STATE OF MARYLAND
PUBLIC SERVICE COMMISSION

February 10, 2006

MEMORANDUM TO: Kenneth D. Schisler, Chairman
Harold D. Williams, Commissioner
Allen M. Freifeld, Commissioner
Karen A. Smith, Commissioner
Charles R. Boutin, Commissioner
Craig B. Chesek, Dir. of Admin. and Operations
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FROM: O. Ray Bourland, Executive Secretary ORB
Calvin Timmerman, Senior Commission Advisor CT

RE: Cost and Profitability Analysis of SB 154 and HB 189 Emissions Reductions Provisions

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As directed by the Commission, a Staff work group under the direction of Ray Bourland has been examining the costs and impacts of the Department of the Environment's Clean Power Rule governing emissions of sulfur dioxides (SO2), nitrous oxides (NOx) and mercury (Hg) from certain Maryland coal-fired power plants. With the filing of SB 154 and HB 189, the work group also studied the costs and impacts of those legislative proposals.

Members of the work group included the Commission's senior staff management, its senior economists, and chief engineer, among others. The product of the work group is largely contained in the attached analysis of the SO2, NOx, and Hg provisions of the legislation. The analysis is chiefly the work product of Calvin Timmerman, Senior Policy Advisor, with input from J. Richard Schafer, Chief Engineer, Craig S. Taborsky, Engineer – Electric, John Sillin, Integrated Resource Planning Director, R. Scott Everngam, Assistant IRP Director, and D. Douglas DeWitt, Director, Rate Research and Economics. The information contained in the analysis is based upon publicly available data. In instances where the only publicly available data is several years old, appropriate cost escalators were employed.

Not contained in the spreadsheets is analysis of the carbon dioxide (CO2) provisions of SB 154 and HB 189. The "omission" is not because CO2 compliance costs are minimal. Rather, they are not included in the spreadsheet analysis due to their sweeping nature, the lack of commercially-feasible carbon reduction and sequestration methods, and the subsequent potential for significant and electric system reliability impacts.

SB 154 and HB 189 provide Maryland with the option of (a) capping CO2 emissions from the affected coal plants at 2004 levels and then reducing those emissions by 10 percent, or (b) joining the Regional Greenhouse Gas Initiative (RGGI), a seven-state consortium establishing a cap-and-trade CO2 plan that also has the goal of ultimately reducing CO2 emissions within the seven-state region. After careful study, the work group concludes that both options are unworkable for Maryland at this time.

Maryland obtains about 60 percent of its electricity from coal-fired power plants. Option "a" would require Maryland to reduce its CO2 emissions by 10 percent. There are no CO2 "scrubbers" that would capture CO2 out of the stack. Since coal generation emits significantly more CO2 than gas-fired generation (natural gas is the other chief carbon-based fuel used in Maryland's electricity supply), the only way to achieve a 10 percent reduction is to use much less coal-fueled electricity generation than we do today.

Given the economics of power generation (generators use their most efficient, lowest-cost units first, followed by higher and higher cost units as demand increases), the work group believes that generators, faced with a 10 percent carbon reduction requirement, will choose to close one or more older coal-fired units rather than just reduce output by 10 percent at all units. Both "solutions", of course, increase costs substantially. However, the most likely solution, the one involving plant closures, also raises the risk of significant reliability impacts to unacceptable levels.

As you know, PJM Interconnection, LLC (PJM) projects that the southwest MAAC zone (central and southern Maryland's zone) will have an electric supply reserve margin of only eight percent in 2010 **if all existing generation sources remain on line.** Eight percent is PJM's minimum zonal reserve margin. Plant closures due to the carbon provisions of the legislation, or any other reason, will put the central Maryland zone in violation of PJM's reliability criteria. The loss of one generating station or transmission line due to a forced outage, or low voltage support, or any of the other reasons why a transmission or generation facility can go out of service during a period of peak electricity demand, would lead to unacceptable risks of brownouts and blackouts in central and southern Maryland.

