORS MEETING
AUGUST 19, 2011

The regular meeting of the board of directors of Big Rivers Electric Corporation was called to order at 8 a.m., CDT, on Friday, August 19, 2011, at 201 Third Street, Henderson, Kentucky 42420.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED] & [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Mr. Bailey advised that the quarterly Coordinating Committee meeting was held on August 18 which was attended by two Century representatives with one Rio Tinto Alcan representative participating for part of the meeting by phone. The smelters asked if it might be possible for extra meetings to be scheduled to keep everyone abreast of the environmental issues. The next quarterly meeting is scheduled for November 17.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

Ray E. Elden
Secretary Treasurer

APPROVED:

[Signature]
Chair



Your Touchstone Energy[®] Cooperative 

Environmental Compliance Update

Eric Robeson

August 19, 2011

CSAPR

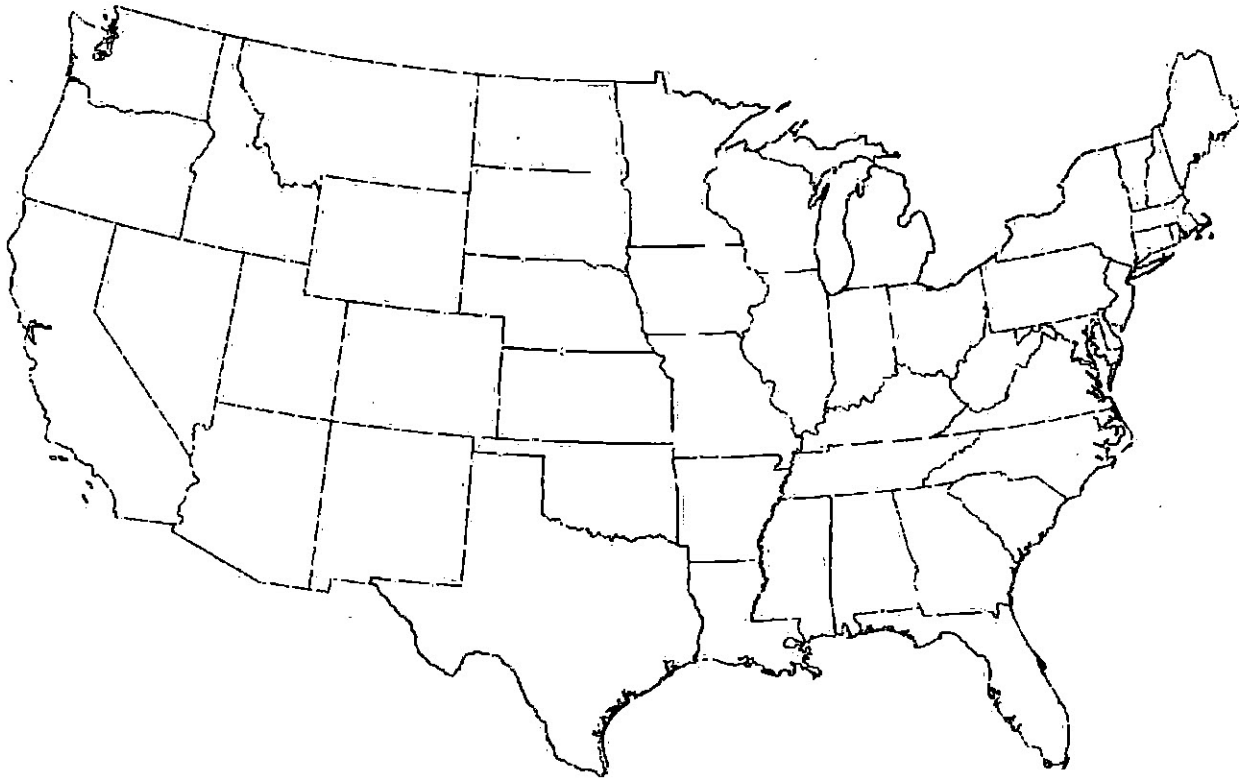


- Cross State Air Pollution Rule issued July 7, 2011 and published in Federal Register August 8th
- Replaces proposed CATR (Clean Air Transport Rule)
- Big Rivers (and all Kentucky utilities) received about 10% less SO₂ allowances and slightly more NO_x allowances than projected under CATR
- Compliance starts in 2012, with further reduction in allowances in 2014

