CAPITAL PROJECT JUSTIFICATION 2001-2002

JOB.NO: IGS01-19 W.O. #01-31731-00

TITLE: Scrubber Wall Ring Modification

DESCRIPTION: Install patented wall ring around inside perimeter of scrubber modules to improve removal efficiency and make it possible to turn off one level of spray pumps.

JUSTIFICATION: ECONOMIC

PAYBACK PERIOD: 1.3 years
BENEFIT/COST RATIO: 3.54
ECONOMIC LIFE: 20 years
PV SAVINGS: $4,195,000

ADDITIONAL DETAIL: During the recent trial pet coke burn, we determined that approximately 5% of the flue gas is leaking around the scrubber modules without contacting the reagent limestone slurry. This phenomena is called wall sneakage and URS (Radian) has indicated that they have a patented device to correct this problem. The device is essentially a wall ring installed around the perimeter of the module which redistributes the liquid running down the absorber walls into the spray zone. In effect, the wall ring becomes a spray nozzle on the absorber wall and by such evens out the liquid density inside the abosorber which in turn provides a much more even gas liquid contact across the absorber tower.

We expect that by installing the wall ring, the current SO2 removal performance can be maintained with only two pumps in service per module instead of the three now currently used. Removing these pumps from service will result in an estimated power savings of 18,000 MWhr per year. Using the current cost of replacement power ($50/MWhr), this will result in an additional $900,000 per year in power sales. Alternatively, we could elect to run all three pumps and remove more SO2 than our permit currently requires.

2IP10-000028

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2IP10-000029