PJM has and does employ reliability must run (RMR) contracts to keep key generating plants in operation under circumstances where the closure of the plant would lead to constraints on the supply of electricity within a particular PJM zone or zones. Historically, RMR contracts have been employed to keep older oil and gas-fired stations in operation past their normal economic life expectancies, so that they are available to relieve congestion during times of peak demand. RMR contracts provide the plants' owners with full cost recovery as an inducement to operate, even if the plants are higher cost than other generation. Those extra costs are recovered from all load-serving entities (LSEs) providing service in the zone in which the RMR plant is located.

Accordingly, the work group believes that implementation of the carbon provisions of SB 154 and HB 189 is likely to lead to one of the two following scenarios. The first scenario sees the closure of key plants, raising costs to customers in the zone as more expensive generation replaces the lost (but needed) coal generation, and causing an unacceptable risk of brownouts and blackouts. The second scenario sees PJM (or the Federal Energy Regulatory Commission or the federal Department of Energy) stepping in, requiring the plants to continue operation, and providing for full cost recovery of the environmental controls (if some are invented) needed to comply with the carbon reductions. The work group believes that the legal and financial exposure of this scenario to the owners of the affected generation is substantial.

In comments at the hearings on SB 154 and HB 189, proponents seemed to agree that compliance with the 10 percent carbon reduction option in the legislation was problematic. They stated that compliance with the alternative carbon control strategy (Maryland joining RGGI) was the more feasible and cost-effective option.

The work group disagrees with that assessment. That option may be preferable to the first option, but it still poses significant cost and reliability risks to Maryland.

RGGI provides for a cap on carbon emissions, establishes carbon emissions credit trading and sequestration options, and provides incentives and funding for demand-side management activities predicted to lower the demand for generation produced by carbon-intensive fuels. As noted above, carbon controls are not available. RGGI's sequestration options, which initially can be used to achieve 3.3 percent of RGGI's "offsets," and may increase to five percent or more based upon the price of CO2 allowances, currently involve projects such as planting millions of trees, annually capturing methane gas or the collection and "injection" of carbon in inert form into the ground, something not yet commercially feasible. Sequestration certainly will be costly even if it becomes available in the foreseeable future.

RGGI's carbon credit trading provisions are problematic. One needs to ask where the credits will come from. Collectively, the seven RGGI states utilize coal-fired generation for about 15 percent of their electricity supply. As noted above, Maryland uses 60 percent coal-fired generation. RGGI takes 25 percent of each state's credits, capped at 2004 emissions levels, and gives them to the state for use as it sees fit. Thus, Maryland's coal-fired generators will, in 2010, have carbon emissions credits for their output based on 75 percent of their 2004 production. With load and production growth, that means they will start with credits equal to something less than 75 percent of their 2010 production. By the time RGGI's actual carbon reduction provisions are implemented beginning in 2015, generators will start with credits equal to an even smaller portion of their actual production. Even if Maryland allows them to buy all 25 percent of the credits that the State will be holding, they will still need additional credits. Since the RGGI states collectively have little coal-fired generation relative to Maryland, and will need credits themselves, particularly when the CO2 reductions are initiated, the work group believes there will be insufficient credits available to Maryland generators.

RGGI's advocates also advance the possibility that demand-side management (DSM) programs will provide a significant mechanism for complying with the carbon provisions in the legislation. The work group disagrees with that assessment, and points to recent experience in Maryland for its reasoning.

Starting in the late 1980's and continuing through the 1990's, the Commission and Maryland's General Assembly embarked on an aggressive program of DSM spending. Each of Maryland's investor-owned electric utilities, and its major electric cooperatives, had a DSM "roundtable" charged with investigating and proposing cost-effective DSM programs for the Commission's consideration. Maryland was a national leader, implementing programs throughout the State at a collective cost exceeding $750,000,000. With several cost-ineffective exceptions, the programs that were implemented provided some benefit to customers compared to where the demand and usage levels would have been absent the programs.

However, it is important to note that the demand for and usage of electricity in Maryland continued to increase even as the programs were implemented and operated. This critical fact should not be ignored, because the proponents of the DSM provisions of SB 154 and HB 189 seem to think that new DSM programs will result in actual reductions in demand for electricity to the extent that coal-fired power plants actually will operate less. The work group believes this thinking is erroneous in several respects in addition to the central fact that previous substantial DSM spending in Maryland did not reduce the actual demand for electricity.

