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PUBLIC SERVICE
COMMISSION

January 12, 2006

HAND DELIVERED

Ms. Elizabeth O'Donnell
Executive Director
Public Service Commission
211 Sower Boulevard
Frankfort, KY 40602

Re: PSC Case No. 2005-00417

Dear Ms. O'Donnell:

Please find enclosed for filing with the Commission in the above-referenced case, an original and eight copies of the responses of East Kentucky Power Cooperative, Inc., to the Commission staff Data Requests dated December 22, 2005.

Very truly yours,



Charles A. Lile
Senior Corporate Counsel

Enclosures

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PSC Request No. 1

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EAST KENTUCKY POWER COOPERATIVE, INC.

PSC CASE NO. 2005-00417

INFORMATION REQUEST RESPONSE

**PUBLIC SERVICE COMMISSION DATA REQUEST DATED DECEMBER
22, 2005**

REQUEST NO. 1

RESPONDING PERSON: Jeff Brandt

Request 1 (a): Refer to the Application, Exhibit 1, pages 2 and 3 and Exhibit 5.

Reconcile the following amounts related to the proposed limestone scrubber with a wet precipitator (WESP) and explain in detail the differences between the amounts:

a. The Alstom Power, Inc. ("Alstom") winning bid of \$135,882,910.

Response 1 (a): This is intended to be Stanley Consultant Inc.'s evaluated price, as referenced in Exhibit 2. There is a \$1,000 discrepancy between Stanley Consultant's figure and the figure used in the EKPC Board Resolution. Apparently, this is a typographical error in the resolution. This number is derived from the lump sum proposal price, plus an extensive list of additional options and deductions that were used to compare Alstom's proposal to B&W's. Two of the larger items were an additional \$4M for expected labor escalation and \$2M for expected material escalation costs during the project.

Request 1 (b): The Fuel and Power Supply Committee and EKPC's management recommendation of a contract with Alstom at a cost of \$139,706,060.

Response 1 (b): This is the total Alstom contract price recommended to the EKPC Board. At the time the Board Agenda Item was being prepared for submittal to the EKPC Board of Directors, the Alstom contract price for its portion of the scrubber project was estimated to be \$133,706,060. This value included \$25,209,000 for the WESP as well as approximately twenty items that either added to or subtracted from the contract price. Since labor and material escalation was not reflected in Alstom's proposal, \$6M was added to the requested contract amount, as discussed in the recommendation by Stanley Consultants on page 4 of Exhibit 2.

Request 1 (c): The EKPC Board of Directors' approval of the scrubber at a cost of \$162,806,060.

Response 1 (c): This is the total estimated cost for the entire scrubber project, as presented to the Board of Directors. Other costs associated with this project, beyond the \$139,706,060 Alstom contract estimate, included:

Electrical Upgrades (\$3.5M): New 13.8KV switchgear for new ID Fans

Foundations (\$5M): Not included in Alstom's scope

Transformers (\$2M): New auxiliary transformers for added loads

Owner's Costs (\$5M): Includes EKPC labor, testing travel, etc.

PSC Request No. 1

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These costs, plus a 5% contingency, brought the project cost up to an estimated \$162,806,060. This was the expected total project cost requested by EKPC management for approval from the EKPC Board of Directors.

Request 1 (d): The estimated project cost shown in Exhibit 5 as \$158,985,060.

Response 1 (d): This is a revised total project cost estimate, that reflects a deletion of certain optional equipment from the Alstom contract price. Subsequent to the EKPC Board approval of the project, EKPC management completed an updated evaluation of the economic feasibility of the production of gypsum from the facilities, and determined that the full cost of the additional equipment needed to produce gypsum could not be justified at this time, based on the current market for gypsum. However, EKPC anticipates that economic production of gypsum may become feasible at some time in the future, and desires to preserve the capacity for future gypsum production at a minimum initial investment. Therefore, \$3,821,000 in such equipment was deleted from the Alstom contract. This consisted of all of the equipment in the Alstom “wallboard quality option” (\$4,746,000), except for \$925,000 associated with an increased absorber module size. This larger absorber module is an integral design element of the scrubber which provides a higher level of reliability to the scrubber, and is also essential to future gypsum production, but this module sizing must be incorporated into the initial design. The remaining gypsum production equipment can be retrofitted to the facilities in the future, if desired.

EAST KENTUCKY POWER COOPERATIVE, INC.

PSC CASE NO. 2005-00417

INFORMATION REQUEST RESPONSE

**PUBLIC SERVICE COMMISSION DATA REQUEST DATED DECEMBER
22, 2005**

REQUEST NO. 2

RESPONDING PERSON: Jeff Brandt

Request 2 (a): Refer to the Application, Exhibit 3.

a. Has EKPC estimated the revenue that could be generated from the sale of the disposable grade gypsum? If yes, provide the estimate and explain how the estimate was determined.

Response 2 (a): A Spurlock Unit 2 scrubber, if equipped with wallboard quality gypsum producing capability, would produce approximately 425,000 tons of gypsum per year. EKPC's evaluation of the feasibility of producing wallboard grade gypsum determined that a sales price of approximately \$4.00 per ton was required to offset capital, operation, and maintenance costs. This is based on an additional capital expenditure of \$4M, utilization of a higher quality limestone, and material handling upgrades of approximately \$8M. Wallboard manufacturers were contacted and it was

PSC Request No. 2

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determined that the market price for gypsum in 2009 would be \$0.00 per ton. At this time, EKPC is evaluating in more detail the capital expenditures required to produce wallboard grade gypsum, will continue to monitor projections of future market prices for gypsum, and will revisit this issue in the near future.

Request 2 (b): Does EKPC have contracts in place for the sale of the gypsum?

Explain the response

Response 2 (b): As explained above, EKPC has found no market for gypsum through 2009, and would not enter into contracts unless this situation changes and a decision is made to add necessary facilities to the scrubber in the future.

EAST KENTUCKY POWER COOPERATIVE, INC.

PSC CASE NO. 2005-00417

INFORMATION REQUEST RESPONSE

PUBLIC SERVICE COMMISSION DATA REQUEST DATED DECEMBER 22, 2005

REQUEST NO. 3

RESPONDING PERSON: Frank J. Oliva

Request 3. Refer to the Application, Exhibit 6, the Testimony of Frank J. Oliva (“Oliva Testimony”), page 2 of 5. EKPC states that interim financing for the scrubber will be provided from a credit facility it has syndicated through the National Rural Utilities Cooperative Finance Corporation and the Bank of Tokyo-Mitsubishi. The Commission authorized the credit facility in Case No. 2005-00267. The August 24, 2005 Order in Case No. 2005-00267 limited the use of the proceeds from the credit facility to the projects described in that application. The proposed scrubber was not identified as one of the projects to be financed by the credit facility. Explain why the scrubber project was not identified as one of the capital projects in Case No. 2005-00267.

Response 3. At the time of EKPC’s Application for approval of the unsecured credit facility in Case No. 2005-00267, construction of the proposed scrubber for Spurlock Unit No. 2 was not yet approved by EKPC’s Board of Directors. The proposed scrubber was inadvertently omitted from the specific “Description of Facilities To Be Constructed” in Exhibit 3 of the Application, but was submitted to the banks as one of the projects to be funded by the credit facility.

PSC Request 3

Page 2 of 2

On August 11, 2005, EKPC filed an Amended Application in Case No. 2005-00267, in which it committed that no funds would be drawn on the proposed credit facility for construction that requires, but has not yet been issued, a Certificate of Public Convenience and Necessity (“CPCN”). The Commission included this requirement in its final order approving the credit facility, dated August 24, 2005. The purpose of the credit facility is to provide interim financing for various purposes, which would otherwise be funded through EKPC general funds, until long term financing from the Rural Utilities Service or the National Rural Utilities Cooperative Finance Corporation is available. EKPC believes that the use of the credit facility for the proposed scrubber, if a CPCN is granted by the Commission, represents a proper purpose, and is consistent with the overall justification for this financing and the Commission’s approval of it.

EAST KENTUCKY POWER COOPERATIVE, INC.

PSC CASE NO. 2005-00417

INFORMATION REQUEST RESPONSE

PUBLIC SERVICE COMMISSION DATA REQUEST DATED DECEMBER 22, 2005

REQUEST NO. 4

RESPONDING PERSON: Frank J. Oliva

Request 4. Refer to the Application, Exhibit 6, the Oliva Testimony, page 4 of 5 and Exhibit A. Provide all workpapers, assumptions, and calculations supporting the determination of the net present value savings of operating a scrubber using Northern Appalachian high-sulfur coal.

Response 4. Please see attached information.

**East Kentucky Power Cooperative
Limestone Scrubber Study
Detailed Savings (Costs) Due to Scrubber Operation**

| | Year 2008 - 2036 |
|--|-------------------------------|
| | NAP-WV - Pitts 6.0 lb. |
| Fuel Savings | \$810,203,360 |
| Emission Allowance Savings | 138,927,516 |
| Operation Labor & Benefits for Scrubber | (61,806,250) |
| Scrubber Maintenance | (84,071,000) |
| Fixed Costs Related to Scrubber Capital Expenditures | (291,019,364) |
| Limestone for Scrubber | (55,506,162) |
| Landfill Cost Including Ash Disposal | (7,032,327) |
| Energy Replacement | (61,712,000) |
| Total Savings (Costs) Due to Scrubber Operation | \$387,983,773 |

Assumptions:

Fuel comparisons are between the scenarios of Compliance Coal (CAPP - Pike 1.2 lb.) without scrubber operation versus burning Non-compliance Coal (NAP-WV - Pitts 6.0 lb.) with scrubber operation.

Fuel prices and SO2 allowance prices are from EVA projections.

Scrubber Cost Analysis
Year 2008 through Year 3036
Escalation Rates
SO2 Allowances Based on EVA Projections

| <u>Year</u> | <u>Escalated @ 3%</u> <u>Labor - 25 people</u> <u>@ \$55,000</u> <u>+ Benefits 1.55x</u> | <u>Escalated @ 3%</u> <u>(beginning with</u> <u>Stanley</u> <u>Consultants \$)</u> <u>Maintenance</u> | <u>Escalated</u> <u>@ 3%</u> <u>Lime</u> <u>Costs</u> | <u>EVA</u> <u>Projections</u> <u>SO2</u> <u>Allowances</u> | <u>Escalated</u> <u>@ 3%</u> <u>Scrubber</u> <u>Landfill</u> <u>Costs</u> | <u>Escalated</u> <u>@ 3%</u> <u>Capacity</u> <u>Repl.</u> <u>Cost</u> | <u>Escalated</u> <u>@ 3%</u> <u>Ash Penalty</u> <u>for Boiler</u> <u>Maint.</u> | <u>Escalated</u> <u>@ 3%</u> <u>Ash</u> <u>Landfill</u> <u>Cost</u> | <u>Escalated</u> <u>@ 3%</u> <u>Limestone</u> <u>Cost</u> | <u>(Info. from</u> <u>Finance)</u> <u>Fixed Costs</u> <u>Rate %</u> |
|-------------|---|---|--|---|---|---|---|---|--|--|
| 2008 | 2,195,187.50 | 2,985,970.00 | 55.11 | \$600.00 | 2.58 | 195.70 | 0.167 | 2.58 | 9.06 | 11.13 |
| 2009 | 2,261,043.13 | 3,075,549.10 | 56.76 | \$562.00 | 2.65 | 201.57 | 0.172 | 2.65 | 9.34 | 11.05 |
| 2010 | 2,328,874.42 | 3,167,815.57 | 58.46 | \$662.00 | 2.73 | 207.62 | 0.177 | 2.73 | 9.62 | 10.97 |
| 2011 | 2,398,740.65 | 3,262,850.04 | 60.21 | \$806.00 | 2.81 | 213.85 | 0.182 | 2.81 | 9.90 | 10.88 |
| 2012 | 2,470,702.87 | 3,360,735.54 | 62.02 | \$929.00 | 2.90 | 220.26 | 0.188 | 2.90 | 10.20 | 10.78 |
| 2013 | 2,544,823.96 | 3,461,557.61 | 63.88 | \$1,069.00 | 2.99 | 226.87 | 0.193 | 2.99 | 10.51 | 10.68 |
| 2014 | 2,621,168.68 | 3,565,404.34 | 65.80 | \$953.00 | 3.07 | 233.68 | 0.199 | 3.07 | 10.82 | 10.57 |
| 2015 | 2,699,803.74 | 3,672,366.47 | 67.77 | \$1,078.00 | 3.17 | 240.69 | 0.205 | 3.17 | 11.15 | 10.45 |
| 2016 | 2,780,797.85 | 3,782,537.46 | 69.81 | \$1,102.00 | 3.26 | 247.91 | 0.211 | 3.26 | 11.48 | 10.32 |
| 2017 | 2,864,221.78 | 3,896,013.58 | 71.90 | \$896.00 | 3.36 | 255.34 | 0.218 | 3.36 | 11.83 | 10.18 |
| 2018 | 2,950,148.44 | 4,012,893.99 | 74.06 | \$730.00 | 3.46 | 263.00 | 0.224 | 3.46 | 12.18 | 10.03 |
| 2019 | 3,038,652.89 | 4,133,280.81 | 76.28 | \$594.00 | 3.56 | 270.89 | 0.231 | 3.56 | 12.55 | 9.87 |
| 2020 | 3,129,812.48 | 4,257,279.24 | 78.57 | \$483.00 | 3.67 | 279.02 | 0.238 | 3.67 | 12.92 | 9.70 |
| 2021 | 3,223,706.85 | 4,384,997.61 | 80.92 | \$394.00 | 3.78 | 287.39 | 0.245 | 3.78 | 13.31 | 9.52 |
| 2022 | 3,320,418.06 | 4,516,547.54 | 83.35 | \$321.00 | 3.89 | 296.01 | 0.252 | 3.89 | 13.71 | 9.32 |
| 2023 | 3,420,030.60 | 4,652,043.97 | 85.85 | \$261.00 | 4.01 | 304.89 | 0.260 | 4.01 | 14.12 | 9.11 |
| 2024 | 3,522,631.52 | 4,791,605.29 | 88.43 | \$213.00 | 4.13 | 314.04 | 0.268 | 4.13 | 14.55 | 8.88 |
| 2025 | 3,628,310.46 | 4,935,353.44 | 91.08 | \$173.00 | 4.26 | 323.46 | 0.276 | 4.26 | 14.98 | 8.64 |
| 2026 | 3,737,159.78 | 5,083,414.05 | 93.81 | \$141.00 | 4.38 | 333.17 | 0.284 | 4.38 | 15.43 | 8.38 |
| 2027 | 3,849,274.57 | 5,235,916.47 | 96.63 | \$115.00 | 4.52 | 343.16 | 0.293 | 4.52 | 15.89 | 8.10 |
| 2028 | 3,964,752.81 | 5,392,993.96 | 99.53 | \$103.00 | 4.65 | 353.46 | 0.301 | 4.65 | 16.37 | 7.79 |
| 2029 | 4,083,695.39 | 5,554,783.78 | 102.51 | \$91.00 | 4.79 | 364.06 | 0.310 | 4.79 | 16.86 | 7.47 |
| 2030 | 4,206,206.25 | 5,721,427.30 | 105.59 | \$79.00 | 4.93 | 374.98 | 0.320 | 4.93 | 17.37 | 7.12 |
| 2031 | 4,332,392.44 | 5,893,070.11 | 108.75 | \$67.00 | 5.08 | 386.23 | 0.329 | 5.08 | 17.89 | 6.75 |
| 2032 | 4,462,364.21 | 6,069,862.22 | 112.02 | \$55.00 | 5.23 | 397.82 | 0.339 | 5.23 | 18.43 | 6.35 |
| 2033 | 4,596,235.14 | 6,251,958.08 | 115.38 | \$43.00 | 5.39 | 409.75 | 0.349 | 5.39 | 18.98 | 5.92 |
| 2034 | 4,734,122.19 | 6,439,516.83 | 118.84 | \$31.00 | 5.55 | 422.04 | 0.360 | 5.55 | 19.55 | 5.46 |
| 2035 | 4,876,145.86 | 6,632,702.33 | 122.40 | \$19.00 | 5.72 | 434.71 | 0.371 | 5.72 | 20.13 | 4.96 |
| 2036 | 5,022,430.23 | 6,831,683.40 | 126.08 | \$7.00 | 5.89 | 447.75 | 0.382 | 5.89 | 20.74 | 4.43 |

Spurlock Station

Revised Price Forecast (2-25-05)

| Year | Region | CAPP | NAP-WV |
|------|---------------------------|--------------|--------------|
| | | Pike | Pitts |
| | Btu/lb | 12,000 | 12,200 |
| | #SO2/MMBtu | 1.2 | 6 |
| | % Ash | 11 | 10 |
| | <u>Trans.</u> | <u>TK/BG</u> | <u>Barge</u> |
| 2008 | | 1.941 | 1.333 |
| 2009 | | 1.945 | 1.378 |
| 2010 | | 1.978 | 1.416 |
| 2011 | | 2.050 | 1.418 |
| 2012 | | 2.101 | 1.426 |
| 2013 | | 2.168 | 1.420 |
| 2014 | | 2.222 | 1.438 |
| 2015 | | 2.290 | 1.432 |
| 2016 | | 2.340 | 1.440 |
| 2017 | | 2.390 | 1.450 |
| 2018 | | 2.440 | 1.460 |
| 2019 | | 2.490 | 1.470 |
| 2020 | | 2.540 | 1.480 |
| 2021 | | 2.590 | 1.490 |
| 2022 | | 2.640 | 1.500 |
| 2023 | | 2.690 | 1.510 |
| 2024 | | 2.740 | 1.520 |
| 2025 | | 2.790 | 1.530 |
| 2026 | | 2.840 | 1.540 |
| 2027 | | 2.890 | 1.550 |
| 2028 | | 2.940 | 1.560 |
| 2029 | | 2.990 | 1.570 |
| 2030 | | 3.040 | 1.580 |
| 2031 | | 3.090 | 1.590 |
| 2032 | | 3.140 | 1.600 |
| 2033 | | 3.190 | 1.610 |
| 2034 | | 3.240 | 1.620 |
| 2035 | | 3.290 | 1.630 |
| 2036 | | 3.340 | 1.640 |
| | Average from 2008-2036 | 2.632 | 1.503 |
| | Difference | | 1.129 |

