

**Archived:** Thursday, May 31, 2012 3:41:15 PM  
**From:** [Eric M. Robeson](#)  
**Sent:** Tuesday, October 25, 2011 2:42:06 PM  
**To:** [Bill Blackburn](#); [Bob Berry](#)  
**Subject:** FW: Environmental Compliance Plan - Economic Parameters  
**Response requested:** No  
**Importance:** Normal

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Bill

Would like to discuss and get your perspective on these assumptions'

Eric

**From:** ADAM.C.LANDRY@sargentlundy.com  
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**Sent:** Wednesday, October 19, 2011 11:27 AM  
**To:** Eric M. Robeson  
**Subject:** Environmental Compliance Plan - Economic Parameters

Eric,

Below are the figures that we are using for the economic analysis. Let me know if you have any comments or suggested alternative values that you would like us to use.

Ignore the "installation year". As we have discussed, various upgrades / retrofits will be installed as needed for compliance with the associated regulation.

### **Economic Parameter**

#### **Value**

Installation Year

2014

Cost Estimate Basis Year

2011

Operating Life of the Facility, Starting 2014 (years)

20

Discount Rate (%)

7.0

Capital Cost Escalation Rate (%)

4.0

Operating and Maintenance (O&M) Escalation Rate (%)

4.0

Levelized Fixed Charge Rate (20-Year) (%)

15.93

Operating Labor Rate - Pay Includes Benefits (\$/hr)

80

Auxiliary Power Cost (\$/MWh)

40

Delivered Cost of Sorbent - Hydrated Lime (\$/Ton)

200

Delivered Cost of Activated Carbon (\$/Ton)

2400

Delivered Cost of Fuel Additive - Calcium Bromide (\$/Ton)

2000

Delivered Cost of WFGD Additive (\$/Gallon)

20

Delivered Cost of Urea (\$/Gallon)

1.65

Additional Ash Disposal Costs Under Proposed Regulations for Coal Combustion  
Residuals (\$/Ton)

2.5

SO<sub>2</sub> Allowance Estimated Cost (\$/Ton)

2000

NO<sub>x</sub> Allowance Estimated Cost (\$/Ton)

2000

Regards,

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**Adam C. Landry**  
**Professional Engineer of Indiana, Illinois, Alberta**  
**Project Manager**

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