For example, when DSM spending began in Maryland there were many inefficient electric motors, appliances and lighting fixtures in operation. Insulation and other building shell standards were relatively lax, and equipment efficiency standards were either non-existent or not rigorous.

State and federal measures corrected those inefficiencies in the 1990's. In fact, they corrected them to the extent that all of the DSM roundtables in Maryland ended up making unanimous recommendations to the Commission in the late 1990's to end the programs: not because they hadn't worked, but because they had and were no longer cost-effective. The only surviving programs are several conservation programs aimed at low-income customers, the cost-effectiveness of which are marginal at best.

In restating this history, the work group is not saying that it believes there are no cost-effective programs that could be implemented (there may be). It does show, however, why it is unreasonable to expect that implementation of new programs will produce actual reductions in the demand for electricity, much less the 10 percent reductions necessitated by the legislation.

Additionally, it should be noted that the legislation does not provide any relief from the carbon reduction provisions for the load growth that will occur over time as a natural consequence of economic growth. That is, even if a reduction in demand were to occur for a few years, it is unlikely to achieve the continuous demand reductions necessary to offset the naturally occurring growth in uses for electricity. That electricity will have to come from somewhere, and it is likely to come in significant amounts from fossil-fuel generation. These observations too are borne out in Maryland's experience with DSM in the late 1980's and 1990's – as programs operate to reduce inefficiencies, the increased efficiencies form a new baseline and the programs achieve their maximum attainable goals. The operation of the law of diminishing returns is why the roundtables unanimously recommended to the Commission the cessation of the DSM programs in the late 1990's.

The work group sees other problems with RGGI. For one, it observes that RGGI is a work in progress. As a RGGI member, what would Maryland do if the consortium decided to further tighten the carbon provisions? Would Maryland have ceded its sovereignty to the consortium? If Maryland withdraws from RGGI, would Maryland's generators be immediately subject to the alternate carbon control provisions of SB 154 and HB 189? These and other questions have no immediately discernable answers that provide assurance that in joining RGGI the State is acting prudently. In this regard, the work group observes that Massachusetts and Rhode Island, participants in the RGGI initiation discussions, have both elected not to sign on as member states, citing cost reasons.

Accordingly, the work group believes that the RGGI initiative option ultimately leads Maryland to an untenable combination of higher costs and unacceptable risks of brownouts and blackouts, as does the stand-alone cap and cut option contained in the legislation.

Other than the unworkable proposals advanced by the proponents, the work group found only two other possible strategies for compliance with the carbon provisions of the bills: (a) replace older, less efficient coal units with new gas-fired generation, or (b) with transmission lines. Both are infeasible at present and for the foreseeable future.

The customers in the PJM zone serving central and Southern Maryland currently use much more electricity than produced in the zone. The difference is covered by electricity imports over transmission lines. Those transmission lines are already loaded to the maximum during peak periods and even at other periods throughout the year. The impact of those loadings is seen in the congestion charges applicable to electricity pricing for the central Maryland zone.

New transmission lines are difficult and expensive to site and construct. Opposition already is forming to American Electric Power Company's (AEP) proposal for a 765 kilovolt (kV) transmission line from West Virginia to New Jersey which, if constructed, could help improve electricity imports into central Maryland. However, that line will not be constructed in time to meet the 2010 implementation of the bills' provisions. AEP projects an in-service date of 2014, eight years from now. The work group observes that a much shorter AEP 765 kV transmission line in rural West Virginia and Virginia has taken more than 15 years to site and construct and still is not operational. Given the much greater length of the new proposed line, its crossing of environmentally-sensitive areas and areas of relative population density, the work group is not sure that AEP will achieve its projected eight-year timeframe for the new line. The estimated $3 billion cost of the project also raises feasibility questions. The fact that any such line would be used to import more coal-fired generation into Maryland also poses environmental issues due to pollutant transport into the State from the midwest.