**East Kentucky Power Cooperative
Limestone Scrubber Study
Annual Savings (Costs) Due to Scrubber Operation**

| Year | Fuel | | Emission Allowances | | Opr. Labor & Benefits for Scrubber | | Scrubber Maintenance | |
|-------------------|---------------------|----------------------|---------------------|----------------------|------------------------------------|----------------------|----------------------|----------------------|
| | CAPP - Pike 1.2 lb. | NAP-WV Pitts 6.0 lb. | CAPP - Pike 1.2 lb. | NAP-WV Pitts 6.0 lb. | CAPP - Pike 1.2 lb. | NAP-WV Pitts 6.0 lb. | CAPP - Pike 1.2 lb. | NAP-WV Pitts 6.0 lb. |
| 2008 | \$78,554,599 | \$53,948,110 | \$9,932,400 | \$1,419,605 | \$0 | \$2,195,188 | \$0 | \$2,985,970 |
| 2009 | 78,716,484 | 55,769,314 | 9,303,348 | 1,329,697 | 0 | 2,261,043 | 0 | 3,075,549 |
| 2010 | 80,052,034 | 57,307,219 | 10,958,748 | 1,566,298 | 0 | 2,328,874 | 0 | 3,167,816 |
| 2011 | 82,965,960 | 57,388,162 | 13,342,524 | 1,907,003 | 0 | 2,398,741 | 0 | 3,262,850 |
| 2012 | 85,029,991 | 57,711,931 | 15,378,666 | 2,198,022 | 0 | 2,470,703 | 0 | 3,360,736 |
| 2013 | 87,741,562 | 57,469,104 | 17,696,226 | 2,529,263 | 0 | 2,544,824 | 0 | 3,461,558 |
| 2014 | 89,927,006 | 58,197,586 | 15,775,962 | 2,254,806 | 0 | 2,621,169 | 0 | 3,565,404 |
| 2015 | 92,679,048 | 57,954,758 | 17,845,212 | 2,550,557 | 0 | 2,699,804 | 0 | 3,672,366 |
| 2016 | 94,702,608 | 58,278,528 | 18,242,508 | 2,607,341 | 0 | 2,780,798 | 0 | 3,782,537 |
| 2017 | 96,726,168 | 58,683,240 | 14,832,384 | 2,119,944 | 0 | 2,864,222 | 0 | 3,896,014 |
| 2018 | 98,749,728 | 59,087,952 | 12,084,420 | 1,727,186 | 0 | 2,950,148 | 0 | 4,012,894 |
| 2019 | 100,773,288 | 59,492,664 | 9,833,076 | 1,405,409 | 0 | 3,038,653 | 0 | 4,133,281 |
| 2020 | 102,796,848 | 59,897,376 | 7,995,582 | 1,142,782 | 0 | 3,129,812 | 0 | 4,257,279 |
| 2021 | 104,820,408 | 60,302,088 | 6,522,276 | 932,207 | 0 | 3,223,707 | 0 | 4,384,998 |
| 2022 | 106,843,968 | 60,706,800 | 5,313,834 | 759,489 | 0 | 3,320,418 | 0 | 4,516,548 |
| 2023 | 108,867,528 | 61,111,512 | 4,320,594 | 617,528 | 0 | 3,420,031 | 0 | 4,652,044 |
| 2024 | 110,891,088 | 61,516,224 | 3,526,002 | 503,960 | 0 | 3,522,632 | 0 | 4,791,605 |
| 2025 | 112,914,648 | 61,920,936 | 2,863,842 | 409,319 | 0 | 3,628,310 | 0 | 4,935,353 |
| 2026 | 114,938,208 | 62,325,648 | 2,334,114 | 333,607 | 0 | 3,737,160 | 0 | 5,083,414 |
| 2027 | 116,961,768 | 62,730,360 | 1,903,710 | 272,091 | 0 | 3,849,275 | 0 | 5,235,916 |
| 2028 | 118,985,328 | 63,135,072 | 1,705,062 | 243,699 | 0 | 3,964,753 | 0 | 5,392,994 |
| 2029 | 121,008,888 | 63,539,784 | 1,506,414 | 215,307 | 0 | 4,083,695 | 0 | 5,554,784 |
| 2030 | 123,032,448 | 63,944,496 | 1,307,766 | 186,915 | 0 | 4,206,206 | 0 | 5,721,427 |
| 2031 | 125,056,008 | 64,349,208 | 1,109,118 | 158,523 | 0 | 4,332,392 | 0 | 5,893,070 |
| 2032 | 127,079,568 | 64,753,920 | 910,470 | 130,130 | 0 | 4,462,364 | 0 | 6,069,862 |
| 2033 | 129,103,128 | 65,158,632 | 711,822 | 101,738 | 0 | 4,596,235 | 0 | 6,251,958 |
| 2034 | 131,126,688 | 65,563,344 | 513,174 | 73,346 | 0 | 4,734,122 | 0 | 6,439,517 |
| 2035 | 133,150,248 | 65,968,056 | 314,526 | 44,954 | 0 | 4,876,146 | 0 | 6,632,702 |
| 2036 | 135,173,808 | 66,372,768 | 115,878 | 16,562 | 0 | 5,022,430 | 0 | 6,831,683 |
| Net Present Value | \$1,962,685,614 | \$1,152,482,254 | \$162,095,255 | \$23,167,739 | \$0 | \$61,806,250 | \$0 | \$84,071,000 |
| Savings (Cost) | | \$810,203,360 | | \$138,927,516 | | (\$61,806,250) | | (\$84,071,000) |

**East Kentucky Power Cooperative
Limestone Scrubber Study
Annual Savings (Costs) Due to Scrubber Operation**

| Year | Fixed Costs for Scrubber Capital Exp. | | Limestone for Scrubber | | Landfill Cost Including Ash Disposal | | Energy Replacement | |
|-------------------|---------------------------------------|----------------------|------------------------|----------------------|--------------------------------------|----------------------|---------------------|----------------------|
| | CAPP - Pike 1.2 lb. | NAP-WV Pitts 6.0 lb. | CAPP - Pike 1.2 lb. | NAP-WV Pitts 6.0 lb. | CAPP - Pike 1.2 lb. | NAP-WV Pitts 6.0 lb. | CAPP - Pike 1.2 lb. | NAP-WV Pitts 6.0 lb. |
| 2008 | \$0 | \$18,275,460 | \$0 | \$1,971,426 | \$477,644 | \$727,413 | \$0 | \$2,191,840 |
| 2009 | 0 | 18,144,100 | 0 | 2,030,569 | 491,974 | 749,236 | 0 | 2,257,595 |
| 2010 | 0 | 18,012,740 | 0 | 2,091,486 | 506,733 | 771,713 | 0 | 2,325,323 |
| 2011 | 0 | 17,864,960 | 0 | 2,154,230 | 521,935 | 794,864 | 0 | 2,395,083 |
| 2012 | 0 | 17,700,760 | 0 | 2,218,857 | 537,593 | 818,710 | 0 | 2,466,935 |
| 2013 | 0 | 17,536,560 | 0 | 2,285,423 | 553,721 | 843,271 | 0 | 2,540,943 |
| 2014 | 0 | 17,355,940 | 0 | 2,353,985 | 570,332 | 868,570 | 0 | 2,617,172 |
| 2015 | 0 | 17,158,900 | 0 | 2,424,605 | 587,442 | 894,627 | 0 | 2,695,687 |
| 2016 | 0 | 16,945,440 | 0 | 2,497,343 | 605,066 | 921,465 | 0 | 2,776,557 |
| 2017 | 0 | 16,715,560 | 0 | 2,572,263 | 623,218 | 949,109 | 0 | 2,859,854 |
| 2018 | 0 | 16,469,260 | 0 | 2,649,431 | 641,914 | 977,583 | 0 | 2,945,650 |
| 2019 | 0 | 16,206,540 | 0 | 2,728,914 | 661,172 | 1,006,910 | 0 | 3,034,019 |
| 2020 | 0 | 15,927,400 | 0 | 2,810,782 | 681,007 | 1,037,118 | 0 | 3,125,040 |
| 2021 | 0 | 15,631,840 | 0 | 2,895,105 | 701,437 | 1,068,231 | 0 | 3,218,791 |
| 2022 | 0 | 15,303,440 | 0 | 2,981,958 | 722,480 | 1,100,278 | 0 | 3,315,355 |
| 2023 | 0 | 14,958,620 | 0 | 3,071,417 | 744,155 | 1,133,286 | 0 | 3,414,815 |
| 2024 | 0 | 14,580,960 | 0 | 3,163,560 | 766,479 | 1,167,285 | 0 | 3,517,260 |
| 2025 | 0 | 14,186,880 | 0 | 3,258,466 | 789,474 | 1,202,303 | 0 | 3,622,778 |
| 2026 | 0 | 13,759,960 | 0 | 3,356,220 | 813,158 | 1,238,373 | 0 | 3,731,461 |
| 2027 | 0 | 13,300,200 | 0 | 3,456,907 | 837,552 | 1,275,524 | 0 | 3,843,405 |
| 2028 | 0 | 12,791,180 | 0 | 3,560,614 | 862,679 | 1,313,789 | 0 | 3,958,707 |
| 2029 | 0 | 12,265,740 | 0 | 3,667,433 | 888,559 | 1,353,203 | 0 | 4,077,468 |
| 2030 | 0 | 11,691,040 | 0 | 3,777,456 | 915,216 | 1,393,799 | 0 | 4,199,792 |
| 2031 | 0 | 11,083,500 | 0 | 3,890,779 | 942,673 | 1,435,613 | 0 | 4,325,786 |
| 2032 | 0 | 10,426,700 | 0 | 4,007,503 | 970,953 | 1,478,682 | 0 | 4,455,559 |
| 2033 | 0 | 9,720,640 | 0 | 4,127,728 | 1,000,081 | 1,523,042 | 0 | 4,589,226 |
| 2034 | 0 | 8,965,320 | 0 | 4,251,560 | 1,030,084 | 1,568,733 | 0 | 4,726,903 |
| 2035 | 0 | 8,144,320 | 0 | 4,379,106 | 1,060,986 | 1,615,795 | 0 | 4,868,710 |
| 2036 | 0 | 7,274,060 | 0 | 4,510,480 | 1,092,816 | 1,664,269 | 0 | 5,014,771 |
| Net Present Value | \$0 | \$291,019,364 | \$0 | \$55,506,162 | \$13,448,242 | \$20,480,569 | \$0 | \$61,712,000 |
| Savings (Cost) | | (\$291,019,364) | | (\$55,506,162) | | (\$7,032,327) | | (\$61,712,000) |

East Kentucky Power Cooperative
Limestone Scrubber Study
Annual Savings (Costs) Due to Scrubber Operation

| Year | Total | |
|-------------------|---------------------|----------------------|
| | CAPP - Pike 1.2 lb. | NAP-WV Pitts 6.0 lb. |
| 2008 | \$88,964,643 | \$83,715,011 |
| 2009 | 88,511,806 | 85,617,103 |
| 2010 | 91,517,515 | 87,571,469 |
| 2011 | 96,830,419 | 88,165,892 |
| 2012 | 100,946,250 | 88,946,654 |
| 2013 | 105,991,509 | 89,210,946 |
| 2014 | 106,273,300 | 89,834,632 |
| 2015 | 111,111,702 | 90,051,305 |
| 2016 | 113,550,182 | 90,590,009 |
| 2017 | 112,181,770 | 90,660,205 |
| 2018 | 111,476,062 | 90,820,104 |
| 2019 | 111,267,536 | 91,046,390 |
| 2020 | 111,473,437 | 91,327,590 |
| 2021 | 112,044,121 | 91,656,966 |
| 2022 | 112,880,282 | 92,004,286 |
| 2023 | 113,932,277 | 92,379,253 |
| 2024 | 115,183,569 | 92,763,486 |
| 2025 | 116,567,984 | 93,164,346 |
| 2026 | 118,085,480 | 93,565,843 |
| 2027 | 119,703,030 | 93,963,678 |
| 2028 | 121,553,069 | 94,360,808 |
| 2029 | 123,403,861 | 94,757,414 |
| 2030 | 125,255,430 | 95,121,132 |
| 2031 | 127,107,799 | 95,468,872 |
| 2032 | 128,960,991 | 95,784,720 |
| 2033 | 130,815,031 | 96,069,199 |
| 2034 | 132,669,946 | 96,322,845 |
| 2035 | 134,525,760 | 96,529,789 |
| 2036 | 136,382,502 | 96,707,024 |
| Net Present Value | \$2,138,229,111 | \$1,750,245,341 |
| Savings (Cost) | | <u>\$387,983,770</u> |

| | |
|--|---|
| 1. Average Heat Rate | 10,000 Btu/kWh |
| 2. SO2 Removal Rate | 98.00 % |
| 3. Lbs Reagent/Lb SO2 in gas (Lime/Limestone) | 1.88 lbs. Limestone / lbs. SO2 Removed |
| 4. SO2 Produced | 1.95 *(%S) / 100 = lbs. SO2 Produced / lb. Coal Fired |
| 5. Process Plant Lime Consumption | 0 lbs. Process Lime Used / ton Dry Sludge |
| 6. Recycle Pumps Required per Absorber | 3 per Absorber |
| 7. Number of Absorbers | 4 Absorbers |
| 8. Average Spurlock Unit 2 Load | 525 MW |
| 9. Process Plant Hours of Operation | 24 Hrs. |
| 10. Scrubber & Process Plant Electrical Load | 13.5 MW |
| 11. Coal Burned in Unit 2 is based on the heat rate and mw produced. | |
| 12. FGD Energy Consumption (Lime/Limestone) | 11200 KW |
| 13. Plant Factor | 0.88 |
| 14. Operational hours per year | 8,760 hours |
| 15. Labor (25 people, \$55,000, Benefits 1.55) | \$2,195,187.50 per year |
| 16. Reagent Costs (Lime/Limestone) | \$9.06 per ton |
| 17. Current Price for SO2 Allowances | \$600.00 per ton SO2 |
| 18. Process Lime Costs | \$0.00 per ton |
| 19. Scrubber Landfill Costs | \$2.58 per ton |
| 20. Maintenance | \$2,985,970.00 per year |
| 21. Capacity Cost for 13.5 MW | \$2,649,208.10 per year |
| 22. CAAA Allowances Spurlock Unit 2 | 16,554 year 2000 Phase II |
| 23. PRB Capital Expenditure | \$0 |
| 24. Scrubber Capital Expenditure (per J. Brandt 7/15/04) | Limestone >>>>> \$164,200,000 |
| 25. Capacity Replacement Cost | \$195.700 /KWY Gilbert Unit based for Replacement Power |
| 26. Carrying Cost (20 years) | 11.130 % |
| 27. Ash Penalty for Boiler Maintenance | \$0.167 / % Ash / ton of Coal |
| 28. Ash Landfill Cost | \$2.575 per ton of Ash |
| 29. Annual payment for PRB Capital Expenditure (30 year) | \$0 |
| 30. Annual payment for Scrubber Capital Expenditure (20 year) | \$18,275,460 \$0 |
| 31. Annual Btu requirements for Unit 2 based on Heat Rate and Output | 40,471,200 mmBtu/Y |

| | Coal Suppliers | Coal Del. Price (\$/mmBtu) | Coal Del. Cost (\$/Y) | Coal (T/Y) | Coal (Btu/lb.) | Sulfur (%) | Ash (%) | Ash Landfill (\$/Y) | SO2 Scrubbed (T/Y) | SO2 Not Scrubbed (T) | Allowances Used (\$) | Limestone (T/Y) | Limestone (\$/Y) | Dry LS Product (T/Y) | Limestone Landfill Cost incl ash (\$/Y) | Limestone FGD Energy Cost (\$/Y) | O&M Lime-Stone FGD (\$/Y) | FGD Cost Limestone Fix+Var+Cap (\$/mmBtu) | Total Cost Limestone Fuel+FGD (\$/Y) |
|--------|----------------|----------------------------|-----------------------|------------|----------------|------------|---------|---------------------|--------------------|----------------------|----------------------|-----------------|------------------|----------------------|---|----------------------------------|---------------------------|---|--------------------------------------|
| GAPP | Pike | 1.941 | \$78,554,599 | 1,686,300 | 12,000 | 0.74 | 11.00 | \$477,644 | 0 | 16,554 | \$9,932,400 | 0 | \$0 | 0 | \$477,644 | \$0 | \$10,410,044 | \$0.257 | \$88,964,644 |
| NAP-WV | Pitts | 1.333 | \$53,948,110 | 1,658,656 | 12,200 | 3.75 | 10.00 | \$427,104 | 115,934 | 2,366 | \$1,419,605 | 217,501 | \$1,971,426 | 116,625 | \$727,413 | \$2,191,840 | \$29,766,902 | \$0.736 | \$83,715,011 |

| | |
|--|---|
| 1. Average Heat Rate | 10,000 Btu/kwH |
| 2. SO2 Removal Rate | 98.00 % |
| 3. Lbs Reagent/Lb SO2 in gas (Lime/Limestone) | 1.88 lbs. Limestone / lbs. SO2 Removed |
| 4. SO2 Produced | 1.95 *(%S) / 100 = lbs. SO2 Produced / lb. Coal Fired |
| 5. Process Plant Lime Consumption | 0 lbs. Process Lime Used / ton Dry Sludge |
| 6. Recycle Pumps Required per Absorber | 3 per Absorber |
| 7. Number of Absorbers | 4 Absorbers |
| 8. Average Spurlock Unit 2 Load | 525 MW |
| 9. Process Plant Hours of Operation | 24 Hrs. |
| 10. Scrubber & Process Plant Electrical Load | 13.5 MW |
| 11. Coal Burned in Unit 2 is based on the heat rate and mw produced. | |
| 12. FGD Energy Consumption (Lime/Limestone) | 11200 KW |
| 13. Plant Factor | 0.88 |
| 14. Operational hours per year | 8,760 hours |
| 15. Labor (25 people, \$55,000, Benefits 1.55) | \$2,261,043.13 per year |
| 16. Reagent Costs (Lime/Limestone) | \$9.34 per ton |
| 17. Current Price for SO2 Allowances | \$562.00 per ton SO2 |
| 18. Process Lime Costs | \$0.00 per ton |
| 19. Scrubber Landfill Costs | \$2.65 per ton |
| 20. Maintenance | \$3,075,549.10 per year |
| 21. Capacity Cost for 13.5 MW | \$2,728,684.35 per year |
| 22. CAAA Allowances Spurlock Unit 2 | 16,554 year 2000 Phase II |
| 23. PRB Capital Expenditure | \$0 |
| 24. Scrubber Capital Expenditure (per J. Brandt 7/15/04) Limestone >>>>> | \$164,200,000 |
| 25. Capacity Replacement Cost | \$201.571 /KWY Gilbert Unit based for Replacement Power |
| 26. Carrying Cost (20 years) | 11.050 % |
| 27. Ash Penalty for Boiler Maintenance | \$0.172 / % Ash / ton of Coal |
| 28. Ash Landfill Cost | \$2.652 per ton of Ash |
| 29. Annual payment for PRB Capital Expenditure (30 year) | \$0 |
| 30. Annual payment for Scrubber Capital Expenditure (20 year) | \$18,144,100 \$0 |
| 31. Annual Btu requirements for Unit 2 based on Heat Rate and Output | 40,471,200 mmBtu/Y |

| | Coal Suppliers | Coal Del. Price (\$/mmBtu) | Coal Del. Cost (\$/Y) | Coal (T/Y) | Coal (Btu/lb.) | Sulfur (%) | Ash (%) | Ash Landfill (\$/Y) | SO2 Scrubbed (T/Y) | SO2 Not Scrubbed (T) | Allowances Used (\$) | Lime-stone (T/Y) | Lime-stone (\$/Y) | Dry LS Product (T/Y) | Limestone Landfill Cost incl ash (\$/Y) | Limestone FGD Energy Cost (\$/Y) | O&M Lime-Stone FGD (\$/Y) | FGD Cost Limestone Fix+Var+Cap (\$/mmBtu) | Total Cost Limestone Fuel+FGD (\$/Y) |
|--------|----------------|----------------------------|-----------------------|------------|----------------|------------|---------|---------------------|--------------------|----------------------|----------------------|------------------|-------------------|----------------------|---|----------------------------------|---------------------------|---|--------------------------------------|
| CAPP | Pike | 1.945 | \$78,716,484 | 1,686,300 | 12,000 | 0.74 | 11.00 | \$491,974 | 0 | 16,554 | \$9,303,348 | 0 | \$0 | 0 | \$491,974 | \$0 | \$9,795,322 | \$0.242 | \$88,511,806 |
| NAP-WV | Pitts | 1.378 | \$55,769,314 | 1,658,656 | 12,200 | 3.75 | 10.00 | \$439,917 | 115,934 | 2,366 | \$1,329,697 | 217,501 | \$2,030,569 | 116,625 | \$749,236 | \$2,257,595 | \$29,847,789 | \$0.738 | \$85,617,102 |

