

## WFGD OEM Cost Summary

|                 | 1.75          | 3.0           | 4.5           | 7.5           | Comments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|-----------------|---------------|---------------|---------------|---------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Reagent Prep    | \$ 11,425,000 | \$ 13,430,000 | \$ 15,167,000 | \$ 16,936,000 | <p>Vendor scope:</p> <ul style="list-style-type: none"> <li>- Limestone feeders from the day silos through the slurry storage tanks</li> <li>- Structural steel integral to the support of the vendor's equipment</li> <li>- Piping inside buildings to terminal points</li> <li>- Transfer pumps and all motors required by vendor scope of supply</li> <li>- Process instruments and control logic</li> </ul> <p>By others:</p> <ul style="list-style-type: none"> <li>- Piping from terminal points out to the plant</li> <li>- Conduit, cables, etc... to vendor's motors</li> <li>- Site grading, roads, foundations, etc...</li> <li>- Limestone conveyors, stacking storage areas, etc...</li> <li>- All required DCS upgrades</li> </ul>                                                                                                                                                                        |
| Absorber Island | \$ 40,589,000 | \$ 41,029,000 | \$ 41,363,000 | \$ 41,668,000 | <p>Vendor scope:</p> <ul style="list-style-type: none"> <li>- Absorber module (A2205) with internals and wet ESP integral to the absorber</li> <li>- Inlet duct only through the C22 wet/dry interface</li> <li>- Piping inside buildings to terminal point</li> <li>- Recycle pumps, oxidation compressors, mist eliminator wash pumps, etc... with motors</li> <li>- Structural steel integral to the support of the vendor's equipment</li> <li>- Process instruments and control logic</li> </ul> <p>By others:</p> <ul style="list-style-type: none"> <li>- New ID fans</li> <li>- Duct from ID fans to wet/dry interface and duct from absorber module to stack breach</li> <li>- New wet stack</li> <li>- Piping from terminal points out to the plant</li> <li>- Conduit, cables, etc... to vendor's motors</li> <li>- Site grading, roads, foundations, etc...</li> <li>- All required DCS upgrades</li> </ul> |
| Absorber Alloy  | \$ 14,940,000 | \$ 14,940,000 | \$ 14,940,000 | \$ 14,940,000 | Additional cost for C276 absorber above the price of a A2205 absorber                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

# AEP

Order-of-Magnitude EPC Cost Estimate

Big Sandy Station – Unit 2

Project No. 12721-000

9-Aug-10

## WFGD OEM Cost Summary

|                   | 1.75          | 3.0           | 4.5           | 7.5           | Comments                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-------------------|---------------|---------------|---------------|---------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Wet ESP           | \$ 41,021,000 | \$ 41,021,000 | \$ 41,021,000 | \$ 41,021,000 | <p>Vendor scope:</p> <ul style="list-style-type: none"> <li>- Integral wet ESP with the absorber</li> <li>- Additional support structures for integrated ESP design</li> <li>- All associated piping</li> <li>- Process instruments and control logic</li> </ul> <p>By others:</p> <ul style="list-style-type: none"> <li>- Piping from terminal points out to the plant</li> <li>- Conduit, cables, etc... to vendor's T/R sets</li> <li>- Site grading, roads, foundations, etc...</li> <li>- All required DCS upgrades</li> </ul>                                                                                                                                                                                                                                     |
| Alloy for Wet ESP | \$ 18,459,000 | \$ 18,459,000 | \$ 18,459,000 | \$ 18,459,000 | Additional cost for C276 wet ESP and absorber shell above the price of a A2205 absorber                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Dewatering        | \$ 5,688,000  | \$ 7,250,000  | \$ 8,701,000  | \$ 10,267,000 | <p>Vendor scope:</p> <ul style="list-style-type: none"> <li>- Primary &amp; Secondary Dewatering from the hydroclone feed tanks to the hydroclones through the belt vacuum filters</li> <li>- Structural steel integral to the support of the vendor's equipment</li> <li>- Piping inside buildings to terminal point</li> <li>- All motors required by vendor scope of supply</li> <li>- Process instruments and control logic</li> </ul> <p>By others:</p> <ul style="list-style-type: none"> <li>- Piping from terminal points out to the plant</li> <li>- Conduit, cables, etc... to vendor's motors</li> <li>- Site grading, roads, foundations, etc...</li> <li>- Gypsum conveyors, stacking storage areas, etc...</li> <li>- All required DCS upgrades</li> </ul> |

Costs for the reagent preparation, absorber island, and dewatering equipment are based on a 2009 quote from Alstom. The previous quote was factored for the AEP Big Sandy Unit 2 capacity (865 MW) and adjusted for each sulfur.

The wet ESP pricing was based on a previous quote from 2002 that was adjusted to A2205 (20% of the total cost was C276 and the differential to A2205 is 2.25 times). Then the quote was escalated to today's dollars and adjusted for unit capacity.