That said, the AEP proposal is the only major transmission initiative that the Commission's Engineering Division is aware of that potentially could provide capacity at all sufficient to close the reliability gap that would be posed by closure of any of the affected coal-fired stations. However, the work group (and AEP) do not see completion of this project by 2010 as a possibility.

Given the difference in carbon emissions from coal-fired units versus gas-fired units, another possible measure is to replace coal units with gas units. Capital costs of 1,000 megawatts (MW) of gas generation to replace 1,000 MW of inefficient (relative to newer coal units) older coal units are $600,000,000. Since gas costs three times as much as coal ($22 per megawatt hour for coal versus $68/megawatt hour for gas), ongoing fuel costs of those units also will be much higher, in the tens of millions of dollars annually if not more.

Unfortunately, the natural gas pipeline transportation system serving central Maryland is operating at full capacity already. Without new pipeline or liquefied natural gas (LNG) capacity, there is not enough gas in central Maryland to supply any new gas units capable of substituting for lost base load coal generation. Siting pipeline and LNG facilities pose many issues, take a long time to accomplish, and can be very expensive. As with electric transmission facilities, the work group does not see those alternatives as feasible in the timeframe necessitated by the bills. As noted above, even if it was possible, the costs will be tremendous, and largely recoverable from LSEs serving the central Maryland zone. This fact too should not be ignored. Disruption of PJM's dispatch queue in the central Maryland zone will result in the extra costs resting on consumers in central Maryland.

In summation, given the large costs, reliability risks, and uncertainties associated with the carbon provisions of SB 154 and HB 189, the work group did not attempt to include the above analysis into the attached spreadsheets. They appear to the work group to be unworkable and costly, and pose unacceptable risks to the reliable supply of electricity within significant portions of the State.

As noted earlier in this Memorandum, the attached examination of the SO_2, NOx and Hg emissions control provisions of the proposed bills addresses the costs of those provisions on electric service in Maryland. It forms the foundation for a qualitative assessment as to whether the owner of a unit will choose to comply with those provisions or instead close the unit. The analysis used publicly available information on the historic operating characteristics and cost of the affected power plants; cost projections for required investment, operations and maintenance and fuel; and projected plant revenue. In those cases where public information was not available for essential factors, estimates were made by the Commission based on its own expertise. The analysis includes a Base Case (mid-range analysis), and High and Low Cost Cases covering a reasonable range of study assumptions.

Plant operating margins (revenue minus cost) over the ten-year period 2009-2018 was used as the decision rule to determine whether the plant operator would make the investment necessary to continue plant operation under the requirements of the proposed bills.[1] The wholesale market in Central Maryland is likely to be highly constrained by a relative shortage of generation and transmission through all or most of the analysis period. Because of the limitations on energy imports into Central Maryland, particularly from the west, wholesale generation costs in Central Maryland are determined to a large extent by local generation. Because of these market conditions, this analysis assumes that much of the cost of compliance will be seen by Maryland retail customers. To the extent this analysis assumed something less than full cost recovery for those generators that remained in operation, additional plants would be put in danger of closure with the

[1] Importantly, all plants subject to the bill are operating in an environment of competitive wholesale investment and operations. In recognition of this important change from past plant operations in a regulated environment, the Commission believes a 10-year perspective is reasonable to estimate the investment decisions of the current or future plant owners subject to the proposed bills.

resulting additional reliability and congestion costs due to a further shortage of local generation. For those plants that are likely to close, the "shadow" cost of compliance is used as a proxy for electric costs.

There are two significant uncertainties in these cost projections. There is little to no actual operating experience regarding the level of Hg control that is possible as a co-benefit of the installation of scrubbers (for SO_2 control) and SCR (for NOx control). The Base and High Cost cases assume that additional control measures are needed for 90% Hg control. The Low Cost Case assumes no Hg control costs beyond scrubbers and SCR are needed. New emissions control requirements in the eastern United States will place significant demands on equipment and construction companies that are very likely to raise investment costs above estimates based on current experience. Two Maryland plants, Wagner and particularly Crane, also have site specific limitations that are likely to impose additional investment costs for these plants. The three cases include three different levels of overall and site-specific investment cost increases. Not studied *per se*, but a real factor that owners must consider, is whether the lead times provided by the legislation are sufficient to allow timely compliance.