2010

| | |
|--|---|
| 1. Average Heat Rate | 10,000 Btu/kwH |
| 2. SO2 Removal Rate | 98.00 % |
| 3. Lbs Reagent/Lb SO2 in gas (Lime/Limestone) | 1.88 lbs. Limestone / lbs. SO2 Removed |
| 4. SO2 Produced | 1.95 *(%S) / 100 = lbs. SO2 Produced / lb. Coal Fired |
| 5. Process Plant Lime Consumption | 0 lbs. Process Lime Used / ton Dry Sludge |
| 6. Recycle Pumps Required per Absorber | 3 per Absorber |
| 7. Number of Absorbers | 4 Absorbers |
| 8. Average Spurlock Unit 2 Load | 525 MW |
| 9. Process Plant Hours of Operation | 24 Hrs. |
| 10. Scrubber & Process Plant Electrical Load | 13.5 MW |
| 11. Coal Burned in Unit 2 is based on the heat rate and mw produced. | |
| 12. FGD Energy Consumption (Lime/Limestone) | 11200 KW |
| 13. Plant Factor | 0.88 |
| 14. Operational hours per year | 8,760 hours |
| 15. Labor (25 people, \$55,000, Benefits 1.55) | \$2,328,874.42 per year |
| 16. Reagent Costs (Lime/Limestone) | \$9.62 per ton |
| 17. Current Price for SO2 Allowances | \$662.00 per ton SO2 |
| 18. Process Lime Costs | \$0.00 per ton |
| 19. Scrubber Landfill Costs | \$2.73 per ton |
| 20. Maintenance | \$3,167,815.57 per year |
| 21. Capacity Cost for 13.5 MW | \$2,810,544.88 per year |
| 22. CAAA Allowances Spurlock Unit 2 | 16,554 year 2000 Phase II |
| 23. PRB Capital Expenditure | \$0 |
| 24. Scrubber Capital Expenditure (per J. Brandt 7/15/04) Limestone >>>>> | \$164,200,000 |
| 25. Capacity Replacement Cost | \$207.618 /KWY Gilbert Unit based for Replacement Power |
| 26. Carrying Cost (20 years) | 10.970 % |
| 27. Ash Penalty for Boiler Maintenance | \$0.177 / % Ash / ton of Coal |
| 28. Ash Landfill Cost | \$2.732 per ton of Ash |
| 29. Annual payment for PRB Capital Expenditure (30 year) | \$0 |
| 30. Annual payment for Scrubber Capital Expenditure (20 year) | \$18,012,740 \$0 |
| 31. Annual Btu requirements for Unit 2 based on Heat Rate and Output | 40,471,200 mmBtu/Y |

| | Coal Suppliers | Coal Del. Price (\$/mmBtu) | Coal Del. Cost (\$/Y) | Coal (T/Y) | Coal (Btu/lb.) | Sulfur (%) | Ash (%) | Ash Landfill (\$/Y) | SO2 Scrubbed (T/Y) | SO2 Not Scrubbed (T) | Allowances Used (\$) | Lime-stone (T/Y) | Lime-stone (\$/Y) | Dry LS Product (T/Y) | Limestone Landfill Cost incl ash (\$/Y) | Limestone FGD Energy Cost (\$/Y) | O&M Lime-Stone FGD (\$/Y) | FGD Cost Limestone Fix+Var+Cap (\$/mmBtu) | Total Cost Limestone Fuel+FGD (\$/Y) |
|--------|----------------|----------------------------|-----------------------|------------|----------------|------------|---------|---------------------|--------------------|----------------------|----------------------|------------------|-------------------|----------------------|---|----------------------------------|---------------------------|---|--------------------------------------|
| CAPP | Pike | 1.978 | \$80,052,034 | 1,686,300 | 12,000 | 0.74 | 11.00 | \$506,733 | 0 | 16,554 | \$10,958,748 | 0 | \$0 | 0 | \$506,733 | \$0 | \$11,465,481 | \$0.283 | \$91,517,515 |
| NAP-WV | Pitts | 1.416 | \$57,307,219 | 1,658,656 | 12,200 | 3.75 | 10.00 | \$453,114 | 115,934 | 2,366 | \$1,566,298 | 217,501 | \$2,091,486 | 116,625 | \$771,713 | \$2,325,323 | \$30,264,249 | \$0.748 | \$87,571,468 |

| | |
|--|---|
| 1. Average Heat Rate | 10,000 Btu/kwH |
| 2. SO2 Removal Rate | 98.00 % |
| 3. Lbs Reagent/Lb SO2 in gas (Lime/Limestone) | 1.88 lbs. Limestone / lbs. SO2 Removed |
| 4. SO2 Produced | 1.95 *(%S) / 100 = lbs. SO2 Produced / lb. Coal Fired |
| 5. Process Plant Lime Consumption | 0 lbs. Process Lime Used / ton Dry Sludge |
| 6. Recycle Pumps Required per Absorber | 3 per Absorber |
| 7. Number of Absorbers | 4 Absorbers |
| 8. Average Spurlock Unit 2 Load | 525 MW |
| 9. Process Plant Hours of Operation | 24 Hrs. |
| 10. Scrubber & Process Plant Electrical Load | 13.5 MW |
| 11. Coal Burned in Unit 2 is based on the heat rate and mw produced. | |
| 12. FGD Energy Consumption (Lime/Limestone) | 11200 KW |
| 13. Plant Factor | 0.88 |
| 14. Operational hours per year | 8,760 hours |
| 15. Labor (25 people, \$55,000, Benefits 1.55) | \$2,398,740.65 per year |
| 16. Reagent Costs (Lime/Limestone) | \$9.90 per ton |
| 17. Current Price for SO2 Allowances | \$806.00 per ton SO2 |
| 18. Process Lime Costs | \$0.00 per ton |
| 19. Scrubber Landfill Costs | \$2.81 per ton |
| 20. Maintenance | \$3,262,850.04 per year |
| 21. Capacity Cost for 13.5 MW | \$2,894,861.22 per year |
| 22. CAAA Allowances Spurlock Unit 2 | 16,554 year 2000 Phase II |
| 23. PRB Capital Expenditure | \$0 |
| 24. Scrubber Capital Expenditure (per J. Brandt 7/15/04) | Limestone >>>>>> \$164,200,000 |
| 25. Capacity Replacement Cost | \$213.847 /KWY Gilbert Unit based for Replacement Power |
| 26. Carrying Cost (20 years) | 10.880 % |
| 27. Ash Penalty for Boiler Maintenance | \$0.182 / % Ash / ton of Coal |
| 28. Ash Landfill Cost | \$2.814 per ton of Ash |
| 29. Annual payment for PRB Capital Expenditure (30 year) | \$0 |
| 30. Annual payment for Scrubber Capital Expenditure (20 year) | \$17,864,960 \$0 |
| 31. Annual Btu requirements for Unit 2 based on Heat Rate and Output | 40,471,200 mmBtu/Y |

| | Coal Suppliers | Coal Del. Price (\$/mmBtu) | Coal Del. Cost (\$/Y) | Coal (T/Y) | Coal (Btu/lb.) | Sulfur (%) | Ash (%) | Ash Landfill (\$/Y) | SO2 Scrubbed (T/Y) | SO2 Not Scrubbed (T) | Allowances Used (\$) | Lime-stone (T/Y) | Lime-stone (\$/Y) | Dry LS Product (T/Y) | Limestone Landfill Cost incl ash (\$/Y) | Limestone FGD Energy Cost (\$/Y) | O&M Lime-Stone FGD (\$/Y) | FGD Cost Limestone Ftx+Var+Cap (\$/mmBtu) | Total Cost Limestone Fuel+FGD (\$/Y) |
|--------|----------------|----------------------------|-----------------------|------------|----------------|------------|---------|---------------------|--------------------|----------------------|----------------------|------------------|-------------------|----------------------|---|----------------------------------|---------------------------|---|--------------------------------------|
| CAPP | Pike | 2.050 | \$82,965,960 | 1,686,300 | 12,000 | 0.74 | 11.00 | \$521,935 | 0 | 16,554 | \$13,342,524 | 0 | \$0 | 0 | \$521,935 | \$0 | \$13,864,459 | \$0.343 | \$96,830,419 |
| NAP-WV | Pitts | 1.418 | \$57,388,162 | 1,658,656 | 12,200 | 3.75 | 10.00 | \$466,708 | 115,934 | 2,366 | \$1,907,003 | 217,501 | \$2,154,230 | 116,625 | \$794,864 | \$2,395,083 | \$30,777,731 | \$0.760 | \$88,165,892 |

| | |
|--|---|
| 1. Average Heat Rate | 10,000 Btu/kwH |
| 2. SO2 Removal Rate | 98.00 % |
| 3. Lbs Reagent/Lb SO2 in gas (Lime/Limestone) | 1.88 lbs. Limestone / lbs. SO2 Removed |
| 4. SO2 Produced | 1.95 *(%S) / 100 = lbs. SO2 Produced / lb. Coal Fired |
| 5. Process Plant Lime Consumption | 0 lbs. Process Lime Used / ton Dry Sludge |
| 6. Recycle Pumps Required per Absorber | 3 per Absorber |
| 7. Number of Absorbers | 4 Absorbers |
| 8. Average Spurlock Unit 2 Load | 525 MW |
| 9. Process Plant Hours of Operation | 24 Hrs. |
| 10. Scrubber & Process Plant Electrical Load | 13.5 MW |
| 11. Coal Burned in Unit 2 is based on the heat rate and mw produced. | |
| 12. FGD Energy Consumption (Lime/Limestone) | 11200 KW |
| 13. Plant Factor | 0.88 |
| 14. Operational hours per year | 8,760 hours |
| 15. Labor (25 people, \$55,000, Benefits 1.55) | \$2,470,702.87 per year |
| 16. Reagent Costs (Lime/Limestone) | \$10.20 per ton |
| 17. Current Price for SO2 Allowances | \$929.00 per ton SO2 |
| 18. Process Lime Costs | \$0.00 per ton |
| 19. Scrubber Landfill Costs | \$2.90 per ton |
| 20. Maintenance | \$3,360,735.54 per year |
| 21. Capacity Cost for 13.5 MW | \$2,981,707.06 per year |
| 22. CAAA Allowances Spurlock Unit 2 | 16,554 year 2000 Phase II |
| 23. PRB Capital Expenditure | \$0 |
| 24. Scrubber Capital Expenditure (per J. Brandt 7/15/04) | \$164,200,000 Limestone >>>>> |
| 25. Capacity Replacement Cost | \$220.262 /KWY Gilbert Unit based for Replacement Power |
| 26. Carrying Cost (20 years) | 10.780 % |
| 27. Ash Penalty for Boiler Maintenance | \$0.188 / % Ash / ton of Coal |
| 28. Ash Landfill Cost | \$2.898 per ton of Ash |
| 29. Annual payment for PRB Capital Expenditure (30 year) | \$0 |
| 30. Annual payment for Scrubber Capital Expenditure (20 year) | \$17,700,760 \$0 |
| 31. Annual Btu requirements for Unit 2 based on Heat Rate and Output | 40,471,200 mmBtu/Y |

| | Coal Suppliers | Coal Del. Price (\$/mmBtu) | Coal Del. Cost (\$/Y) | Coal (T/Y) | Coal (Btu/lb.) | Sulfur (%) | Ash (%) | Ash Landfill (\$/Y) | SO2 Scrubbed (T/Y) | SO2 Not Scrubbed (T) | Allowances Used (\$) | Limestone (T/Y) | Limestone (\$/Y) | Dry LS Product (T/Y) | Limestone Landfill Cost inci ash (\$/Y) | Limestone FGD Energy Cost (\$/Y) | O&M Lime-Stone FGD (\$/Y) | FGD Cost Limestone Fix+Var+Cap (\$/mmBtu) | Total Cost Limestone Fuel+FGD (\$/Y) |
|--------|----------------|----------------------------|-----------------------|------------|----------------|------------|---------|---------------------|--------------------|----------------------|----------------------|-----------------|------------------|----------------------|---|----------------------------------|---------------------------|---|--------------------------------------|
| CAPP | Pike | 2.101 | \$85,029,991 | 1,686,300 | 12,000 | 0.74 | 11.00 | \$537,593 | 0 | 16,554 | \$15,378,666 | 0 | \$0 | 0 | \$537,593 | \$0 | \$15,916,259 | \$0.393 | \$100,946,250 |
| NAP-WV | Pitts | 1.426 | \$57,711,931 | 1,658,656 | 12,200 | 3.75 | 10.00 | \$480,709 | 115,934 | 2,366 | \$2,198,022 | 217,501 | \$2,218,857 | 116,625 | \$818,710 | \$2,466,935 | \$31,234,723 | \$0.772 | \$88,946,654 |

| | |
|--|---|
| 1. Average Heat Rate | 10,000 Btu/kwH |
| 2. SO2 Removal Rate | 98.00 % |
| 3. Lbs Reagent/Lb SO2 in gas (Lime/Limestone) | 1.88 lbs. Limestone / lbs. SO2 Removed |
| 4. SO2 Produced | 1.95 *(%S) / 100 = lbs. SO2 Produced / lb. Coal Fired |
| 5. Process Plant Lime Consumption | 0 lbs. Process Lime Used / ton Dry Sludge |
| 6. Recycle Pumps Required per Absorber | 3 per Absorber |
| 7. Number of Absorbers | 4 Absorbers |
| 8. Average Spurlock Unit 2 Load | 525 MW |
| 9. Process Plant Hours of Operation | 24 Hrs. |
| 10. Scrubber & Process Plant Electrical Load | 13.5 MW |
| 11. Coal Burned in Unit 2 is based on the heat rate and mw produced. | |
| 12. FGD Energy Consumption (Lime/Limestone) | 11200 KW |
| 13. Plant Factor | 0.88 |
| 14. Operational hours per year | 8,760 hours |
| 15. Labor (25 people, \$55,000, Benefits 1.55) | \$2,544,823.96 per year |
| 16. Reagent Costs (Lime/Limestone) | \$10.51 per ton |
| 17. Current Price for SO2 Allowances | \$1,069.00 per ton SO2 |
| 18. Process Lime Costs | \$0.00 per ton |
| 19. Scrubber Landfill Costs | \$2.99 per ton |
| 20. Maintenance | \$3,461,557.61 per year |
| 21. Capacity Cost for 13.5 MW | \$3,071,158.27 per year |
| 22. CAAA Allowances Spurlock Unit 2 | 16,554 year 2000 Phase II |
| 23. PRB Capital Expenditure | \$0 |
| 24. Scrubber Capital Expenditure (per J. Brandt 7/15/04) Limestone >>>>> | \$164,200,000 |
| 25. Capacity Replacement Cost | \$226.870 /KWY Gilbert Unit based for Replacement Power |
| 26. Carrying Cost (20 years) | 10.680 % |
| 27. Ash Penalty for Boiler Maintenance | \$0.193 / % Ash / ton of Coal |
| 28. Ash Landfill Cost | \$2.985 per ton of Ash |
| 29. Annual payment for PRB Capital Expenditure (30 year) | \$0 |
| 30. Annual payment for Scrubber Capital Expenditure (20 year) | \$17,536,560 \$0 |
| 31. Annual Btu requirements for Unit 2 based on Heat Rate and Output | 40,471,200 mmBtu/Y |

| | Coal Suppliers | Coal Del. Price (\$/mmBtu) | Coal Del. Cost (\$/Y) | Coal (T/Y) | Coal (Btu/lb.) | Sulfur (%) | Ash (%) | Ash Landfill (\$/Y) | SO2 Scrubbed (T/Y) | SO2 Not Scrubbed (T) | Allowances Used (\$) | Lime-stone (T/Y) | Lime-stone (\$/Y) | Dry LS Product (T/Y) | Limestone Landfill Cost incl ash (\$/Y) | Limestone FGD Energy Cost (\$/Y) | O&M Lime-Stone FGD (\$/Y) | FGD Cost Limestone Fix+Var+Cap (\$/mmBtu) | Total Cost Limestone Fuel+FGD (\$/Y) |
|--------|----------------|----------------------------|-----------------------|------------|----------------|------------|---------|---------------------|--------------------|----------------------|----------------------|------------------|-------------------|----------------------|---|----------------------------------|---------------------------|---|--------------------------------------|
| CAPP | Pike | 2.168 | \$87,741,562 | 1,686,300 | 12,000 | 0.74 | 11.00 | \$553,721 | 0 | 16,554 | \$17,696,226 | 0 | \$0 | 0 | \$553,721 | \$0 | \$18,249,947 | \$0.451 | \$105,991,508 |
| NAP-WV | Pitts | 1.420 | \$57,469,104 | 1,658,656 | 12,200 | 3.75 | 10.00 | \$495,130 | 115,934 | 2,366 | \$2,529,263 | 217,501 | \$2,285,423 | 116,625 | \$843,271 | \$2,540,943 | \$31,741,842 | \$0.784 | \$89,210,946 |

| | |
|--|---|
| 1. Average Heat Rate | 10,000 Btu/kWh |
| 2. SO2 Removal Rate | 98.00 % |
| 3. Lbs Reagent/Lb SO2 in gas (Lime/Limestone) | 1.88 lbs. Limestone / lbs. SO2 Removed |
| 4. SO2 Produced | 1.95 *(%S) / 100 = lbs. SO2 Produced / lb. Coal Fired |
| 5. Process Plant Lime Consumption | 0 lbs. Process Lime Used / ton Dry Sludge |
| 6. Recycle Pumps Required per Absorber | 3 per Absorber |
| 7. Number of Absorbers | 4 Absorbers |
| 8. Average Spurlock Unit 2 Load | 525 MW |
| 9. Process Plant Hours of Operation | 24 Hrs. |
| 10. Scrubber & Process Plant Electrical Load | 13.5 MW |
| 11. Coal Burned in Unit 2 is based on the heat rate and mw produced. | |
| 12. FGD Energy Consumption (Lime/Limestone) | 11200 KW |
| 13. Plant Factor | 0.88 |
| 14. Operational hours per year | 8,760 hours |
| 15. Labor (25 people, \$55,000, Benefits 1.55) | \$2,621,168.68 per year |
| 16. Reagent Costs (Lime/Limestone) | \$10.82 per ton |
| 17. Current Price for SO2 Allowances | \$953.00 per ton SO2 |
| 18. Process Lime Costs | \$0.00 per ton |
| 19. Scrubber Landfill Costs | \$3.07 per ton |
| 20. Maintenance | \$3,565,404.34 per year |
| 21. Capacity Cost for 13.5 MW | \$3,163,293.02 per year |
| 22. CAAA Allowances Spurlock Unit 2 | 16,554 year 2000 Phase II |
| 23. PRB Capital Expenditure | \$0 |
| 24. Scrubber Capital Expenditure (per J. Brandt 7/15/04) Limestone >>>>> | \$164,200,000 |
| 25. Capacity Replacement Cost | \$233.676 /KWY Gilbert Unit based for Replacement Power |
| 26. Carrying Cost (20 years) | 10.570 % |
| 27. Ash Penalty for Boiler Maintenance | \$0.199 / % Ash / ton of Coal |
| 28. Ash Landfill Cost | \$3.075 per ton of Ash |
| 29. Annual payment for PRB Capital Expenditure (30 year) | \$0 |
| 30. Annual payment for Scrubber Capital Expenditure (20 year) | \$17,355,940 \$0 |
| 31. Annual Btu requirements for Unit 2 based on Heat Rate and Output | 40,471,200 mmBtu/Y |

| | Coal Suppliers | Coal Del. Price (\$/mmBtu) | Coal Del. Cost (\$/Y) | Coal (T/Y) | Coal (Btu/lb.) | Sulfur (%) | Ash (%) | Ash Landfill (\$/Y) | SO2 Scrubbed (T/Y) | SO2 Not Scrubbed (T) | Allowances Used (\$) | Lime-stone (T/Y) | Lime-stone (\$/Y) | Dry LS Product (T/Y) | Limestone Landfill Cost incl ash (\$/Y) | Limestone FGD Energy Cost (\$/Y) | O&M Lime-Stone FGD (\$/Y) | FGD Cost Lime-stone Fix+Var+Cap (\$/mmBtu) | Total Cost Limestone Fuel+FGD (\$/Y) |
|--------|----------------|----------------------------|-----------------------|------------|----------------|------------|---------|---------------------|--------------------|----------------------|----------------------|------------------|-------------------|----------------------|---|----------------------------------|---------------------------|--|--------------------------------------|
| CAPP | Pike | 2.222 | \$89,927,006 | 1,686,300 | 12,000 | 0.74 | 11.00 | \$570,332 | 0 | 16,554 | \$15,775,962 | 0 | \$0 | 0 | \$570,332 | \$0 | \$16,346,294 | \$0.404 | \$106,273,301 |
| NAP-WV | Pitts | 1.438 | \$58,197,586 | 1,658,656 | 12,200 | 3.75 | 10.00 | \$509,984 | 115,934 | 2,366 | \$2,254,806 | 217,501 | \$2,353,985 | 116,625 | \$868,570 | \$2,617,172 | \$31,637,046 | \$0.782 | \$89,834,631 |