CSAPR

- Creates new type of SO₂ and NO_x allowances
- Creates smaller control zones
- Minimal trading of allowances expected due to market structure and hoarding of allowances by utilities

CSAPR Control Zones



- States controlled for both fine particles (annual SO₂ and NO_x) and ozone (ozone season NO_x) (21 States)
- States controlled for fine particles only (annual SO₂ and NO_x) (2 States)
- States controlled for ozone only (ozone season NO_x) (5 States)
- States not covered by the Cross-State Air Pollution Rule

Big Rivers 2012 Impact



- **SO₂**
 - Minimal Impact
 - Receive 26,478 allowances vs. 2010 emissions of 26,086 tons
- **NO_x**
 - Some impact
 - Receive 11,186 annual allowances and 4,972 seasonal allowances vs. 2010 emissions of 12,074 and 4,995 tons respectively

Big Rivers 2014 Impact



- SO₂
 - **Major Impact**
 - 13,643 allowances (50% reduction required from 2010 emissions)
 - Wilson, HMPL and Reid are primary concerns
- NO_x
 - Minor Impact
 - 10,142 annual and 4,402 seasonal allowances (16% reduction required from 2010 emissions)
 - Green, Coleman, and Reid are primary concerns

Potential CSAPR Compliance Options



- 2012
 - Reduce Generation from Reid (bank allowances for 2014 and beyond)
- 2014
 - Reduce Generation to below system requirements and purchase from MISO
 - Improve FGD removal efficiency at HMPL
 - Mothball Reid (can lose allowances if not operated for 2 years)
 - New Scrubber on Wilson
 - SCR at Green
 - Permit Reid to run on gas (burners already installed)
 - Convert Green units to natural gas
- Sargent & Lundy study will provide detailed compliance options
- Challenge to meet 2014 for major capital projects like Wilson FGD

Current Big Rivers Efforts



- **Sargent & Lundy Study**
 - Compliance options with cap ex and O&M estimates by early October
 - Technology review by end of August
 - Environmental regulation summary by mid August
- **Emissions Testing**
 - Full load testing for Mercury, Acid Gases and Non Metallic Gases finished at all plants
 - Partial load testing at Wilson scheduled for September
- **Determine if purchased power available for 2014-2015**
- **Discussions with technology vendors**
- **Recommendations to Board in November**

Pending Environmental Regulations



- Utility MACT/HAPS
- NAAQS
- Clean Water Act (316a, 316b)
- Coal Combustion Residuals (CCR)

Utility MACT/HAPS



- Expected to be issued by November 15, 2011
 - Mercury (Hg)
 - Acid Gases (Hydrochloric or HCl)
 - Non Hg Metallic Gases or Total Particulate Matter (TPM)
 - In general, FGD systems remove Hg and HCl and SCR's reduce TPM
- Compliance date 3 years after final rules with potential 1 year extension if requested by utility

NAAQS

- National Ambient Air Quality Standards
- Updated every 5 years
- Due out by end of 2011
- Considering lowering ozone standards to 60 ppb v s current 75 ppb standard
- Potential to reduce SO₂ and NO_x allowances by additional 20% by 2018

Clean Water Act

316a, 316b



- Proposed rules issued April 2011
- Final rule expected by July 2012
- Potential Compliance dates in 2016-2020 time frame
- Cooling Tower could be required at Coleman
- Modifications to intake structure for Reid/HMPL may be required

Coal Combustion Residuals



- Proposed Rule published July 2010
- Final Rule expected in 2012
- Not expecting worst case (hazardous waste designation)
- Impact uncertain at this time
- Major political battlefield
- Compliance date in 2016-2018 time frame

Summary



- CSAPR finalized with 2012 compliance date
- Potential for CSAPR litigation exists
- Utility MACT, NAAQS, 316a, 316b, and CCR regulations under EPA review
- Sargent & Lundy study will provide options
- Scheduling difficulties for major capital projects
- Politics will impact scope and compliance date of all other regulations
- Interesting times ahead for Big Rivers