These estimates should generally be considered conservative. For example, the estimated investment costs for scrubbers are significantly lower than those recently announced by Constellation Energy for the Brandon Shores plant (about 50 percent as much). Additionally, the potential investment and operating costs of switching from lower cost high-sulfur coal to higher cost low-sulfur coal has not been included. It is also likely that the cost of reduced reliability (brown outs or black outs) or imported replacement power is likely to exceed the "shadow" electric cost for plants that are closed to avoid the required emissions control investment costs.

This memorandum now proceeds to a discussion of the base, high and low cost scenarios covered by the study.

Base Case - The Brandon Shores and Morgantown plant's estimated 10-year margins significantly exceed investment costs such that there is little doubt these plants will continue to operate. Revenue for the Chalk Point, Dickerson and Wagner plants exceed costs by an amount similar to total emissions control investments. While these plants are likely to continue operation, this result could be different for a plant owner with a shorter-term investment perspective. The margin for C.P. Crane is positive, but quite small (less than 15%) compared to the total estimated investment. Given the age of this plant and the engineering difficulties involved in installing scrubbers at this plant it is likely Crane would be closed. The Base Case results in a 10-year projected loss for the R. Paul Smith plant of over $100 million. This would very likely result in the closure of this plant prior to the implementation of the proposed control requirements.

Total investment cost for the Base Case is estimated to be $2 billion. Total annual retail electric costs are estimated to increase by $530 million, which is approximately .79 cents/kWh. Again, the work group expects these costs to be largely recovered from customers in the zone serving central and southern Maryland.

High Cost Case - The Brandon Shores and Morgantown plants continue to have estimated 10-year margins that significantly exceed investment costs such that there is little doubt these plants will continue to operate. Revenue for the Chalk Point and

Dickerson plants exceeds costs by an amount similar to total emissions control investments. While these plants are likely to continue operation, this result could be different for a plant owner with a shorter-term investment perspective. The margin for Wagner is positive, but very small (less than 5%) compared to the total estimated investment. Given the age of this plant and the engineering difficulties involved in installing scrubbers at this plant it is likely the Wagner units subject to the proposed bills would be closed. The High Case results in a 10-year projected loss for the C.P. Crane plant of $92 million. This would very likely result in the closure of Crane prior to the implementation of the proposed control requirements. The 10-year projected loss for the R. Paul Smith plant is $114 million in this case. This would very likely result in the closure of this plant prior to the implementation of the proposed control requirements.

Total investment cost for the High Cost Case is estimated to be $2.3 billion. Total annual retail electric costs are estimated to increase by $570 million, which is approximately .85 cents/kWh.

Low Cost Case - The Brandon Shores and Morgantown plants have estimated 10-year margins that significantly exceed investment costs such that there is little doubt these plants will continue to operate. Revenue for the Chalk Point and Dickerson plants reasonably exceeds investment costs by an amount that is likely to allow the plant owner to make the required investments. While these plants are likely to continue operation, this result could be different for a plant owner with a shorter-term investment perspective. The margin for Wagner exceeds total estimated investment, and the positive margin for Crane is approximately 50% of estimated investment costs. In this case, it is likely that the required investment will be made for Wagner, unless the site-specific engineering requirements and costs are much higher than expected. It is doubtful that the return will justify the investment in Crane if a scrubber can be located on that site (which is very doubtful) but, if so, Crane's closure will strongly depend on whether the plant owner has a longer or shorter-term perspective on plant investment. The 10-year projected loss for the R. Paul Smith plant is $76 million in this case. This would very likely result in the closure of this plant prior to the implementation of the proposed control requirements.

Total investment cost for the Low Cost Case is estimated to be $1.6 billion. Total annual retail electric costs are estimated to increase by $421 million, which is approximately .63 cents/kWh.

In closing, the work group hopes that this summary memorandum is useful to the Commission. We appreciate your forbearance in allowing us the opportunity to give priority to the actual work of the study rather than this memorandum.