| | |
|--|---|
| 1. Average Heat Rate | 10,000 Btu/kwH |
| 2. SO2 Removal Rate | 98.00 % |
| 3. Lbs Reagent/Lb SO2 in gas (Lime/Limestone) | 1.88 lbs. Limestone / lbs. SO2 Removed |
| 4. SO2 Produced | 1.95 *(%S) / 100 = lbs. SO2 Produced / lb. Coal Fired |
| 5. Process Plant Lime Consumption | 0 lbs. Process Lime Used / ton Dry Sludge |
| 6. Recycle Pumps Required per Absorber | 3 per Absorber |
| 7. Number of Absorbers | 4 Absorbers |
| 8. Average Spurlock Unit 2 Load | 525 MW |
| 9. Process Plant Hours of Operation | 24 Hrs. |
| 10. Scrubber & Process Plant Electrical Load | 13.5 MW |
| 11. Coal Burned in Unit 2 is based on the heat rate and mw produced. | |
| 12. FGD Energy Consumption (Lime/Limestone) | 11200 KW |
| 13. Plant Factor | 0.88 |
| 14. Operational hours per year | 8,760 hours |
| 15. Labor (25 people, \$55,000, Benefits 1.55) | \$2,699,803.74 per year |
| 16. Reagent Costs (Lime/Limestone) | \$11.15 per ton |
| 17. Current Price for SO2 Allowances | \$1,078.00 per ton SO2 |
| 18. Process Lime Costs | \$0.00 per ton |
| 19. Scrubber Landfill Costs | \$3.17 per ton |
| 20. Maintenance | \$3,672,366.47 per year |
| 21. Capacity Cost for 13.5 MW | \$3,258,191.81 per year |
| 22. CAAA Allowances Spurlock Unit 2 | 16,554 year 2000 Phase II |
| 23. PRB Capital Expenditure | \$0 |
| 24. Scrubber Capital Expenditure (per J. Brandt 7/15/04) Limestone >>>>> | \$164,200,000 |
| 25. Capacity Replacement Cost | \$240.686 /KWY Gilbert Unit based for Replacement Power |
| 26. Carrying Cost (20 years) | 10.450 % |
| 27. Ash Penalty for Boiler Maintenance | \$0.205 / % Ash / ton of Coal |
| 28. Ash Landfill Cost | \$3.167 per ton of Ash |
| 29. Annual payment for PRB Capital Expenditure (30 year) | \$0 |
| 30. Annual payment for Scrubber Capital Expenditure (20 year) | \$17,158,900 \$0 |
| 31. Annual Btu requirements for Unit 2 based on Heat Rate and Output | 40,471,200 mmBtu/Y |

| | Coal Suppliers | Coal Del. Price (\$/mmBtu) | Coal Del. Cost (\$/Y) | Coal (T/Y) | Coal (Btu/lb.) | Sulfur (%) | Ash (%) | Ash Landfill (\$/Y) | SO2 Scrubbed (T/Y) | SO2 Not Scrubbed (T) | Allowances Used (\$) | Lime-stone (T/Y) | Lime-stone (\$/Y) | Dry LS Product (T/Y) | Limestone Landfill Cost incl ash (\$/Y) | Limestone FGD Energy Cost (\$/Y) | O&M Lime-Stone FGD (\$/Y) | FGD Cost Limestone Fix+Var+Cap (\$/mmBtu) | Total Cost Limestone Fuel+FGD (\$/Y) |
|--------|----------------|----------------------------|-----------------------|------------|----------------|------------|---------|---------------------|--------------------|----------------------|----------------------|------------------|-------------------|----------------------|---|----------------------------------|---------------------------|---|--------------------------------------|
| CAPP | Pike | 2.290 | \$92,679,048 | 1,686,300 | 12,000 | 0.74 | 11.00 | \$587,442 | 0 | 16,554 | \$17,845,212 | 0 | \$0 | 0 | \$587,442 | \$0 | \$18,432,654 | \$0.455 | \$111,111,702 |
| NAP-WV | Pitts | 1.432 | \$57,954,758 | 1,658,656 | 12,200 | 3.75 | 10.00 | \$525,284 | 115,934 | 2,366 | \$2,550,557 | 217,501 | \$2,424,605 | 116,625 | \$894,627 | \$2,695,687 | \$32,096,546 | \$0.793 | \$90,051,304 |

| | |
|--|---|
| 1. Average Heat Rate | 10,000 Btu/kwH |
| 2. SO2 Removal Rate | 98.00 % |
| 3. Lbs Reagent/Lb SO2 in gas (Lime/Limestone) | 1.88 lbs. Limestone / lbs. SO2 Removed |
| 4. SO2 Produced | 1.95 *(%S) / 100 = lbs. SO2 Produced / lb. Coal Fired |
| 5. Process Plant Lime Consumption | 0 lbs. Process Lime Used / ton Dry Sludge |
| 6. Recycle Pumps Required per Absorber | 3 per Absorber |
| 7. Number of Absorbers | 4 Absorbers |
| 8. Average Spurlock Unit 2 Load | 525 MW |
| 9. Process Plant Hours of Operation | 24 Hrs. |
| 10. Scrubber & Process Plant Electrical Load | 13.5 MW |
| 11. Coal Burned in Unit 2 is based on the heat rate and mw produced. | |
| 12. FGD Energy Consumption (Lime/Limestone) | 11200 KW |
| 13. Plant Factor | 0.88 |
| 14. Operational hours per year | 8,760 hours |
| 15. Labor (25 people, \$55,000, Benefits 1.55) | \$2,780,797.85 per year |
| 16. Reagent Costs (Lime/Limestone) | \$11.48 per ton |
| 17. Current Price for SO2 Allowances | \$1,102.00 per ton SO2 |
| 18. Process Lime Costs | \$0.00 per ton |
| 19. Scrubber Landfill Costs | \$3.26 per ton |
| 20. Maintenance | \$3,782,537.46 per year |
| 21. Capacity Cost for 13.5 MW | \$3,355,937.57 per year |
| 22. CAAA Allowances Spurlock Unit 2 | 16,554 year 2000 Phase II |
| 23. PRB Capital Expenditure | \$0 |
| 24. Scrubber Capital Expenditure (per J. Brandt 7/15/04) Limestone >>>>> | \$164,200,000 |
| 25. Capacity Replacement Cost | \$247.907 /KWY Gilbert Unit based for Replacement Power |
| 26. Carrying Cost (20 years) | 10.320 % |
| 27. Ash Penalty for Boiler Maintenance | \$0.211 / % Ash / ton of Coal |
| 28. Ash Landfill Cost | \$3.262 per ton of Ash |
| 29. Annual payment for PRB Capital Expenditure (30 year) | \$0 |
| 30. Annual payment for Scrubber Capital Expenditure (20 year) | \$16,945,440 \$0 |
| 31. Annual Btu requirements for Unit 2 based on Heat Rate and Output | 40,471,200 mmBtu/Y |

| | Coal Suppliers | Coal Del. Price (\$/mmBtu) | Coal Del. Cost (\$/Y) | Coal (T/Y) | Coal (Btu/lb.) | Sulfur (%) | Ash (%) | Ash Landfill (\$/Y) | SO2 Scrubbed (T/Y) | SO2 Not Scrubbed (T) | Allowances Used (\$) | Lime-stone (T/Y) | Lime-stone (\$/Y) | Dry LS Product (T/Y) | Limestone Landfill Cost incl ash (\$/Y) | Limestone FGD Energy Cost (\$/Y) | O&M Lime-Stone FGD (\$/Y) | FGD Cost Limestone Fix+Var+Cap (\$/mmBtu) | Total Cost Limestone Fuel+FGD (\$/Y) |
|--------|----------------|----------------------------|-----------------------|------------|----------------|------------|---------|---------------------|--------------------|----------------------|----------------------|------------------|-------------------|----------------------|---|----------------------------------|---------------------------|---|--------------------------------------|
| CAPP | Pike | 2.340 | \$94,702,608 | 1,686,300 | 12,000 | 0.74 | 11.00 | \$605,066 | 0 | 16,554 | \$18,242,508 | 0 | \$0 | 0 | \$605,066 | \$0 | \$18,847,574 | \$0.466 | \$113,550,182 |
| NAP-WV | Pitts | 1.440 | \$58,278,528 | 1,658,656 | 12,200 | 3.75 | 10.00 | \$541,042 | 115,934 | 2,366 | \$2,607,341 | 217,501 | \$2,497,343 | 116,625 | \$921,465 | \$2,776,557 | \$32,311,483 | \$0.798 | \$90,590,011 |

- 1. Average Heat Rate 10,000 Btu/kwh
- 2. SO2 Removal Rate 98.00 %
- 3. Lbs Reagent/Lb SO2 in gas (Lime/Limestone) 1.88 lbs. Limestone / lbs. SO2 Removed
- 4. SO2 Produced 1.95 *(%S) / 100 = lbs. SO2 Produced / lb. Coal Fired
- 5. Process Plant Lime Consumption 0 lbs. Process Lime Used / ton Dry Sludge
- 6. Recycle Pumps Required per Absorber 3 per Absorber
- 7. Number of Absorbers 4 Absorbers
- 8. Average Spurlock Unit 2 Load 525 MW
- 9. Process Plant Hours of Operation 24 Hrs.
- 10. Scrubber & Process Plant Electrical Load 13.5 MW
- 11. Coal Burned in Unit 2 is based on the heat rate and mw produced.
- 12. FGD Energy Consumption (Lime/Limestone) 11200 KW
- 13. Plant Factor 0.88
- 14. Operational hours per year 8,760 hours
- 15. Labor (25 people, \$55,000, Benefits 1.55) \$2,864,221.78 per year
- 16. Reagent Costs (Lime/Limestone) \$11.83 per ton
- 17. Current Price for SO2 Allowances \$896.00 per ton SO2
- 18. Process Lime Costs \$0.00 per ton
- 19. Scrubber Landfill Costs \$3.36 per ton
- 20. Maintenance \$3,896,013.58 per year
- 21. Capacity Cost for 13.5 MW \$3,456,615.69 per year
- 22. CAAA Allowances Spurlock Unit 2 16,554 year 2000 Phase II
- 23. PRB Capital Expenditure \$0
- 24. Scrubber Capital Expenditure (per J. Brandt 7/15/04) Limestone >>>>> \$164,200,000
- 25. Capacity Replacement Cost \$255.344 /KWY Gilbert Unit based for Replacement Power
- 26. Carrying Cost (20 years) 10.180 %
- 27. Ash Penalty for Boiler Maintenance \$0.218 / % Ash / ton of Coal
- 28. Ash Landfill Cost \$3.360 per ton of Ash
- 29. Annual payment for PRB Capital Expenditure (30 year) \$0
- 30. Annual payment for Scrubber Capital Expenditure (20 year) \$16,715,560 \$0
- 31. Annual Btu requirements for Unit 2 based on Heat Rate and Output 40,471,200 mmBtu/Y

| | Coal Suppliers | Coal Del. Price (\$/mmBtu) | Coal Del. Cost (\$/Y) | Coal (T/Y) | Coal (Btu/lb.) | Sulfur (%) | Ash (%) | Ash Landfill (\$/Y) | SO2 Scrubbed (T/Y) | SO2 Not Scrubbed (T) | Allowances Used (\$) | Lime-stone (T/Y) | Lime-stone (\$/Y) | Dry LS Product (T/Y) | Limestone Landfill Cost incl ash (\$/Y) | Limestone FGD Energy Cost (\$/Y) | O&M Lime-Stone FGD (\$/Y) | FGD Cost Lime-stone Fix+Var+Cap (\$/mmBtu) | Total Cost Lime-stone Fuel+FGD (\$/Y) |
|--------|----------------|----------------------------|-----------------------|------------|----------------|------------|---------|---------------------|--------------------|----------------------|----------------------|------------------|-------------------|----------------------|---|----------------------------------|---------------------------|--|---------------------------------------|
| CAPP | Pike | 2.390 | \$96,726,168 | 1,686,300 | 12,000 | 0.74 | 11.00 | \$623,218 | 0 | 16,554 | \$14,832,384 | 0 | \$0 | 0 | \$623,218 | \$0 | \$15,455,602 | \$0.382 | \$112,181,770 |
| NAP-WV | Pitts | 1.450 | \$58,683,240 | 1,658,656 | 12,200 | 3.75 | 10.00 | \$557,274 | 115,934 | 2,366 | \$2,119,944 | 217,501 | \$2,572,263 | 116,625 | \$949,109 | \$2,859,854 | \$31,976,966 | \$0.790 | \$90,660,206 |

2018

| | |
|---|---|
| 1. Average Heat Rate | 10,000 Btu/kwH |
| 2. SO2 Removal Rate | 98.00 % |
| 3. Lbs Reagent/Lb SO2 in gas (Lime/Limestone) | 1.88 lbs. Limestone / lbs. SO2 Removed |
| 4. SO2 Produced | 1.95 *(%S) / 100 = lbs. SO2 Produced / lb. Coal Fired |
| 5. Process Plant Lime Consumption | 0 lbs. Process Lime Used / ton Dry Sludge |
| 6. Recycle Pumps Required per Absorber | 3 per Absorber |
| 7. Number of Absorbers | 4 Absorbers |
| 8. Average Spurlock Unit 2 Load | 525 MW |
| 9. Process Plant Hours of Operation | 24 Hrs. |
| 10. Scrubber & Process Plant Electrical Load | 13.5 MW |
| 11. Coal Burned in Unit 2 is based on the heat rate and mw produced. | |
| 12. FGD Energy Consumption (Lime/Limestone) | 11200 KW |
| 13. Plant Factor | 0.88 |
| 14. Operational hours per year | 8,760 hours |
| 15. Labor (25 people, \$55,000, Benefits 1.55) | \$2,950,148.44 per year |
| 16. Reagent Costs (Lime/Limestone) | \$12.18 per ton |
| 17. Current Price for SO2 Allowances | \$730.00 per ton SO2 |
| 18. Process Lime Costs | \$0.00 per ton |
| 19. Scrubber Landfill Costs | \$3.46 per ton |
| 20. Maintenance | \$4,012,893.99 per year |
| 21. Capacity Cost for 13.5 MW | \$3,560,314.16 per year |
| 22. CAAA Allowances Spurlock Unit 2 | 16,554 year 2000 Phase II |
| 23. PRB Capital Expenditure | \$0 |
| 24. Scrubber Capital Expenditure (per J. Brandt 7/15/04) Limestone >>>>>> | \$164,200,000 |
| 25. Capacity Replacement Cost | \$263,004 /KWY Gilbert Unit based for Replacement Power |
| 26. Carrying Cost (20 years) | 10.030 % |
| 27. Ash Penalty for Boiler Maintenance | \$0.224 / % Ash / ton of Coal |
| 28. Ash Landfill Cost | \$3.461 per ton of Ash |
| 29. Annual payment for PRB Capital Expenditure (30 year) | \$0 |
| 30. Annual payment for Scrubber Capital Expenditure (20 year) | \$16,469,260 \$0 |
| 31. Annual Btu requirements for Unit 2 based on Heat Rate and Output | 40,471,200 mmBtu/Y |

| | Coal Suppliers | Coal Del. Price (\$/mmBtu) | Coal Del. Cost (\$/Y) | Coal (T/Y) | Coal (Btu/lb.) | Sulfur (%) | Ash (%) | Ash Landfill (\$/Y) | SO2 Scrubbed (T/Y) | SO2 Not Scrubbed (T) | Allowances Used (\$) | Limestone (T/Y) | Limestone (\$/Y) | Dry LS Product (T/Y) | Limestone Landfill Cost incl ash (\$/Y) | Limestone FGD Energy Cost (\$/Y) | O&M Lime-Stone FGD (\$/Y) | FGD Cost Limestone Fix+Var+Cap (\$/mmBtu) | Total Cost Limestone Fuel+FGD (\$/Y) |
|--------|----------------|----------------------------|-----------------------|------------|----------------|------------|---------|---------------------|--------------------|----------------------|----------------------|-----------------|------------------|----------------------|---|----------------------------------|---------------------------|---|--------------------------------------|
| CAPP | Pike | 2.440 | \$98,749,728 | 1,686,300 | 12,000 | 0.74 | 11.00 | \$641,914 | 0 | 16,554 | \$12,084,420 | 0 | \$0 | 0 | \$641,914 | \$0 | \$12,726,334 | \$0.314 | \$111,476,062 |
| NAP-WV | Pitts | 1.460 | \$59,087,952 | 1,658,656 | 12,200 | 3.75 | 10.00 | \$573,992 | 115,934 | 2,366 | \$1,727,186 | 217,501 | \$2,649,431 | 116,625 | \$977,583 | \$2,945,650 | \$31,732,152 | \$0.784 | \$90,820,104 |

2019

| | |
|--|---|
| 1. Average Heat Rate | 10,000 Btu/kwH |
| 2. SO2 Removal Rate | 98.00 % |
| 3. Lbs Reagent/Lb SO2 in gas (Lime/Limestone) | 1.88 lbs. Limestone / lbs. SO2 Removed |
| 4. SO2 Produced | 1.95 *(%S) / 100 = lbs. SO2 Produced / lb. Coal Fired |
| 5. Process Plant Lime Consumption | 0 lbs. Process Lime Used / ton Dry Sludge |
| 6. Recycle Pumps Required per Absorber | 3 per Absorber |
| 7. Number of Absorbers | 4 Absorbers |
| 8. Average Spurlock Unit 2 Load | 525 MW |
| 9. Process Plant Hours of Operation | 24 Hrs. |
| 10. Scrubber & Process Plant Electrical Load | 13.5 MW |
| 11. Coal Burned in Unit 2 is based on the heat rate and mw produced. | |
| 12. FGD Energy Consumption (Lime/Limestone) | 11200 KW |
| 13. Plant Factor | 0.88 |
| 14. Operational hours per year | 8,760 hours |
| 15. Labor (25 people, \$55,000, Benefits 1.55) | \$3,038,652.89 per year |
| 16. Reagent Costs (Lime/Limestone) | \$12.55 per ton |
| 17. Current Price for SO2 Allowances | \$594.00 per ton SO2 |
| 18. Process Lime Costs | \$0.00 per ton |
| 19. Scrubber Landfill Costs | \$3.56 per ton |
| 20. Maintenance | \$4,133,280.81 per year |
| 21. Capacity Cost for 13.5 MW | \$3,667,123.59 per year |
| 22. CAAA Allowances Spurlock Unit 2 | 16,554 year 2000 Phase II |
| 23. PRB Capital Expenditure | \$0 |
| 24. Scrubber Capital Expenditure (per J. Brandt 7/15/04) Limestone >>>>> | \$164,200,000 |
| 25. Capacity Replacement Cost | \$270.895 /KWY Gilbert Unit based for Replacement Power |
| 26. Carrying Cost (20 years) | 9.870 % |
| 27. Ash Penalty for Boiler Maintenance | \$0.231 / % Ash / ton of Coal |
| 28. Ash Landfill Cost | \$3.564 per ton of Ash |
| 29. Annual payment for PRB Capital Expenditure (30 year) | \$0 |
| 30. Annual payment for Scrubber Capital Expenditure (20 year) | \$16,206,540 \$0 |
| 31. Annual Btu requirements for Unit 2 based on Heat Rate and Output | 40,471,200 mmBtu/Y |

| | Coal Suppliers | Coal Del. Price (\$/mmBtu) | Coal Del. Cost (\$/Y) | Coal (T/Y) | Coal (Btu/lb.) | Sulfur (%) | Ash (%) | Ash Landfill (\$/Y) | SO2 Scrubbed (T/Y) | SO2 Not Scrubbed (T) | Allowances Used (\$) | Lime-stone (T/Y) | Lime-stone (\$/Y) | Dry LS Product (T/Y) | Limestone Landfill Cost incl ash (\$/Y) | Limestone FGD Energy Cost (\$/Y) | O&M Lime-Stone FGD (\$/Y) | FGD Cost Limestone Fix+Var+Cap (\$/mmBtu) | Total Cost Limestone Fuel+FGD (\$/Y) |
|--------|----------------|----------------------------|-----------------------|------------|----------------|------------|---------|---------------------|--------------------|----------------------|----------------------|------------------|-------------------|----------------------|---|----------------------------------|---------------------------|---|--------------------------------------|
| CAPP | Pike | 2.490 | \$100,773,288 | 1,686,300 | 12,000 | 0.74 | 11.00 | \$661,172 | 0 | 16,554 | \$9,833,076 | 0 | \$0 | 0 | \$661,172 | \$0 | \$10,494,248 | \$0.259 | \$111,267,536 |
| NAP-WV | Pitts | 1.470 | \$59,492,664 | 1,658,656 | 12,200 | 3.75 | 10.00 | \$591,212 | 115,934 | 2,366 | \$1,405,409 | 217,501 | \$2,728,914 | 116,625 | \$1,006,910 | \$3,034,019 | \$31,553,726 | \$0.780 | \$91,046,390 |

2020

| | |
|--|---|
| 1. Average Heat Rate | 10,000 Btu/kwH |
| 2. SO2 Removal Rate | 98.00 % |
| 3. Lbs Reagent/Lb SO2 in gas (Lime/Limestone) | 1.88 lbs. Limestone / lbs. SO2 Removed |
| 4. SO2 Produced | 1.95 *(%S) / 100 = lbs. SO2 Produced / lb. Coal Fired |
| 5. Process Plant Lime Consumption | 0 lbs. Process Lime Used / ton Dry Sludge |
| 6. Recycle Pumps Required per Absorber | 3 per Absorber |
| 7. Number of Absorbers | 4 Absorbers |
| 8. Average Spurlock Unit 2 Load | 525 MW |
| 9. Process Plant Hours of Operation | 24 Hrs. |
| 10. Scrubber & Process Plant Electrical Load | 13.5 MW |
| 11. Coal Burned in Unit 2 is based on the heat rate and mw produced. | |
| 12. FGD Energy Consumption (Lime/Limestone) | 11200 KW |
| 13. Plant Factor | 0.88 |
| 14. Operational hours per year | 8,760 hours |
| 15. Labor (25 people, \$55,000, Benefits 1.55) | \$3,129,812.48 per year |
| 16. Reagent Costs (Lime/Limestone) | \$12.92 per ton |
| 17. Current Price for SO2 Allowances | \$483.00 per ton SO2 |
| 18. Process Lime Costs | \$0.00 per ton |
| 19. Scrubber Landfill Costs | \$3.67 per ton |
| 20. Maintenance | \$4,257,279.24 per year |
| 21. Capacity Cost for 13.5 MW | \$3,777,137.30 per year |
| 22. CAAA Allowances Spurlock Unit 2 | 16,554 year 2000 Phase II |
| 23. PRB Capital Expenditure | \$0 |
| 24. Scrubber Capital Expenditure (per J. Brandt 7/15/04) Limestone >>>>> | \$164,200,000 |
| 25. Capacity Replacement Cost | \$279.021 /KWY Gilbert Unit based for Replacement Power |
| 26. Carrying Cost (20 years) | 9.700 % |
| 27. Ash Penalty for Boiler Maintenance | \$0.238 / % Ash / ton of Coal |
| 28. Ash Landfill Cost | \$3.671 per ton of Ash |
| 29. Annual payment for PRB Capital Expenditure (30 year) | \$0 |
| 30. Annual payment for Scrubber Capital Expenditure (20 year) | \$15,927,400 \$0 |
| 31. Annual Btu requirements for Unit 2 based on Heat Rate and Output | 40,471,200 mmBtu/Y |

| | Coal Suppliers | Coal Del. Price (\$/mmBtu) | Coal Del. Cost (\$/Y) | Coal (T/Y) | Coal (Btu/lb.) | Sulfur (%) | Ash (%) | Ash Landfill (\$/Y) | SO2 Scrubbed (T/Y) | SO2 Not Scrubbed (T) | Allowances Used (\$) | Lime-stone (T/Y) | Lime-stone (\$/Y) | Dry LS Product (T/Y) | Limestone Landfill Cost incl ash (\$/Y) | Limestone FGD Energy Cost (\$/Y) | O&M Lime-Stone FGD (\$/Y) | FGD Cost Limestone Fix+Var+Cap (\$/mmBtu) | Total Cost Limestone Fuel+FGD (\$/Y) |
|--------|----------------|----------------------------|-----------------------|------------|----------------|------------|---------|---------------------|--------------------|----------------------|----------------------|------------------|-------------------|----------------------|---|----------------------------------|---------------------------|---|--------------------------------------|
| CAPP | Pike | 2.540 | \$102,796,848 | 1,686,300 | 12,000 | 0.74 | 11.00 | \$681,007 | 0 | 16,554 | \$7,995,582 | 0 | \$0 | 0 | \$681,007 | \$0 | \$8,676,589 | \$0.214 | \$111,473,437 |
| NAP-WV | Pitts | 1.480 | \$59,897,376 | 1,658,656 | 12,200 | 3.75 | 10.00 | \$608,948 | 115,934 | 2,366 | \$1,142,782 | 217,501 | \$2,810,782 | 116,625 | \$1,037,118 | \$3,125,040 | \$31,430,213 | \$0.777 | \$91,327,589 |

| | |
|--|---|
| 1. Average Heat Rate | 10,000 Btu/kwH |
| 2. SO2 Removal Rate | 98.00 % |
| 3. Lbs Reagent/Lb SO2 in gas (Lime/Limestone) | 1.88 lbs. Limestone / lbs. SO2 Removed |
| 4. SO2 Produced | 1.95 *(%S) / 100 = lbs. SO2 Produced / lb. Coal Fired |
| 5. Process Plant Lime Consumption | 0 lbs. Process Lime Used / ton Dry Sludge |
| 6. Recycle Pumps Required per Absorber | 3 per Absorber |
| 7. Number of Absorbers | 4 Absorbers |
| 8. Average Spurlock Unit 2 Load | 525 MW |
| 9. Process Plant Hours of Operation | 24 Hrs. |
| 10. Scrubber & Process Plant Electrical Load | 13.5 MW |
| 11. Coal Burned in Unit 2 is based on the heat rate and mw produced. | |
| 12. FGD Energy Consumption (Lime/Limestone) | 11200 KW |
| 13. Plant Factor | 0.88 |
| 14. Operational hours per year | 8,760 hours |
| 15. Labor (25 people, \$55,000, Benefits 1.55) | \$3,223,706.85 per year |
| 16. Reagent Costs (Lime/Limestone) | \$13.31 per ton |
| 17. Current Price for SO2 Allowances | \$394.00 per ton SO2 |
| 18. Process Lime Costs | \$0.00 per ton |
| 19. Scrubber Landfill Costs | \$3.78 per ton |
| 20. Maintenance | \$4,384,997.61 per year |
| 21. Capacity Cost for 13.5 MW | \$3,890,451.42 per year |
| 22. CAAA Allowances Spurlock Unit 2 | 16,554 year 2000 Phase II |
| 23. PRB Capital Expenditure | \$0 |
| 24. Scrubber Capital Expenditure (per J. Brandt 7/15/04) Limestone >>>>> | \$164,200,000 |
| 25. Capacity Replacement Cost | \$287.392 /KWY Gilbert Unit based for Replacement Power |
| 26. Carrying Cost (20 years) | 9.520 % |
| 27. Ash Penalty for Boiler Maintenance | \$0.245 / % Ash / ton of Coal |
| 28. Ash Landfill Cost | \$3.781 per ton of Ash |
| 29. Annual payment for PRB Capital Expenditure (30 year) | \$0 |
| 30. Annual payment for Scrubber Capital Expenditure (20 year) | \$15,631,840 \$0 |
| 31. Annual Btu requirements for Unit 2 based on Heat Rate and Output | 40,471,200 mmBtu/Y |

| | Coal Suppliers | Coal Del. Price (\$/mmBtu) | Coal Del. Cost (\$/Y) | Coal (T/Y) | Coal (Btu/lb.) | Sulfur (%) | Ash (%) | Ash Landfill (\$/Y) | SO2 Scrubbed (T/Y) | SO2 Not Scrubbed (T) | Allowances Used (\$) | Limestone (T/Y) | Limestone (\$/Y) | Dry LS Product (T/Y) | Limestone Landfill Cost incl ash (\$/Y) | Limestone FGD Energy Cost (\$/Y) | O&M Lime-Stone FGD (\$/Y) | FGD Cost Limestone Fix+Var+Cap (\$/mmBtu) | Total Cost Limestone Fuel+FGD (\$/Y) |
|--------|----------------|----------------------------|-----------------------|------------|----------------|------------|---------|---------------------|--------------------|----------------------|----------------------|-----------------|------------------|----------------------|---|----------------------------------|---------------------------|---|--------------------------------------|
| CAPP | Pike | 2.590 | \$104,820,408 | 1,686,300 | 12,000 | 0.74 | 11.00 | \$701,437 | 0 | 16,554 | \$6,522,276 | 0 | \$0 | 0 | \$701,437 | \$0 | \$7,223,713 | \$0.178 | \$112,044,121 |
| NAP-WV | Pitts | 1.490 | \$60,302,088 | 1,658,656 | 12,200 | 3.75 | 10.00 | \$627,216 | 115,934 | 2,366 | \$932,207 | 217,501 | \$2,895,105 | 116,625 | \$1,068,231 | \$3,218,791 | \$31,354,879 | \$0.775 | \$91,656,967 |

| | |
|--|---|
| 1. Average Heat Rate | 10,000 Btu/kwH |
| 2. SO2 Removal Rate | 98.00 % |
| 3. Lbs Reagent/Lb SO2 in gas (Lime/Limestone) | 1.88 lbs. Limestone / lbs. SO2 Removed |
| 4. SO2 Produced | 1.95 *(%S) / 100 = lbs. SO2 Produced / lb. Coal Fired |
| 5. Process Plant Lime Consumption | 0 lbs. Process Lime Used / ton Dry Sludge |
| 6. Recycle Pumps Required per Absorber | 3 per Absorber |
| 7. Number of Absorbers | 4 Absorbers |
| 8. Average Spurlock Unit 2 Load | 525 MW |
| 9. Process Plant Hours of Operation | 24 Hrs. |
| 10. Scrubber & Process Plant Electrical Load | 13.5 MW |
| 11. Coal Burned in Unit 2 is based on the heat rate and mw produced. | |
| 12. FGD Energy Consumption (Lime/Limestone) | 11200 KW |
| 13. Plant Factor | 0.88 |
| 14. Operational hours per year | 8,760 hours |
| 15. Labor (25 people, \$55,000, Benefits 1.55) | \$3,320,418.06 per year |
| 16. Reagent Costs (Lime/Limestone) | \$13.71 per ton |
| 17. Current Price for SO2 Allowances | \$321.00 per ton SO2 |
| 18. Process Lime Costs | \$0.00 per ton |
| 19. Scrubber Landfill Costs | \$3.89 per ton |
| 20. Maintenance | \$4,516,547.54 per year |
| 21. Capacity Cost for 13.5 MW | \$4,007,164.96 per year |
| 22. CAAA Allowances Spurlock Unit 2 | 16,554 year 2000 Phase II |
| 23. PRB Capital Expenditure | \$0 |
| 24. Scrubber Capital Expenditure (per J. Brandt 7/15/04) | Limestone >>>>> \$164,200,000 |
| 25. Capacity Replacement Cost | \$296.014 /KWY Gilbert Unit based for Replacement Power |
| 26. Carrying Cost (20 years) | 9.320 % |
| 27. Ash Penalty for Boiler Maintenance | \$0.252 / % Ash / ton of Coal |
| 28. Ash Landfill Cost | \$3.895 per ton of Ash |
| 29. Annual payment for PRB Capital Expenditure (30 year) | \$0 |
| 30. Annual payment for Scrubber Capital Expenditure (20 year) | \$15,303,440 \$0 |
| 31. Annual Btu requirements for Unit 2 based on Heat Rate and Output | 40,471,200 mmBtu/Y |

| | Coal Suppliers | Coal Del. Price (\$/mmBtu) | Coal Del. Cost (\$/Y) | Coal (T/Y) | Coal (Btu/lb.) | Sulfur (%) | Ash (%) | Ash Landfill (\$/Y) | SO2 Scrubbed (T/Y) | SO2 Not Scrubbed (T) | Allowances Used (\$) | Lime-stone (T/Y) | Lime-stone (\$/Y) | Dry LS Product (T/Y) | Limestone Landfill Cost incl ash (\$/Y) | Limestone FGD Energy Cost (\$/Y) | O&M Lime-Stone FGD (\$/Y) | FGD Cost Limestone Fix+Var+Cap (\$/mmBtu) | Total Cost Limestone Fuel+FGD (\$/Y) |
|--------|----------------|----------------------------|-----------------------|------------|----------------|------------|---------|---------------------|--------------------|----------------------|----------------------|------------------|-------------------|----------------------|---|----------------------------------|---------------------------|---|--------------------------------------|
| CAPP | Pike | 2.640 | \$106,843,968 | 1,686,300 | 12,000 | 0.74 | 11.00 | \$722,480 | 0 | 16,554 | \$5,313,834 | 0 | \$0 | 0 | \$722,480 | \$0 | \$6,036,314 | \$0.149 | \$112,880,282 |
| NAP-WV | Pitts | 1.500 | \$60,706,800 | 1,658,656 | 12,200 | 3.75 | 10.00 | \$646,033 | 115,934 | 2,366 | \$759,489 | 217,501 | \$2,981,958 | 116,625 | \$1,100,278 | \$3,315,355 | \$31,297,485 | \$0.773 | \$92,004,285 |

2023

- 1. Average Heat Rate 10,000 Btu/kwH
- 2. SO2 Removal Rate 98.00 %
- 3. Lbs Reagent/Lb SO2 in gas (Lime/Limestone) 1.88 lbs. Limestone / lbs. SO2 Removed
- 4. SO2 Produced 1.95 *(%S) / 100 = lbs. SO2 Produced / lb. Coal Fired
- 5. Process Plant Lime Consumption 0 lbs. Process Lime Used / ton Dry Sludge
- 6. Recycle Pumps Required per Absorber 3 per Absorber
- 7. Number of Absorbers 4 Absorbers
- 8. Average Spurlock Unit 2 Load 525 MW
- 9. Process Plant Hours of Operation 24 Hrs.
- 10. Scrubber & Process Plant Electrical Load 13.5 MW
- 11. Coal Burned in Unit 2 is based on the heat rate and mw produced.
- 12. FGD Energy Consumption (Lime/Limestone) 11200 KW
- 13. Plant Factor 0.88
- 14. Operational hours per year 8,760 hours
- 15. Labor (25 people, \$55,000, Benefits 1.55) \$3,420,030.60 per year
- 16. Reagent Costs (Lime/Limestone) \$14.12 per ton
- 17. Current Price for SO2 Allowances \$261.00 per ton SO2
- 18. Process Lime Costs \$0.00 per ton
- 19. Scrubber Landfill Costs \$4.01 per ton
- 20. Maintenance \$4,652,043.97 per year
- 21. Capacity Cost for 13.5 MW \$4,127,379.91 per year
- 22. CAAA Allowances Spurlock Unit 2 16,554 year 2000 Phase II
- 23. PRB Capital Expenditure \$0
- 24. Scrubber Capital Expenditure (per J. Brandt 7/15/04) Limestone >>>>> \$164,200,000
- 25. Capacity Replacement Cost \$304.894 /KWY Gilbert Unit based for Replacement Power
- 26. Carrying Cost (20 years) 9.110 %
- 27. Ash Penalty for Boiler Maintenance \$0.260 / % Ash / ton of Coal
- 28. Ash Landfill Cost \$4.012 per ton of Ash
- 29. Annual payment for PRB Capital Expenditure (30 year) \$0
- 30. Annual payment for Scrubber Capital Expenditure (20 year) \$14,958,620 \$0
- 31. Annual Btu requirements for Unit 2 based on Heat Rate and Output 40,471,200 mmBtu/Y

| | Coal Suppliers | Coal Del. Price (\$/mmBtu) | Coal Del. Cost (\$/Y) | Coal (T/Y) | Coal (Btu/lb.) | Sulfur (%) | Ash (%) | Ash Landfill (\$/Y) | SO2 Scrubbed (T/Y) | SO2 Not Scrubbed (T) | Allowances Used (\$) | Lime-stone (T/Y) | Lime-stone (\$/Y) | Dry LS Product (T/Y) | Limestone Landfill Cost incl ash (\$/Y) | Limestone FGD Energy Cost (\$/Y) | O&M Lime-Stone FGD (\$/Y) | FGD Cost Lime-stone Fix+Var+Cap (\$/mmBtu) | Total Cost Lime-stone Fuel+FGD (\$/Y) |
|--------|----------------|----------------------------|-----------------------|------------|----------------|------------|---------|---------------------|--------------------|----------------------|----------------------|------------------|-------------------|----------------------|---|----------------------------------|---------------------------|--|---------------------------------------|
| CAPP | Pike | 2.690 | \$108,867,528 | 1,686,300 | 12,000 | 0.74 | 11.00 | \$744,155 | 0 | 16,554 | \$4,320,594 | 0 | \$0 | 0 | \$744,155 | \$0 | \$5,064,749 | \$0.125 | \$113,932,277 |
| NAP-WV | Pitts | 1.510 | \$61,111,512 | 1,658,656 | 12,200 | 3.75 | 10.00 | \$665,414 | 115,934 | 2,366 | \$617,528 | 217,501 | \$3,071,417 | 116,625 | \$1,133,286 | \$3,414,815 | \$31,267,742 | \$0.773 | \$92,379,254 |

- 1. Average Heat Rate 10,000 Btu/kWh
- 2. SO2 Removal Rate 98.00 %
- 3. Lbs Reagent/Lb SO2 in gas (Lime/Limestone) 1.88 lbs. Limestone / lbs. SO2 Removed
- 4. SO2 Produced 1.95 *(%S) / 100 = lbs. SO2 Produced / lb. Coal Fired
- 5. Process Plant Lime Consumption 0 lbs. Process Lime Used / ton Dry Sludge
- 6. Recycle Pumps Required per Absorber 3 per Absorber
- 7. Number of Absorbers 4 Absorbers
- 8. Average Spurlock Unit 2 Load 525 MW
- 9. Process Plant Hours of Operation 24 Hrs.
- 10. Scrubber & Process Plant Electrical Load 13.5 MW
- 11. Coal Burned in Unit 2 is based on the heat rate and mw produced.
- 12. FGD Energy Consumption (Lime/Limestone) 11200 KW
- 13. Plant Factor 0.88
- 14. Operational hours per year 8,760 hours
- 15. Labor (25 people, \$55,000, Benefits 1.55) \$3,522,631.52 per year
- 16. Reagent Costs (Lime/Limestone) \$14.55 per ton
- 17. Current Price for SO2 Allowances \$213.00 per ton SO2
- 18. Process Lime Costs \$0.00 per ton
- 19. Scrubber Landfill Costs \$4.13 per ton
- 20. Maintenance \$4,791,605.29 per year
- 21. Capacity Cost for 13.5 MW \$4,251,201.30 per year
- 22. CAAA Allowances Spurlock Unit 2 16,554 year 2000 Phase II
- 23. PRB Capital Expenditure \$0
- 24. Scrubber Capital Expenditure (per J. Brandt 7/15/04) Limestone >>>>> \$164,200,000
- 25. Capacity Replacement Cost \$314.041 /KWY Gilbert Unit based for Replacement Power
- 26. Carrying Cost (20 years) 8.880 %
- 27. Ash Penalty for Boiler Maintenance \$0.268 / % Ash / ton of Coal
- 28. Ash Landfill Cost \$4.132 per ton of Ash
- 29. Annual payment for PRB Capital Expenditure (30 year) \$0
- 30. Annual payment for Scrubber Capital Expenditure (20 year) \$14,580,960 \$0
- 31. Annual Btu requirements for Unit 2 based on Heat Rate and Output 40,471,200 mmBtu/Y

| | Coal Suppliers | Coal Del. Price (\$/mmBtu) | Coal Del. Cost (\$/Y) | Coal (T/Y) | Coal (Btu/lb.) | Sulfur (%) | Ash (%) | Ash Landfill (\$/Y) | SO2 Scrubbed (T/Y) | SO2 Not Scrubbed (T) | Allowances Used (\$) | Lime-stone (T/Y) | Lime-stone (\$/Y) | Dry LS Product (T/Y) | Limestone Landfill Cost incl ash (\$/Y) | Limestone FGD Energy Cost (\$/Y) | O&M Lime-Stone FGD (\$/Y) | FGD Cost Lime-stone Fix+Var+Cap (\$/mmBtu) | Total Cost Lime-stone Fuel+FGD (\$/Y) |
|--------|----------------|----------------------------|-----------------------|------------|----------------|------------|---------|---------------------|--------------------|----------------------|----------------------|------------------|-------------------|----------------------|---|----------------------------------|---------------------------|--|---------------------------------------|
| CAPP | Pike | 2.740 | \$110,891,088 | 1,686,300 | 12,000 | 0.74 | 11.00 | \$766,479 | 0 | 16,554 | \$3,526,002 | 0 | \$0 | 0 | \$766,479 | \$0 | \$4,292,481 | \$0.106 | \$115,183,569 |
| NAP-WV | Pitts | 1.520 | \$61,516,224 | 1,658,656 | 12,200 | 3.75 | 10.00 | \$685,376 | 115,934 | 2,366 | \$503,960 | 217,501 | \$3,163,560 | 116,625 | \$1,167,285 | \$3,517,260 | \$31,247,261 | \$0.772 | \$92,763,485 |