SO2, NOx and Hg Compliance Cost Summary - **Base Case** - WORKPAPERS

SO2 NOx and Hg Compliance Cost Summary

Scrubber incremental reduction in net energy output and capacity availability	3%	USEA CC Mitigation Options Handbook Version 1.0, 1999
SCR incremental reduction in net energy output and capacity availability	2%	"The Viability and Economics of Adding a ROFA/Rotamix MobotecSystem to a Selective catalytic Reduction Installation" Presentation at NETL/DOE 300c Conference on SCR
Cost increase due to high demand for equipment and labor	15%	Base Case Estimate
Present Value Real Discount Rate:	6%	
Investment and O&M Compliance Cost Inflation Factor GDP Intlation for $1999 cost estimates inflated to $2009 values	1.1886	

Plant	Nameplate Capacity MW	Cost for Scrubber upgrade	Site specific engineering and construction increase	Scrubber annual fixed O&M Cost	Scrubber variable O&M Cost $/MWH	Cost for SCR upgrade	SCR annual fixed O&M Cost	SCR variable O&M Cost $/MWH	Cost for 90% Hg upgrade	90% Hg annual fixed O&M Cost	90% Hg variable O&M Cost $/MWH
Morgantown, Unit 1	590	$ 121,776,230		$ 4,207,644	$ 2.38	$ -	$ 364,150	$ 0.78	$ 42,129,737	$ 5,049,173	$ 0.37
Morgantown, Unit 2	590	$ 121,776,230		$ 4,207,644	$ 2.38	$ 63,450,352	$ 364,150	$ 0.78	$ 42,129,737	$ 5,049,173	$ 0.37
Chalk Point, Unit 1	355	$ 112,819,683		$ 4,641,483	$ 1.19	$ 43,790,385	$ 251,319	$ 0.78	$ 25,349,248	$ 3,038,062	$ 0.37
Chalk Point, Unit 2	355	$ 112,819,683		$ 4,641,483	$ 1.19	$ 43,790,385	$ 251,319	$ 0.78	$ 25,349,248	$ 3,038,062	$ 0.37
Dickerson, Unit 1	185	$ 60,942,791		$ 2,638,692	$ 1.19	$ 27,211,183	$ 156,169	$ 0.78	$ 13,210,172	$ 1,583,215	$ 0.37
Dickerson, Unit 2	185	$ 60,942,791		$ 2,638,692	$ 1.19	$ 27,211,183	$ 156,169	$ 0.78	$ 13,210,172	$ 1,583,215	$ 0.37
Dickerson, Unit 3	185	$ 60,942,791		$ 2,638,692	$ 1.19	$ 27,211,183	$ 156,169	$ 0.78	$ 13,210,172	$ 1,583,215	$ 0.37
Brandon Shores, Unit 1	685	$ 132,489,230		$ 4,070,955	$ 2.38	0	$ 406,081	$ 0.78	$ 48,913,339	$ 5,862,175	$ 0.37
Brandon Shores, Unit 2	685	$ 132,489,230		$ 4,070,955	$ 2.38	0	$ 406,081	$ 0.78	$ 48,913,339	$ 5,862,175	$ 0.37
Wagner, Unit 2	130	$ 66,618,118	15%	$ 2,317,770	$ 1.19	$ 21,032,491	$ 120,708	$ 0.78	$ 9,282,823	$ 1,112,530	$ 0.37
Wagner, Unit 3	340	$ 124,260,553	15%	$ 4,445,364	$ 1.19	0	$ 243,522	$ 0.78	$ 24,278,153	$ 2,909,693	$ 0.37
CP Crane, Unit 1	200	$ 85,649,327	30%	$ 2,852,640	$ 1.19	$ 28,804,740	$ 165,314	$ 0.78	$ 14,281,267	$ 1,711,584	$ 0.37
CP Crane, Unit 2	200	$ 85,649,327	30%	$ 2,852,640	$ 1.19	$ 28,804,740	$ 165,314	$ 0.78	$ 14,281,267	$ 1,711,584	$ 0.37
R. Paul Smith Unit 3	34.5	$ 17,071,089	0%	$ 697,114	$ 1.19	$ 7,985,829	$ 45,832	$ 0.78	$ 2,463,519	$ 295,248	$ 0.37
R. Paul Smith Unit 4	75.5	$ 37,358,471	0%	$ 1,525,568	$ 1.19	$ 14,145,338	$ 81,182	$ 0.78	$ 5,391,178	$ 646,123	$ 0.37
Total:		$ 1,333,605,545				$ 333,437,812			$ 342,393,370		