| | |
|--|---|
| 1. Average Heat Rate | 10,000 Btu/kwH |
| 2. SO2 Removal Rate | 98.00 % |
| 3. Lbs Reagent/Lb SO2 in gas (Lime/Limestone) | 1.88 lbs. Limestone / lbs. SO2 Removed |
| 4. SO2 Produced | 1.95 *(%S) / 100 = lbs. SO2 Produced / lb. Coal Fired |
| 5. Process Plant Lime Consumption | 0 lbs. Process Lime Used / ton Dry Sludge |
| 6. Recycle Pumps Required per Absorber | 3 per Absorber |
| 7. Number of Absorbers | 4 Absorbers |
| 8. Average Spurlock Unit 2 Load | 525 MW |
| 9. Process Plant Hours of Operation | 24 Hrs. |
| 10. Scrubber & Process Plant Electrical Load | 13.5 MW |
| 11. Coal Burned in Unit 2 is based on the heat rate and mw produced. | |
| 12. FGD Energy Consumption (Lime/Limestone) | 11200 KW |
| 13. Plant Factor | 0.88 |
| 14. Operational hours per year | 8,760 hours |
| 15. Labor (25 people, \$55,000, Benefits 1.55) | \$3,628,310.46 per year |
| 16. Reagent Costs (Lime/Limestone) | \$14.98 per ton |
| 17. Current Price for SO2 Allowances | \$173.00 per ton SO2 |
| 18. Process Lime Costs | \$0.00 per ton |
| 19. Scrubber Landfill Costs | \$4.26 per ton |
| 20. Maintenance | \$4,935,353.44 per year |
| 21. Capacity Cost for 13.5 MW | \$4,378,737.34 per year |
| 22. CAAA Allowances Spurlock Unit 2 | 16,554 year 2000 Phase II |
| 23. PRB Capital Expenditure | \$0 |
| 24. Scrubber Capital Expenditure (per J. Brandt 7/15/04) | Limestone >>>>> \$164,200,000 |
| 25. Capacity Replacement Cost | \$323.462 /KWY Gilbert Unit based for Replacement Power |
| 26. Carrying Cost (20 years) | 8.640 % |
| 27. Ash Penalty for Boiler Maintenance | \$0.276 / % Ash / ton of Coal |
| 28. Ash Landfill Cost | \$4.256 per ton of Ash |
| 29. Annual payment for PRB Capital Expenditure (30 year) | \$0 |
| 30. Annual payment for Scrubber Capital Expenditure (20 year) | \$14,186,880 \$0 |
| 31. Annual Btu requirements for Unit 2 based on Heat Rate and Output | 40,471,200 mmBtu/Y |

| | Coal Suppliers | Coal Del. Price- (\$/mmBtu) | Coal Del. Cost (\$/Y) | Coal (T/Y) | Coal (Btu/lb.) | Sulfur (%) | Ash (%) | Ash Landfill (\$/Y) | SO2 Scrubbed (T/Y) | SO2 Not Scrubbed (T) | Allowances Used (\$) | Lime-stone (T/Y) | Lime-stone (\$/Y) | Dry LS Product (T/Y) | Limestone Landfill Cost incl ash (\$/Y) | Limestone FGD Energy Cost (\$/Y) | O&M Lime-Stone FGD (\$/Y) | FGD Cost Limestone Fix+Var+Cap (\$/mmBtu) | Total Cost Limestone Fuel+FGD (\$/Y) |
|--------|----------------|-----------------------------|-----------------------|------------|----------------|------------|---------|---------------------|--------------------|----------------------|----------------------|------------------|-------------------|----------------------|---|----------------------------------|---------------------------|---|--------------------------------------|
| CAPP | Pike | 2.790 | \$112,914,648 | 1,686,300 | 12,000 | 0.74 | 11.00 | \$789,474 | 0 | 16,554 | \$2,863,842 | 0 | \$0. | 0 | \$789,474 | \$0 | \$3,653,316 | \$0.090 | \$116,567,964 |
| NAP-WV | Pitts | 1.530 | \$61,920,936 | 1,658,656 | 12,200 | 3.75 | 10.00 | \$705,938 | 115,934 | 2,366 | \$409,319 | 217,501 | \$3,258,466 | 116,625 | \$1,202,303 | \$3,622,778 | \$31,243,411 | \$0.772 | \$93,164,347 |

- 1. Average Heat Rate 10,000 Btu/kwH
- 2. SO2 Removal Rate 98.00 %
- 3. Lbs Reagent/Lb SO2 in gas (Lime/Limestone) 1.88 lbs. Limestone / lbs. SO2 Removed
- 4. SO2 Produced 1.95 *(%S) / 100 = lbs. SO2 Produced / lb. Coal Fired
- 5. Process Plant Lime Consumption 0 lbs. Process Lime Used / ton Dry Sludge
- 6. Recycle Pumps Required per Absorber 3 per Absorber
- 7. Number of Absorbers 4 Absorbers
- 8. Average Spurlock Unit 2 Load 525 MW
- 9. Process Plant Hours of Operation 24 Hrs.
- 10. Scrubber & Process Plant Electrical Load 13.5 MW
- 11. Coal Burned in Unit 2 is based on the heat rate and mw produced.
- 12. FGD Energy Consumption (Lime/Limestone) 11200 KW
- 13. Plant Factor 0.88
- 14. Operational hours per year 8,760 hours
- 15. Labor (25 people, \$55,000, Benefits 1.55) \$3,737,159.78 per year
- 16. Reagent Costs (Lime/Limestone) \$15.43 per ton
- 17. Current Price for SO2 Allowances \$141.00 per ton SO2
- 18. Process Lime Costs \$0.00 per ton
- 19. Scrubber Landfill Costs \$4.38 per ton
- 20. Maintenance \$5,083,414.05 per year
- 21. Capacity Cost for 13.5 MW \$4,510,099.46 per year
- 22. CAAA Allowances Spurlock Unit 2 16,554 year 2000 Phase II
- 23. PRB Capital Expenditure \$0
- 24. Scrubber Capital Expenditure (per J. Brandt 7/15/04) Limestone >>>>> \$164,200,000
- 25. Capacity Replacement Cost \$333.166 /KWY Gilbert Unit based for Replacement Power
- 26. Carrying Cost (20 years) 8.380 %
- 27. Ash Penalty for Boiler Maintenance \$0.284 / % Ash / ton of Coal
- 28. Ash Landfill Cost \$4.384 per ton of Ash
- 29. Annual payment for PRB Capital Expenditure (30 year) \$0
- 30. Annual payment for Scrubber Capital Expenditure (20 year) \$13,759,960 \$0
- 31. Annual Btu requirements for Unit 2 based on Heat Rate and Output 40,471,200 mmBtu/Y

| | Coal Suppliers | Coal Del. Price (\$/mmBtu) | Coal Del. Cost (\$/Y) | Coal (T/Y) | Coal (Btu/lb.) | Sulfur (%) | Ash (%) | Ash Landfill (\$/Y) | SO2 Scrubbed (T/Y) | SO2 Not Scrubbed (T) | Allowances Used (\$) | Lime-stone (T/Y) | Lime-stone (\$/Y) | Dry LS Product (T/Y) | Limestone Landfill Cost incl ash (\$/Y) | Limestone FGD Energy Cost (\$/Y) | O&M Lime-Stone FGD (\$/Y) | FGD Cost Lime-stone Fix+Var+Cap (\$/mmBtu) | Total Cost Lime-stone Fuel+FGD (\$/Y) |
|--------|----------------|----------------------------|-----------------------|------------|----------------|------------|---------|---------------------|--------------------|----------------------|----------------------|------------------|-------------------|----------------------|---|----------------------------------|---------------------------|--|---------------------------------------|
| CAPP | Pike | 2.840 | \$114,938,208 | 1,686,300 | 12,000 | 0.74 | 11.00 | \$813,158 | 0 | 16,554 | \$2,334,114 | 0 | \$0 | 0 | \$813,158 | \$0 | \$3,147,272 | \$0.078 | \$118,085,480 |
| NAP-WV | Pitts | 1.540 | \$62,325,648 | 1,658,656 | 12,200 | 3.75 | 10.00 | \$727,116 | 115,934 | 2,366 | \$333,607 | 217,501 | \$3,356,220 | 116,625 | \$1,238,373 | \$3,731,461 | \$31,240,195 | \$0.772 | \$93,565,843 |

| | |
|--|---|
| 1. Average Heat Rate | 10,000 Btu/kwH |
| 2. SO2 Removal Rate | 98.00 % |
| 3. Lbs Reagent/Lb SO2 in gas (Lime/Limestone) | 1.88 lbs. Limestone / lbs. SO2 Removed |
| 4. SO2 Produced | 1.95 *(%S) / 100 = lbs. SO2 Produced / lb. Coal Fired |
| 5. Process Plant Lime Consumption | 0 lbs. Process Lime Used / ton Dry Sludge |
| 6. Recycle Pumps Required per Absorber | 3 per Absorber |
| 7. Number of Absorbers | 4 Absorbers |
| 8. Average Spurlock Unit 2 Load | 525 MW |
| 9. Process Plant Hours of Operation | 24 Hrs. |
| 10. Scrubber & Process Plant Electrical Load | 13.5 MW |
| 11. Coal Burned in Unit 2 is based on the heat rate and mw produced. | |
| 12. FGD Energy Consumption (Lime/Limestone) | 11200 KW |
| 13. Plant Factor | 0.88 |
| 14. Operational hours per year | 8,760 hours |
| 15. Labor (25 people, \$55,000, Benefits 1.55) | \$3,849,274.57 per year |
| 16. Reagent Costs (Lime/Limestone) | \$15.89 per ton |
| 17. Current Price for SO2 Allowances | \$115.00 per ton SO2 |
| 18. Process Lime Costs | \$0.00 per ton |
| 19. Scrubber Landfill Costs | \$4.52 per ton |
| 20. Maintenance | \$5,235,916.47 per year |
| 21. Capacity Cost for 13.5 MW | \$4,645,402.45 per year |
| 22. CAAA Allowances Spurlock Unit 2 | 16,554 year 2000 Phase II |
| 23. PRB Capital Expenditure | \$0 |
| 24. Scrubber Capital Expenditure (per J. Brandt 7/15/04) Limestone >>>>> | \$164,200,000 |
| 25. Capacity Replacement Cost | \$343.161 /KWY Gilbert Unit based for Replacement Power |
| 26. Carrying Cost (20 years) | 8.100 % |
| 27. Ash Penalty for Boiler Maintenance | \$0.293 / % Ash / ton of Coal |
| 28. Ash Landfill Cost | \$4.515 per ton of Ash |
| 29. Annual payment for PRB Capital Expenditure (30 year) | \$0 |
| 30. Annual payment for Scrubber Capital Expenditure (20 year) | \$13,300,200 \$0 |
| 31. Annual Btu requirements for Unit 2 based on Heat Rate and Output | 40,471,200 mmBtu/Y |

| | Coal Suppliers | Coal Del. Price (\$/mmBtu) | Coal Del. Cost (\$/Y) | Coal (T/Y) | Coal (Btu/lb.) | Sulfur (%) | Ash (%) | Ash Landfill (\$/Y) | SO2 Scrubbed (T/Y) | SO2 Not Scrubbed (T) | Allowances Used (\$) | Lime-stone (T/Y) | Lime-stone (\$/Y) | Dry LS Product (T/Y) | Limestone Landfill Cost Incl ash (\$/Y) | Limestone FGD Energy Cost (\$/Y) | O&M Lime-Stone FGD (\$/Y) | FGD Cost Limestone Fix+Var+Cap (\$/mmBtu) | Total Cost Limestone Fuel+FGD (\$/Y) |
|--------|----------------|----------------------------|-----------------------|------------|----------------|------------|---------|---------------------|--------------------|----------------------|----------------------|------------------|-------------------|----------------------|---|----------------------------------|---------------------------|---|--------------------------------------|
| CAPP | Pike | 2.890 | \$116,961,768 | 1,686,300 | 12,000 | 0.74 | 11.00 | \$837,552 | 0 | 16,554 | \$1,903,710 | 0 | \$0 | 0 | \$837,552 | \$0 | \$2,741,262 | \$0.068 | \$119,703,030 |
| NAP-WV | Pitts | 1.550 | \$62,730,360 | 1,658,656 | 12,200 | 3.75 | 10.00 | \$748,929 | 115,934 | 2,366 | \$272,091 | 217,501 | \$3,456,907 | 116,625 | \$1,275,524 | \$3,843,405 | \$31,233,317 | \$0.772 | \$93,963,677 |

2028

| | |
|--|---|
| 1. Average Heat Rate | 10,000 Btu/kwH |
| 2. SO2 Removal Rate | 98.00 % |
| 3. Lbs Reagent/Lb SO2 in gas (Lime/Limestone) | 1.88 lbs. Limestone / lbs. SO2 Removed |
| 4. SO2 Produced | 1.95 *(%S) / 100 = lbs. SO2 Produced / lb. Coal Fired |
| 5. Process Plant Lime Consumption | 0 lbs. Process Lime Used / ton Dry Sludge |
| 6. Recycle Pumps Required per Absorber | 3 per Absorber |
| 7. Number of Absorbers | 4 Absorbers |
| 8. Average Spurlock Unit 2 Load | 525 MW |
| 9. Process Plant Hours of Operation | 24 Hrs. |
| 10. Scrubber & Process Plant Electrical Load | 13.5 MW |
| 11. Coal Burned in Unit 2 is based on the heat rate and mw produced. | |
| 12. FGD Energy Consumption (Lime/Limestone) | 11200 KW |
| 13. Plant Factor | 0.88 |
| 14. Operational hours per year | 8,760 hours |
| 15. Labor (25 people, \$55,000, Benefits 1.55) | \$3,964,752.81 per year |
| 16. Reagent Costs (Lime/Limestone) | \$16.37 per ton |
| 17. Current Price for SO2 Allowances | \$103.00 per ton SO2 |
| 18. Process Lime Costs | \$0.00 per ton |
| 19. Scrubber Landfill Costs | \$4.65 per ton |
| 20. Maintenance | \$5,392,993.96 per year |
| 21. Capacity Cost for 13.5 MW | \$4,784,764.52 per year |
| 22. CAAA Allowances Spurlock Unit 2 | 16,554 year 2000 Phase.II |
| 23. PRB Capital Expenditure | \$0 |
| 24. Scrubber Capital Expenditure (per J. Brandt 7/15/04) | Limestone >>>>> \$164,200,000 |
| 25. Capacity Replacement Cost | \$353.456 /KWY Gilbert Unit based for Replacement Power |
| 26. Carrying Cost (20 years) | 7.790 % |
| 27. Ash Penalty for Boiler Maintenance | \$0.301 / % Ash / ton of Coal |
| 28. Ash Landfill Cost | \$4.651 per ton of Ash |
| 29. Annual payment for PRB Capital Expenditure (30 year) | \$0 |
| 30. Annual payment for Scrubber Capital Expenditure (20 year) | \$12,791,180 \$0 |
| 31. Annual Btu requirements for Unit 2 based on Heat Rate and Output | 40,471,200 mmBtu/Y |

| | Coal Suppliers | Coal Del. Price (\$/mmBtu) | Coal Del. Cost (\$/Y) | Coal (T/Y) | Coal (Btu/lb.) | Sulfur (%) | Ash (%) | Ash Landfill (\$/Y) | SO2 Scrubbed (T/Y) | SO2 Not Scrubbed (T) | Allowances Used (\$) | Lime-stone (T/Y) | Lime-stone (\$/Y) | Dry LS Product (T/Y) | Limestone Landfill Cost incl ash (\$/Y) | Limestone FGD Energy Cost (\$/Y) | O&M Lime-Stone FGD (\$/Y) | FGD Cost Limestone Fix+Var+Cap (\$/mmBtu) | Total Cost Limestone Fuel+FGD (\$/Y) |
|--------|----------------|----------------------------|-----------------------|------------|----------------|------------|---------|---------------------|--------------------|----------------------|----------------------|------------------|-------------------|----------------------|---|----------------------------------|---------------------------|---|--------------------------------------|
| CAPP | Pike | 2.940 | \$118,985,328 | 1,686,300 | 12,000 | 0.74 | 11.00 | \$862,679 | 0 | 16,554 | \$1,705,062 | 0 | \$0 | 0 | \$862,679 | \$0 | \$2,567,741 | \$0.063 | \$121,553,069 |
| NAP-WV | Pitts | 1.560 | \$63,135,072 | 1,658,656 | 12,200 | 3.75 | 10.00 | \$771,397 | 115,934 | 2,366 | \$243,699 | 217,501 | \$3,560,614 | 116,625 | \$1,313,789 | \$3,958,707 | \$31,225,736 | \$0.772 | \$94,360,808 |

- 1. Average Heat Rate 10,000 Btu/kWh
- 2. SO2 Removal Rate 98.00 %
- 3. Lbs Reagent/Lb SO2 in gas (Lime/Limestone) 1.88 lbs. Limestone / lbs. SO2 Removed
- 4. SO2 Produced 1.95 *(%S) / 100 = lbs. SO2 Produced / lb. Coal Fired
- 5. Process Plant Lime Consumption 0 lbs. Process Lime Used / ton Dry Sludge
- 6. Recycle Pumps Required per Absorber 3 per Absorber
- 7. Number of Absorbers 4 Absorbers
- 8. Average Spurlock Unit 2 Load 525 MW
- 9. Process Plant Hours of Operation 24 Hrs.
- 10. Scrubber & Process Plant Electrical Load 13.5 MW
- 11. Coal Burned in Unit 2 is based on the heat rate and mw produced.
- 12. FGD Energy Consumption (Lime/Limestone) 11200 KW
- 13. Plant Factor 0.88
- 14. Operational hours per year 8,760 hours
- 15. Labor (25 people, \$55,000, Benefits 1.55) \$4,083,695.39 per year
- 16. Reagent Costs (Lime/Limestone) \$16.86 per ton
- 17. Current Price for SO2 Allowances \$91.00 per ton SO2
- 18. Process Lime Costs \$0.00 per ton
- 19. Scrubber Landfill Costs \$4.79 per ton
- 20. Maintenance \$5,554,783.78 per year
- 21. Capacity Cost for 13.5 MW \$4,928,307.46 per year
- 22. CAAA Allowances Spurlock Unit 2 16,554 year 2000 Phase II
- 23. PRB Capital Expenditure \$0
- 24. Scrubber Capital Expenditure (per J. Brandt 7/15/04) Limestone >>>>> \$164,200,000
- 25. Capacity Replacement Cost \$364,060 /KWY Gilbert Unit based for Replacement Power
- 26. Carrying Cost (20 years) 7.470 %
- 27. Ash Penalty for Boiler Maintenance \$0.310 / % Ash / ton of Coal
- 28. Ash Landfill Cost \$4.790 per ton of Ash
- 29. Annual payment for PRB Capital Expenditure (30 year) \$0
- 30. Annual payment for Scrubber Capital Expenditure (20 year) \$12,265,740 \$0
- 31. Annual Btu requirements for Unit 2 based on Heat Rate and Output 40,471,200 mmBtu/Y

| | Coal Suppliers | Coal Del. Price (\$/mmBtu) | Coal Del. Cost (\$/Y) | Coal (T/Y) | Coal (Btu/lb.) | Sulfur (%) | Ash (%) | Ash Landfill (\$/Y) | SO2 Scrubbed (T/Y) | SO2 Not Scrubbed (T) | Allowances Used (\$) | Lime-stone (T/Y) | Lime-stone (\$/Y) | Dry LS Product (T/Y) | Limestone Landfill Cost incl ash (\$/Y) | Limestone FGD Energy Cost (\$/Y) | O&M Lime-Stone FGD (\$/Y) | FGD Cost Limestone Fix+Var+Cap (\$/mmBtu) | Total Cost Limestone Fuel+FGD (\$/Y) |
|--------|----------------|----------------------------|-----------------------|------------|----------------|------------|---------|---------------------|--------------------|----------------------|----------------------|------------------|-------------------|----------------------|---|----------------------------------|---------------------------|---|--------------------------------------|
| CAPP | Pike | 2.990 | \$121,008,888 | 1,686,300 | 12,000 | 0.74 | 11.00 | \$888,559 | 0 | 16,554 | \$1,506,414 | 0 | \$0 | 0 | \$888,559 | \$0 | \$2,394,973 | \$0.059 | \$123,403,861 |
| NAP-WV | Pitts | 1.570 | \$63,539,784 | 1,658,656 | 12,200 | 3.75 | 10.00 | \$794,539 | 115,934 | 2,366 | \$215,307 | 217,501 | \$3,667,433 | 116,625 | \$1,353,203 | \$4,077,468 | \$31,217,630 | \$0.771 | \$94,757,414 |

| | |
|--|---|
| 1. Average Heat Rate | 10,000 Btu/kwH |
| 2. SO2 Removal Rate | 98.00 % |
| 3. Lbs Reagent/Lb SO2 in gas (Lime/Limestone) | 1.88 lbs. Limestone / lbs. SO2 Removed |
| 4. SO2 Produced | 1.95 *(%S) / 100 = lbs. SO2 Produced / lb. Coal Fired |
| 5. Process Plant Lime Consumption | 0 lbs. Process Lime Used / ton Dry Sludge |
| 6. Recycle Pumps Required per Absorber | 3 per Absorber |
| 7. Number of Absorbers | 4 Absorbers |
| 8. Average Spurlock Unit 2 Load | 525 MW |
| 9. Process Plant Hours of Operation | 24 Hrs. |
| 10. Scrubber & Process Plant Electrical Load | 13.5 MW |
| 11. Coal Burned in Unit 2 is based on the heat rate and mw produced. | |
| 12. FGD Energy Consumption (Lime/Limestone) | 11200 KW |
| 13. Plant Factor | 0.88 |
| 14. Operational hours per year | 8,760 hours |
| 15. Labor (25 people, \$55,000, Benefits 1.55) | \$4,206,206.25 per year |
| 16. Reagent Costs (Lime/Limestone) | \$17.37 per ton |
| 17. Current Price for SO2 Allowances | \$79.00 per ton SO2 |
| 18. Process Lime Costs | \$0.00 per ton |
| 19. Scrubber Landfill Costs | \$4.93 per ton |
| 20. Maintenance | \$5,721,427.30 per year |
| 21. Capacity Cost for 13.5 MW | \$5,076,156.68 per year |
| 22. CAAA Allowances Spurlock Unit 2 | 16,554 year 2000 Phase II |
| 23. PRB Capital Expenditure | \$0 |
| 24. Scrubber Capital Expenditure (per J. Brandt 7/15/04) Limestone >>>>> | \$164,200,000 |
| 25. Capacity Replacement Cost | \$374.981 /KWY Gilbert Unit based for Replacement Power |
| 26. Carrying Cost (20 years) | 7.120 % |
| 27. Ash Penalty for Boiler Maintenance | \$0.320 / % Ash / ton of Coal |
| 28. Ash Landfill Cost | \$4.934 per ton of Ash |
| 29. Annual payment for PRB Capital Expenditure (30 year) | \$0 |
| 30. Annual payment for Scrubber Capital Expenditure (20 year) | \$11,691,040 \$0 |
| 31. Annual Btu requirements for Unit 2 based on Heat Rate and Output | 40,471,200 mmBtu/Y |

| | Coal Suppliers | Coal Del. Price (\$/mmBtu) | Coal Del. Cost (\$/Y) | Coal (T/Y) | Coal (Btu/lb.) | Sulfur (%) | Ash (%) | Ash Landfill (\$/Y) | SO2 Scrubbed (T/Y) | SO2 Not Scrubbed (T) | Allowances Used (\$) | Lime-stone (T/Y) | Lime-stone (\$/Y) | Dry LS Product (T/Y) | Limestone Landfill Cost incl ash (\$/Y) | Limestone FGD Energy Cost (\$/Y) | O&M Lime-Stone FGD (\$/Y) | FGD Cost Limestone Fix+Var+Cap (\$/mmBtu) | Total Cost Limestone Fuel+FGD (\$/Y) |
|--------|----------------|----------------------------|-----------------------|------------|----------------|------------|---------|---------------------|--------------------|----------------------|----------------------|------------------|-------------------|----------------------|---|----------------------------------|---------------------------|---|--------------------------------------|
| CAPP | Pike | 3.040 | \$123,032,448 | 1,686,300 | 12,000 | 0.74 | 11.00 | \$915,216 | 0 | 16,554 | \$1,307,766 | 0 | \$0 | 0 | \$915,216 | \$0 | \$2,222,982 | \$0.055 | \$125,255,430 |
| NAP-WV | Pitts | 1.580 | \$63,944,496 | 1,658,656 | 12,200 | 3.75 | 10.00 | \$818,375 | 115,934 | 2,366 | \$186,915 | 217,501 | \$3,777,456 | 116,625 | \$1,393,799 | \$4,199,792 | \$31,176,635 | \$0.770 | \$95,121,131 |

| | |
|--|---|
| 1. Average Heat Rate | 10,000 Btu/kwH |
| 2. SO2 Removal Rate | 98.00 % |
| 3. Lbs Reagent/Lb SO2 in gas (Lime/Limestone) | 1.88 lbs. Limestone / lbs. SO2 Removed |
| 4. SO2 Produced | 1.95 *(%S) / 100 = lbs. SO2 Produced / lb. Coal Fired |
| 5. Process Plant Lime Consumption | 0 lbs. Process Lime Used / ton Dry Sludge |
| 6. Recycle Pumps Required per Absorber | 3 per Absorber |
| 7. Number of Absorbers | 4 Absorbers |
| 8. Average Spurlock Unit 2 Load | 525 MW |
| 9. Process Plant Hours of Operation | 24 Hrs. |
| 10. Scrubber & Process Plant Electrical Load | 13.5 MW |
| 11. Coal Burned in Unit 2 is based on the heat rate and mw produced. | |
| 12. FGD Energy Consumption (Lime/Limestone) | 11200 KW |
| 13. Plant Factor | 0.88 |
| 14. Operational hours per year | 8,760 hours |
| 15. Labor (25 people, \$55,000, Benefits 1.55) | \$4,332,392.44 per year |
| 16. Reagent Costs (Lime/Limestone) | \$17.89 per ton |
| 17. Current Price for SO2 Allowances | \$67.00 per ton SO2 |
| 18. Process Lime Costs | \$0.00 per ton |
| 19. Scrubber Landfill Costs | \$5.08 per ton |
| 20. Maintenance | \$5,893,070.11 per year |
| 21. Capacity Cost for 13.5 MW | \$5,228,441.38 per year |
| 22. CAAA Allowances Spurlock Unit 2 | 16,554 year 2000 Phase II |
| 23. PRB Capital Expenditure | \$0 |
| 24. Scrubber Capital Expenditure (per J. Brandt 7/15/04) Limestone >>>>> | \$164,200,000 |
| 25. Capacity Replacement Cost | \$386.231 /KWY Gilbert Unit based for Replacement Power |
| 26. Carrying Cost (20 years) | 6.750 % |
| 27. Ash Penalty for Boiler Maintenance | \$0.329 / % Ash / ton of Coal |
| 28. Ash Landfill Cost | \$5.082 per ton of Ash |
| 29. Annual payment for PRB Capital Expenditure (30 year) | \$0 |
| 30. Annual payment for Scrubber Capital Expenditure (20 year) | \$11,083,500 \$0 |
| 31. Annual Btu requirements for Unit 2 based on Heat Rate and Output | 40,471,200 mmBtu/Y |

| | Coal Suppliers | Coal Del. Price (\$/mmBtu) | Coal Del. Cost (\$/Y) | Coal (T/Y) | Coal (Btu/lb.) | Sulfur (%) | Ash (%) | Ash Landfill (\$/Y) | SO2 Scrubbed (T/Y) | SO2 Not Scrubbed (T) | Allowances Used (\$) | Lime-stone (T/Y) | Lime-stone (\$/Y) | Dry LS Product (T/Y) | Limestone Landfill Cost incl ash (\$/Y) | Limestone FGD Energy Cost (\$/Y) | O&M Lime-Stone FGD (\$/Y) | FGD Cost Limestone Fix+Var+Cap (\$/mmBtu) | Total Cost Limestone Fuel+FGD (\$/Y) |
|--------|----------------|----------------------------|-----------------------|------------|----------------|------------|---------|---------------------|--------------------|----------------------|----------------------|------------------|-------------------|----------------------|---|----------------------------------|---------------------------|---|--------------------------------------|
| CAPP | Pike | 3.090 | \$125,056,008 | 1,686,300 | 12,000 | 0.74 | 11.00 | \$942,673 | 0 | 16,554 | \$1,109,118 | 0 | \$0 | 0 | \$942,673 | \$0 | \$2,051,791 | \$0.051 | \$127,107,799 |
| NAP-WV | Pitts | 1.590 | \$64,349,208 | 1,658,656 | 12,200 | 3.75 | 10.00 | \$842,926 | 115,934 | 2,366 | \$158,523 | 217,501 | \$3,890,779 | 116,625 | \$1,435,613 | \$4,325,786 | \$31,119,663 | \$0.769 | \$95,468,871 |

- 1. Average Heat Rate 10,000 Btu/kwH
- 2. SO2 Removal Rate 98.00 %
- 3. Lbs Reagent/Lb SO2 in gas (Lime/Limestone) 1.88 lbs. Limestone / lbs. SO2 Removed
- 4. SO2 Produced 1.95 *(%S) / 100 = lbs. SO2 Produced / lb. Coal Fired
- 5. Process Plant Lime Consumption 0 lbs. Process Lime Used / ton Dry Sludge
- 6. Recycle Pumps Required per Absorber 3 per Absorber
- 7. Number of Absorbers 4 Absorbers
- 8. Average Spurlock Unit 2 Load 525 MW
- 9. Process Plant Hours of Operation 24 Hrs.
- 10. Scrubber & Process Plant Electrical Load 13.5 MW
- 11. Coal Burned in Unit 2 is based on the heat rate and mw produced.
- 12. FGD Energy Consumption (Lime/Limestone) 11200 KW
- 13. Plant Factor 0.88
- 14. Operational hours per year 8,760 hours
- 15. Labor (25 people, \$55,000, Benefits 1.55) \$4,462,364.21 per year
- 16. Reagent Costs (Lime/Limestone) \$18.43 per ton
- 17. Current Price for SO2 Allowances \$55.00 per ton SO2
- 18. Process Lime Costs \$0.00 per ton
- 19. Scrubber Landfill Costs \$5.23 per ton
- 20. Maintenance \$6,069,862.22 per year
- 21. Capacity Cost for 13.5 MW \$5,385,294.62 per year
- 22. CAAA Allowances Spurlock Unit 2 16,554 year 2000 Phase II
- 23. PRB Capital Expenditure \$0
- 24. Scrubber Capital Expenditure (per J. Brandt 7/15/04) Limestone >>>>> \$164,200,000
- 25. Capacity Replacement Cost \$397.818 /KWY Gilbert Unit based for Replacement Power
- 26. Carrying Cost (20 years) 6.350 %
- 27. Ash Penalty for Boiler Maintenance \$0.339 / % Ash / ton of Coal
- 28. Ash Landfill Cost \$5.234 per ton of Ash
- 29. Annual payment for PRB Capital Expenditure (30 year) \$0
- 30. Annual payment for Scrubber Capital Expenditure (20 year) \$10,426,700 \$0
- 31. Annual Btu requirements for Unit 2 based on Heat Rate and Output 40,471,200 mmBtu/Y

| | Coal Suppliers | Coal Del. Price (\$/mmBtu) | Coal Del. Cost (\$/Y) | Coal (T/Y) | Coal (Btu/lb.) | Sulfur (%) | Ash (%) | Ash Landfill (\$/Y) | SO2 Scrubbed (T/Y) | SO2 Not Scrubbed (T) | Allowances Used (\$) | Lime-stone (T/Y) | Lime-stone (\$/Y) | Dry LS Product (T/Y) | Limestone Landfill Cost incl ash (\$/Y) | Limestone FGD Energy Cost (\$/Y) | O&M Lime-Stone FGD (\$/Y) | FGD Cost Lime-stone Fix+Var+Cap (\$/mmBtu) | Total Cost Limestone Fuel+FGD (\$/Y) |
|--------|----------------|----------------------------|-----------------------|------------|----------------|------------|---------|---------------------|--------------------|----------------------|----------------------|------------------|-------------------|----------------------|---|----------------------------------|---------------------------|--|--------------------------------------|
| CAPP | Pike | 3.140 | \$127,079,568 | 1,686,300 | 12,000 | 0.74 | 11.00 | \$970,953 | 0 | 16,554 | \$910,470 | 0 | \$0 | 0 | \$970,953 | \$0 | \$1,881,423 | \$0.046 | \$128,960,991 |
| NAP-WV | Pitts | 1.600 | \$64,753,920 | 1,658,656 | 12,200 | 3.75 | 10.00 | \$868,214 | 115,934 | 2,366 | \$130,130 | 217,501 | \$4,007,503 | 116,625 | \$1,478,682 | \$4,455,559 | \$31,030,801 | \$0.767 | \$95,784,721 |

- 1. Average Heat Rate 10,000 Btu/kwH
- 2. SO2 Removal Rate 98.00 %
- 3. Lbs Reagent/Lb SO2 in gas (Lime/Limestone) 1.88 lbs. Limestone / lbs. SO2 Removed
- 4. SO2 Produced 1.95 *(%S) / 100 = lbs. SO2 Produced / lb. Coal Fired
- 5. Process Plant Lime Consumption 0 lbs. Process Lime Used / ton Dry Sludge
- 6. Recycle Pumps Required per Absorber 3 per Absorber
- 7. Number of Absorbers 4 Absorbers
- 8. Average Spurlock Unit 2 Load 525 MW
- 9. Process Plant Hours of Operation 24 Hrs.
- 10. Scrubber & Process Plant Electrical Load 13.5 MW
- 11. Coal Burned in Unit 2 is based on the heat rate and mw produced.
- 12. FGD Energy Consumption (Lime/Limestone) 11200 KW
- 13. Plant Factor 0.88
- 14. Operational hours per year 8,760 hours
- 15. Labor (25 people, \$55,000, Benefits 1.55) \$4,596,235.14 per year
- 16. Reagent Costs (Lime/Limestone) \$18.98 per ton
- 17. Current Price for SO2 Allowances \$43.00 per ton SO2
- 18. Process Lime Costs \$0.00 per ton
- 19. Scrubber Landfill Costs \$5.39 per ton
- 20. Maintenance \$6,251,958.08 per year
- 21. Capacity Cost for 13.5 MW \$5,546,853.46 per year
- 22. CAAA Allowances Spurlock Unit 2 16,554 year 2000 Phase II
- 23. PRB Capital Expenditure \$0
- 24. Scrubber Capital Expenditure (per J. Brandt 7/15/04) Limestone >>>>> \$164,200,000
- 25. Capacity Replacement Cost \$409.752 /KWY Gilbert Unit based for Replacement Power
- 26. Carrying Cost (20 years) 5.920 %
- 27. Ash Penalty for Boiler Maintenance \$0.349 / % Ash / ton of Coal
- 28. Ash Landfill Cost \$5.391 per ton of Ash
- 29. Annual payment for PRB Capital Expenditure (30 year) \$0
- 30. Annual payment for Scrubber Capital Expenditure (20 year) \$9,720,640 \$0
- 31. Annual Btu requirements for Unit 2 based on Heat Rate and Output 40,471,200 mmBtu/Y

| | Coal Suppliers | Coal Del. Price (\$/mmBtu) | Coal Del. Cost (\$/Y) | Coal (T/Y) | Coal (Btu/lb.) | Sulfur (%) | Ash (%) | Ash Landfill (\$/Y) | SO2 Scrubbed (T/Y) | SO2 Not Scrubbed (T) | Allowances Used (\$) | Lime-stone (T/Y) | Lime-stone (\$/Y) | Dry LS Product (T/Y) | Limestone Landfill Cost incl ash (\$/Y) | Limestone FGD Energy Cost (\$/Y) | O&M Lime-Stone FGD (\$/Y) | FGD Cost Limestone Fix+Var+Cap (\$/mmBtu) | Total Cost Limestone Fuel+FGD (\$/Y) |
|--------|----------------|----------------------------|-----------------------|------------|----------------|------------|---------|---------------------|--------------------|----------------------|----------------------|------------------|-------------------|----------------------|---|----------------------------------|---------------------------|---|--------------------------------------|
| CAPP | Pike | 3.190 | \$129,103,128 | 1,686,300 | 12,000 | 0.74 | 11.00 | \$1,000,081 | 0 | 16,554 | \$711,822 | 0 | \$0 | 0 | \$1,000,081 | \$0 | \$1,711,903 | \$0.042 | \$130,815,031 |
| NAP-WV | Pitts | 1.610 | \$65,158,632 | 1,658,656 | 12,200 | 3.75 | 10.00 | \$894,261 | 115,934 | 2,366 | \$101,738 | 217,501 | \$4,127,728 | 116,625 | \$1,523,042 | \$4,589,226 | \$30,910,568 | \$0.764 | \$96,069,200 |

- 1. Average Heat Rate 10,000 Btu/kwH
- 2. SO2 Removal Rate 98.00 %
- 3. Lbs Reagent/Lb SO2 in gas (Lime/Limestone) 1.88 lbs. Limestone / lbs. SO2 Removed
- 4. SO2 Produced 1.95 *(%S) / 100 = lbs. SO2 Produced / lb. Coal Fired
- 5. Process Plant Lime Consumption 0 lbs. Process Lime Used / ton Dry Sludge
- 6. Recycle Pumps Required per Absorber 3 per Absorber
- 7. Number of Absorbers 4 Absorbers
- 8. Average Spurlock Unit 2 Load 525 MW
- 9. Process Plant Hours of Operation 24 Hrs.
- 10. Scrubber & Process Plant Electrical Load 13.5 MW
- 11. Coal Burned in Unit 2 is based on the heat rate and mw produced.
- 12. FGD Energy Consumption (Lime/Limestone) 11200 KW
- 13. Plant Factor 0.88
- 14. Operational hours per year 8,760 hours
- 15. Labor (25 people, \$55,000, Benefits 1.55) \$4,734,122.19 per year
- 16. Reagent Costs (Lime/Limestone) \$19.55 per ton
- 17. Current Price for SO2 Allowances \$31.00 per ton SO2
- 18. Process Lime Costs \$0.00 per ton
- 19. Scrubber Landfill Costs \$5.55 per ton
- 20. Maintenance \$6,439,516.83 per year
- 21. Capacity Cost for 13.5 MW \$5,713,259.06 per year
- 22. CAAA Allowances Spurlock Unit 2 16,554 year 2000 Phase II
- 23. PRB Capital Expenditure \$0
- 24. Scrubber Capital Expenditure (per J. Brandt 7/15/04) Limestone >>>>> \$164,200,000
- 25. Capacity Replacement Cost \$422.045 /KWY Gilbert Unit based for Replacement Power
- 26. Carrying Cost (20 years) 5.460 %
- 27. Ash Penalty for Boiler Maintenance \$0.360 / % Ash / ton of Coal
- 28. Ash Landfill Cost \$5.553 per ton of Ash
- 29. Annual payment for PRB Capital Expenditure (30 year) \$0
- 30. Annual payment for Scrubber Capital Expenditure (20 year) \$8,965,320 \$0
- 31. Annual Btu requirements for Unit 2 based on Heat Rate and Output 40,471,200 mmBtu/Y

| | Coal Suppliers | Coal Del. Price (\$/mmBtu) | Coal Del. Cost (\$/Y) | Coal (T/Y) | Coal (Btu/lb.) | Sulfur (%) | Ash (%) | Ash Landfill (\$/Y) | SO2 Scrubbed (T/Y) | SO2 Not Scrubbed (T) | Allowances Used (\$) | Lime-stone (T/Y) | Lime-stone (\$/Y) | Dry LS Product (T/Y) | Limestone Landfill Cost incl ash (\$/Y) | Limestone FGD Energy Cost (\$/Y) | O&M Lime-Stone FGD (\$/Y) | FGD Cost Limestone Fix+Var+Cap (\$/mmBtu) | Total Cost Limestone Fuel+FGD (\$/Y) |
|--------|----------------|----------------------------|-----------------------|------------|----------------|------------|---------|---------------------|--------------------|----------------------|----------------------|------------------|-------------------|----------------------|---|----------------------------------|---------------------------|---|--------------------------------------|
| CAPP | Pike | 3.240 | \$131,126,688 | 1,686,300 | 12,000 | 0.74 | 11.00 | \$1,030,084 | 0 | 16,554 | \$513,174 | 0 | \$0 | 0 | \$1,030,084 | \$0 | \$1,543,258 | \$0.038 | \$132,669,946 |
| NAP-WV | Pitts | 1.620 | \$65,563,344 | 1,658,656 | 12,200 | 3.75 | 10.00 | \$921,088 | 115,934 | 2,366 | \$73,346 | 217,501 | \$4,251,560 | 116,625 | \$1,568,733 | \$4,726,903 | \$30,759,501 | \$0.760 | \$96,322,845 |