Total investment:	$ 2,009,436,727	Total Annual Electric Cost Increase:	$ 529,619,766
Total Annual O&M Cost:	$ 171,304,315	Average increase $/kwh:	$ 0.00786

EPA Standalone Documentation for EPA Base Case 2004 (V.2.1.9) Using the Integrated Planning Model, Tables 5.3 and 5.6

Units with no SCR upgrade costs have existing SCR or will have by summer 2006. SCR O&M costs applied to all units to update pre-2000 FERC Form 1 data

90% Hg cost control per Section 5.3.3 and Table 5.12 for Activated Carbon Injection included for plants with electrostatic precipitators, scrubbers and SCR - see "Compliance Implications of the OTC CAIR-Plus Proposal in Maryland and Pennsylvania"

SO2 NOx and 90% Hg Compliance Plant Operating Margins for Maryland Coal Burning Plants

All values are constant $2009 Assumes no additional cost for 90% Hg Compliance

Morgantown (Mirant)	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Pre-Compliance Revenue										
Energy and Ancillary Services	$ 445,087,746	$ 445,087,746	$ 445,087,746	$ 445,087,746	$ 445,087,746	$ 445,087,746	$ 445,087,746	$ 445,087,746	$ 445,087,746	$ 445,087,746
Capacity	$ 44,517,904	$ 44,517,904	$ 44,517,904	$ 44,517,904	$ 44,517,904	$ 44,517,904	$ 44,517,904	$ 44,517,904	$ 44,517,904	$ 44,517,904
Total Revenue	$ 489,605,651	$ 489,605,651	$ 489,605,651	$ 489,605,651	$ 489,605,651	$ 489,605,651	$ 489,605,651	$ 489,605,651	$ 489,605,651	$ 489,605,651
Pre-Compliance Expenses										
Non-Fuel	$ 25,616,788	$ 25,616,788	$ 25,616,788	$ 25,616,788	$ 25,616,788	$ 25,616,788	$ 25,616,788	$ 25,616,788	$ 25,616,788	$ 25,616,788
Debt and Preferred Stock Service	$ 9,074,723	$ 9,074,723	$ 9,074,723	$ 9,074,723	$ 9,074,723	$ 9,074,723	$ 9,074,723	$ 9,074,723	$ 9,074,723	$ 9,074,723
Property Taxes	$ 11,887,477	$ 11,887,477	$ 11,887,477	$ 11,887,477	$ 11,887,477	$ 11,887,477	$ 11,887,477	$ 11,887,477	$ 11,887,477	$ 11,887,477
Fuel	$ 176,439,987	$ 176,311,676	$ 176,232,709	$ 176,191,931	$ 176,191,931	$ 176,191,931	$ 176,191,931	$ 176,191,931	$ 176,191,931	$ 176,191,931
Total Expenses	$ 223,018,975	$ 222,890,664	$ 222,811,697	$ 222,770,919	$ 222,770,919	$ 222,770,919	$ 222,770,919	$ 222,770,919	$ 222,770,919	$ 222,770,919
					$ -	$ -	$ -	$ -	$ -	$ -
Pre-Compliance Operating Margin	$ 266,586,675	$ 266,714,986	$ 266,793,954	$ 266,834,731	$ 266,834,731	$ 266,834,731	$ 266,834,731	$ 266,834,731	$ 266,834,731	$ 266,834,731
Pre-Compliance Margin as % of Revenue	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%
Revenue reduction due to controls:	$ 24,480,283	$ 24,480,283	$ 24,480,283	$ 24,480,283	$ 24,480,283	$ 24,480,283	$ 24,480,283	$ 24,480,283	$ 24,480,283	$ 24,480,283
Adjusted Total Revenue:	$ 465,125,368	$ 465,125,368	$ 465,125,368	$ 465,125,368	$ 465,125,368	$ 465,125,368	$ 465,125,368	$ 465,125,368	$ 465,125,368	$ 465,125,368
Equity financed share of investment	$ 272,164,246	$ -								
Debt financed share of investment interest	$ 7,741,373	$ 7,741,373	$ 7,741,373	$ 7,741,373	$ 7,741,373	$ 7,741,373	$ 7,741,373	$ 7,741,373	$ 7,741,373	$ 126,839,413
Property tax for net incremental investment	$ 11,327,043	$ 9,708,894	$ 8,090,745	$ 6,472,596	$ 4,854,447	$ 3,236,298	$ 1,618,149	$ -	$ -	$ -
Compliance O&M	$ 43,833,845	$ 43,833,845	$ 43,833,845	$ 43,833,845	$ 43,833,845	$ 43,833,845	$ 43,833,845	$ 43,833,845	$ 43,833,845	$ 43,833,845
Compliance Adjusted Total Expenses	$ 558,085,482	$ 284,174,776	$ 282,477,660	$ 280,818,733	$ 279,200,584	$ 277,582,435	$ 275,964,286	$ 274,346,137	$ 274,346,137	$ 393,444,177
Compliace Adjusted Operating Margin	$ (92,960,114)	$ 180,950,592	$ 182,647,708	$ 184,306,635	$ 185,924,784	$ 187,542,933	$ 189,161,082	$ 190,779,231	$ 190,779,231	$ 71,681,191
Compliace Adjusted Margin % of Revenue	-20%	39%	39%	40%	40%	40%	41%	41%	41%	15%
Margin Net Present Value - 10 Years	$ 1,042,282,509									
Average Annual Margin Reduction - 10 Years	$ 119,712,546									