| | |
|---|---|
| 1. Average Heat Rate | 10,000 Btu/kwH |
| 2. SO2 Removal Rate | 98.00 % |
| 3. Lbs Reagent/Lb SO2 in gas (Lime/Limestone) | 1.88 lbs. Limestone / lbs. SO2 Removed |
| 4. SO2 Produced | 1.95 *(%S) / 100 = lbs. SO2 Produced / lb. Coal Fired |
| 5. Process Plant Lime Consumption | 0 lbs. Process Lime Used / ton Dry Sludge |
| 6. Recycle Pumps Required per Absorber | 3 per Absorber |
| 7. Number of Absorbers | 4 Absorbers |
| 8. Average Spurlock Unit 2 Load | 525 MW |
| 9. Process Plant Hours of Operation | 24 Hrs. |
| 10. Scrubber & Process Plant Electrical Load | 13.5 MW |
| 11. Coal Burned in Unit 2 is based on the heat rate and mw produced. | |
| 12. FGD Energy Consumption (Lime/Limestone) | 11200 KW |
| 13. Plant Factor | 0.88 |
| 14. Operational hours per year | 8,760 hours |
| 15. Labor (25 people, \$55,000, Benefits 1.55) | \$4,876,145.86 per year |
| 16. Reagent Costs (Lime/Limestone) | \$20.13 per ton |
| 17. Current Price for SO2 Allowances | \$19.00 per ton SO2 |
| 18. Process Lime Costs | \$0.00 per ton |
| 19. Scrubber Landfill Costs | \$5.72 per ton |
| 20. Maintenance | \$6,632,702.33 per year |
| 21. Capacity Cost for 13.5 MW | \$5,884,656.84 per year |
| 22. CAAA Allowances Spurlock Unit 2 | 16,554 year 2000 Phase II |
| 23. PRB Capital Expenditure | \$0 |
| 24. Scrubber Capital Expenditure (per J. Brandt 7/15/04) Limestone >>>>>> | \$164,200,000 |
| 25. Capacity Replacement Cost | \$434,706 /KWY Gilbert Unit based for Replacement Power |
| 26. Carrying Cost (20 years) | 4.960 % |
| 27. Ash Penalty for Boiler Maintenance | \$0.371 / % Ash / ton of Coal |
| 28. Ash Landfill Cost | \$5.720 per ton of Ash |
| 29. Annual payment for PRB Capital Expenditure (30 year) | \$0 |
| 30. Annual payment for Scrubber Capital Expenditure (20 year) | \$8,144,320 \$0 |
| 31. Annual Btu requirements for Unit 2 based on Heat Rate and Output | 40,471,200 mmBtu/Y |

| | Coal Suppliers | Coal Def. Price (\$/mmBtu) | Coal Def. Cost (\$/Y) | Coal (T/Y) | Coal (Btu/lb.) | Sulfur (%) | Ash (%) | Ash Landfill (\$/Y) | SO2 Scrubbed (T/Y) | SO2 Not Scrubbed (T) | Allowances Used (\$) | Lime-stone (T/Y) | Lime-stone (\$/Y) | Dry LS Product (T/Y) | Limestone Landfill Cost incl ash (\$/Y) | Limestone FGD Energy Cost (\$/Y) | O&M Lime-Stone FGD (\$/Y) | FGD Cost Limestone Fix+Var+Cap (\$/mmBtu) | Total Cost Limestone Fuel+FGD (\$/Y) |
|--------|----------------|----------------------------|-----------------------|------------|----------------|------------|---------|---------------------|--------------------|----------------------|----------------------|------------------|-------------------|----------------------|---|----------------------------------|---------------------------|---|--------------------------------------|
| CAPP | Pike | 3.290 | \$133,150,248 | 1,686,300 | 12,000 | 0.74 | 11.00 | \$1,060,986 | 0 | 16,554 | \$314,526 | 0 | \$0 | 0 | \$1,060,986 | \$0 | \$1,375,512 | \$0.034 | \$134,525,760 |
| NAP-WV | Pitts | 1.630 | \$65,968,056 | 1,658,656 | 12,200 | 3.75 | 10.00 | \$948,721 | 115,934 | 2,366 | \$44,954 | 217,501 | \$4,379,106 | 116,625 | \$1,615,795 | \$4,868,710 | \$30,561,734 | \$0.755 | \$96,529,790 |

- 1. Average Heat Rate 10,000 Btu/kwH
- 2. SO2 Removal Rate 98.00 %
- 3. Lbs Reagent/Lb SO2 in gas (Lime/Limestone) 1.88 lbs. Limestone / lbs. SO2 Removed
- 4. SO2 Produced 1.95 *(%S) / 100 = lbs. SO2 Produced / lb. Coal Fired
- 5. Process Plant Lime Consumption 0 lbs. Process Lime Used / ton Dry Sludge
- 6. Recycle Pumps Required per Absorber 3 per Absorber
- 7. Number of Absorbers 4 Absorbers
- 8. Average Spurlock Unit 2 Load 525 MW
- 9. Process Plant Hours of Operation 24 Hrs.
- 10. Scrubber & Process Plant Electrical Load 13.5 MW
- 11. Coal Burned in Unit 2 is based on the heat rate and mw produced.
- 12. FGD Energy Consumption (Lime/Limestone) 11200 KW
- 13. Plant Factor 0.88
- 14. Operational hours per year 8,760 hours
- 15. Labor (25 people, \$55,000, Benefits 1.55) \$5,022,430.23 per year
- 16. Reagent Costs (Lime/Limestone) \$20.74 per ton
- 17. Current Price for SO2 Allowances \$7.00 per ton SO2
- 18. Process Lime Costs \$0.00 per ton
- 19. Scrubber Landfill Costs \$5.89 per ton
- 20. Maintenance \$6,831,683.40 per year
- 21. Capacity Cost for 13.5 MW \$6,061,196.54 per year
- 22. CAAA Allowances Spurlock Unit 2 16,554 year 2000 Phase II
- 23. PRB Capital Expenditure \$0
- 24. Scrubber Capital Expenditure (per J. Brandt 7/15/04) Limestone >>>>> \$164,200,000
- 25. Capacity Replacement Cost \$447,747 /KWY Gilbert Unit based for Replacement Power
- 26. Carrying Cost (20 years) 4.430 %
- 27. Ash Penalty for Boiler Maintenance \$0.382 / % Ash / ton of Coal
- 28. Ash Landfill Cost \$5.891 per ton of Ash
- 29. Annual payment for PRB Capital Expenditure (30 year) \$0
- 30. Annual payment for Scrubber Capital Expenditure (20 year) \$7,274,060 \$0
- 31. Annual Btu requirements for Unit 2 based on Heat Rate and Output 40,471,200 mmBtu/Y

| | Coal Suppliers | Coal Del. Price (\$/mmBtu) | Coal Del. Cost (\$/Y) | Coal (T/Y) | Coal (Btu/lb.) | Sulfur (%) | Ash (%) | Ash Landfill (\$/Y) | SO2 Scrubbed (T/Y) | SO2 Not Scrubbed (T) | Allowances Used (\$) | Lime-stone (T/Y) | Lime-stone (\$/Y) | Dry LS Product (T/Y) | Limestone Landfill Cost incl ash (\$/Y) | Limestone FGD Energy Cost (\$/Y) | O&M Lime-Stone FGD (\$/Y) | FGD Cost Limestone Fix+Var+Cap (\$/mmBtu) | Total Cost Limestone Fuel+FGD (\$/Y) |
|--------|----------------|----------------------------|-----------------------|------------|----------------|------------|---------|---------------------|--------------------|----------------------|----------------------|------------------|-------------------|----------------------|---|----------------------------------|---------------------------|---|--------------------------------------|
| CAPP | Pike | 3,340 | \$135,173,808 | 1,686,300 | 12,000 | 0.74 | 11.00 | \$1,092,816 | 0 | 16,554 | \$115,878 | 0 | \$0 | 0 | \$1,092,816 | \$0 | \$1,208,694 | \$0.030 | \$136,382,502 |
| NAP-WV | Pitts | 1,640 | \$66,372,768 | 1,658,656 | 12,200 | 3.75 | 10.00 | \$977,183 | 115,934 | 2,366 | \$16,562 | 217,501 | \$4,510,480 | 116,625 | \$1,664,269 | \$5,014,771 | \$30,334,256 | \$0.750 | \$96,707,024 |

EAST KENTUCKY POWER COOPERATIVE, INC.

PSC CASE NO. 2005-00417

INFORMATION REQUEST RESPONSE

**PUBLIC SERVICE COMMISSION DATA REQUEST DATED DECEMBER
22, 2005**

REQUEST NO. 5

RESPONDING PERSON: Robert E. Hughes Jr.

Request 5: Refer to the Application, Exhibit 7, the Testimony of Robert E. Hughes Jr.

What is the correct status of new permits or permit revisions required in conjunction with the proposed scrubber? Explain the response.

Response 5: An application to the Division for Air Quality for a permit to construct the proposed equipment is being prepared and will be submitted shortly. This is the only permit that is required in connection with the proposed facilities. In the past, the Division for Air Quality did not require construction permits for pollution reduction devices. Currently, the requirement for an application is designed to identify the “collateral” impacts associated with certain activities, such as fugitive dust from limestone handling and road dust from related truck traffic. These impacts must now be considered in permitting the construction of the project. Controls have been provided for in the construction plans to mitigate these impacts, and are being incorporated into the construction application. We anticipate that the review process for this approval will be completed within two months of the filing of the application.

EAST KENTUCKY POWER COOPERATIVE, INC.

PSC CASE NO. 2005-00417

INFORMATION REQUEST RESPONSE

PUBLIC SERVICE COMMISSION DATA REQUEST DATED DECEMBER 22, 2005

REQUEST NO. 6

RESPONDING PERSON: Frank J. Oliva

Request 6. Provide the following information concerning EKPC's sulfur dioxide emission allowances ("SO₂ allowances"):

Request 6a. For each generating station in the EKPC system, prepare a schedule showing the number of SO₂ allowances allocated by the Environmental Protection Agency ("EPA") by vintage year, for the period 1995 through and including 2023.

Response 6a. Please see attached information.

Request 6b. For each generating station in the EKPC system, indicate as of December 31, 2005 the balance of SO₂ allowances, by vintage year, remaining and available to be used by EKPC. The available SO₂ allowance balances should cover the period 1995 through and including 2023.

Response 6b. Please see attached information.

Request 6c. For each generating station in the EKPC system, based on current information, indicate the expected annual consumption of SO₂ allowances for the years 2006 through 2023. If the projection does not go out to 2023, provide the estimated consumption for the years available.

Response 6c. Please see attached information.

Request 6d. For any vintage year subsequent to 2005 where the available balance of SO₂ allowances is lower than the amount awarded by the EPA, explain the reason(s) why the available balance is lower.

Response 6d. There are two vintage years in which the available balance of SO₂ allowances is lower than the amount awarded by the EPA – 2007 and 2009. During 2005, 20,000 vintage 2007 allowances were exchanged in a cashless swap for vintage 2005 allowances. Also in 2005, EKPC exchanged 17,100 vintage 2009 allowances for vintage 2005 allowances. Both cashless swaps were done at fair market value.

Request 6e. Indicate the estimated annual impact the proposed scrubber will have on the consumption of SO₂ allowances.

Response 6e. Based on EKPC's analysis, it is estimated that the proposed scrubber will reduce SO₂ emissions by approximately 14,000 tons of SO₂ per year.

So₂ Allowances Allocated By The EPA

| <u>Vintage</u> <u>Year</u> | <u>Dale</u> | <u>Cooper</u> | <u>Spurlock</u> | <u>Total</u> |
|-------------------------------|-------------|---------------|-----------------|--------------|
| 1995 | 7,254 | 14,917 | 23,202 | 45,373 |
| 1996 | 7,254 | 14,917 | 22,181 | 44,352 |
| 1997 | 7,254 | 14,917 | 22,181 | 44,352 |
| 1998 | 7,254 | 14,917 | 22,181 | 44,352 |
| 1999 | 7,254 | 14,917 | 22,181 | 44,352 |
| 2000 | 3,816 | 9,818 | 26,335 | 39,969 |
| 2001 | 3,831 | 9,818 | 26,414 | 40,063 |
| 2002 | 3,831 | 9,818 | 26,415 | 40,064 |
| 2003 | 3,831 | 9,818 | 26,415 | 40,064 |
| 2004 | 3,831 | 9,818 | 26,415 | 40,064 |
| 2005 | 3,831 | 9,818 | 26,415 | 40,064 |
| 2006 | 3,831 | 9,818 | 26,415 | 40,064 |
| 2007 | 3,831 | 9,818 | 26,415 | 40,064 |
| 2008 | 3,831 | 9,818 | 26,415 | 40,064 |
| 2009 | 3,831 | 9,818 | 26,415 | 40,064 |
| 2010 | 3,093 | 9,835 | 26,462 | 39,390 |
| 2011 | 3,093 | 9,835 | 26,462 | 39,390 |
| 2012 | 3,093 | 9,835 | 26,462 | 39,390 |
| 2013 | 3,093 | 9,835 | 26,462 | 39,390 |
| 2014 | 3,093 | 9,835 | 26,462 | 39,390 |
| 2015 | 3,093 | 9,835 | 26,462 | 39,390 |
| 2016 | 3,093 | 9,835 | 26,462 | 39,390 |
| 2017 | 3,093 | 9,835 | 26,462 | 39,390 |
| 2018 | 3,093 | 9,835 | 26,462 | 39,390 |
| 2019 | 3,093 | 9,835 | 26,462 | 39,390 |
| 2020 | 3,093 | 9,835 | 26,462 | 39,390 |
| 2021 | 3,093 | 9,835 | 26,462 | 39,390 |
| 2022 | 3,093 | 9,835 | 26,462 | 39,390 |
| 2023 | 3,093 | 9,835 | 26,462 | 39,390 |

Available Balance of So₂ Allowances As of 12/31/2005

| Vintage Year | <u>Dale</u> | <u>Cooper</u> | <u>Spurlock</u> | <u>Smith</u> | <u>Total</u> |
|-----------------|-------------|---------------|-----------------|--------------|--------------|
| 1995 | - | - | 1,925 | 28 | 1,953 |
| 1996 | - | - | 40 | - | 40 |
| 1997 | - | - | 1,965 | 32 | 1,997 |
| 1998 | 26 | - | 980 | - | 1,006 |
| 1999 | - | - | 1,981 | - | 1,981 |
| 2000 | - | - | 3,731 | 41 | 3,772 |
| 2001 | - | - | 3,923 | - | 3,923 |
| 2002 | - | - | 3,644 | - | 3,644 |
| 2003 | - | - | 2,730 | - | 2,730 |
| 2004 | - | 50 | 10,427 | - | 10,477 |
| 2005 | 3,831 | 9,818 | 47,629 | - | 61,278 |
| 2006 | 3,831 | 9,818 | 26,415 | - | 40,064 |
| 2007 | 3,831 | 9,818 | 6,415 | - | 20,064 |
| 2008 | 3,831 | 9,818 | 26,415 | - | 40,064 |
| 2009 | 3,831 | 9,818 | 9,315 | - | 22,964 |
| 2010 | 3,093 | 9,835 | 26,462 | - | 39,390 |
| 2011 | 3,093 | 9,835 | 26,462 | - | 39,390 |
| 2012 | 3,093 | 9,835 | 26,462 | - | 39,390 |
| 2013 | 3,093 | 9,835 | 26,462 | - | 39,390 |
| 2014 | 3,093 | 9,835 | 26,462 | - | 39,390 |
| 2015 | 3,093 | 9,835 | 26,462 | - | 39,390 |
| 2016 | 3,093 | 9,835 | 26,462 | - | 39,390 |
| 2017 | 3,093 | 9,835 | 26,462 | - | 39,390 |
| 2018 | 3,093 | 9,835 | 26,462 | - | 39,390 |
| 2019 | 3,093 | 9,835 | 26,462 | - | 39,390 |
| 2020 | 3,093 | 9,835 | 26,462 | - | 39,390 |
| 2021 | 3,093 | 9,835 | 26,462 | - | 39,390 |
| 2022 | 3,093 | 9,835 | 26,462 | - | 39,390 |
| 2023 | 3,093 | 9,835 | 26,462 | - | 39,390 |

Projected Consumption of So₂ Allowances

| <u>Year</u> | <u>Dale</u> | <u>Cooper</u> | <u>Spurlock</u> | <u>Smith</u> | <u>Total</u> |
|-------------|-------------|---------------|-----------------|--------------|--------------|
| 2006 | 6,797 | 28,119 | 43,821 | 1 | 78,738 |
| 2007 | 8,071 | 29,218 | 42,565 | 1 | 79,855 |
| 2008 | 9,913 | 30,785 | 41,730 | 1 | 82,429 |
| 2009 | 9,707 | 28,259 | 8,151 | 1 | 46,118 |
| 2010 | 8,412 | 1,412 | 7,938 | 1 | 17,763 |
| 2011 | 8,798 | 1,412 | 7,957 | 1 | 18,168 |
| 2012 | 7,945 | 1,378 | 7,873 | 1 | 17,197 |
| 2013 | 7,925 | 1,370 | 7,826 | 1 | 17,122 |
| 2014 | 8,327 | 1,377 | 7,865 | 1 | 17,570 |
| 2015 | 7,606 | 1,347 | 7,786 | 1 | 16,740 |
| 2016 | 7,545 | 1,329 | 7,730 | 1 | 16,605 |
| 2017 | 8,079 | 1,333 | 7,772 | 1 | 17,185 |
| 2018 | 8,413 | 1,346 | 7,836 | 1 | 17,596 |
| 2019 | 8,848 | 1,365 | 7,880 | 1 | 18,094 |
| 2020 | 8,439 | 1,346 | 7,831 | 0 | 17,616 |
| 2021 | 8,559 | 1,337 | 7,809 | 0 | 17,705 |
| 2022 | 8,862 | 1,350 | 7,843 | 0 | 18,055 |
| 2023 | 9,046 | 1,356 | 7,882 | 0 | 18,284 |

Projected consumption includes existing EKPC units and Spurlock Unit #4.

EAST KENTUCKY POWER COOPERATIVE, INC.

PSC CASE NO. 2005-00417

INFORMATION REQUEST RESPONSE

**PUBLIC SERVICE COMMISSION DATA REQUEST DATED DECEMBER
22, 2005**

REQUEST NO. 7

RESPONDING PERSON: Jeff Brandt

Request 7: Given the changes in the EPA SO₂ allowance program due to become effective in 2010 and 2015, has EKPC considered or evaluated the possibility of adding scrubbers on any of its other generating stations? Explain the response.

Response 7: EKPC is in the process of such evaluations. EKPC plans to file an Application this month with the Commission for a Certificate of Public Convenience and Necessity for the addition of a scrubber to Spurlock Unit 1. The evaluation process has concluded that the early addition of a Spurlock Unit 1 scrubber could result in substantial economic benefits to EKPC during the proposed first year of operation (2009). Capital, operation and maintenance, fuel, and allowance costs were all considered in the evaluation. In the near future, EKPC will also be investigating the benefits of a scrubber addition at Cooper Station.

EAST KENTUCKY POWER COOPERATIVE, INC.

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INFORMATION REQUEST RESPONSE

PUBLIC SERVICE COMMISSION DATA REQUEST DATED DECEMBER

22, 2005

REQUEST NO. 8

RESPONDING PERSON: Bill Bosta

Request 8: When does EKPC anticipate amending its current environmental compliance plan to include the proposed scrubber? Explain the response.

Response 8: EKPC anticipates filing an Application to amend its existing Environmental Compliance Plan approximately six months prior to the estimated construction completion date of the scrubber and associated facilities. Based on Mr. Brandt's testimony that construction of the facilities will be completed in May 2008, EKPC would likely file the Application with the Public Service Commission in late 2007.

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INFORMATION REQUEST RESPONSE

**PUBLIC SERVICE COMMISSION DATA REQUEST DATED DECEMBER
22, 2005**

REQUEST NO. 9

RESPONDING PERSON: Jeff Brandt

Request 9: Please refer to Tab #5 of the Application received by the Commission on October 7, 2005. What expenditures does the \$5,000,000 in Owner Costs include?

Response 9: Owner's Costs include all other expenditures not included in specific contracts for scrubber equipment, foundations, and electrical upgrades, such as required travel, labor, miscellaneous supplies, testing, etc.