Dickerson (Mirant)	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Pre-Compliance Revenue										
Energy and Ancillary Services	$ 181,022,938	$ 181,022,938	$ 181,022,938	$ 181,022,938	$ 181,022,938	$ 181,022,938	$ 181,022,938	$ 181,022,938	$ 181,022,938	$ 181,022,938
Capacity	$ 19,539,209	$ 19,539,209	$ 19,539,209	$ 19,539,209	$ 19,539,209	$ 19,539,209	$ 19,539,209	$ 19,539,209	$ 19,539,209	$ 19,539,209
Total Revenue	$ 200,562,146	$ 200,562,146	$ 200,562,146	$ 200,562,146	$ 200,562,146	$ 200,562,146	$ 200,562,146	$ 200,562,146	$ 200,562,146	$ 200,562,146
Pre-Compliance Expenses										
Non-Fuel	$ 19,538,674	$ 19,538,674	$ 19,538,674	$ 19,538,674	$ 19,538,674	$ 19,538,674	$ 19,538,674	$ 19,538,674	$ 19,538,674	$ 19,538,674
Debt and Preferred Stock Service	$ 5,965,463	$ 5,965,463	$ 5,965,463	$ 5,965,463	$ 5,965,463	$ 5,965,463	$ 5,965,463	$ 5,965,463	$ 5,965,463	$ 5,965,463
Property Taxes	$ 7,869,674	$ 7,869,674	$ 7,869,674	$ 7,869,674	$ 7,869,674	$ 7,869,674	$ 7,869,674	$ 7,869,674	$ 7,869,674	$ 7,869,674
Fuel	$ 77,047,399	$ 76,959,154	$ 76,904,594	$ 76,876,603	$ 76,876,603	$ 76,876,603	$ 76,876,603	$ 76,876,603	$ 76,876,603	$ 76,876,603
Total Expenses	$ 110,421,210	$ 110,332,965	$ 110,278,405	$ 110,250,414	$ 110,250,414	$ 110,250,414	$ 110,250,414	$ 110,250,414	$ 110,250,414	$ 110,250,414
					$ -	$ -	$ -	$ -	$ -	$ -
Pre-Compliance Operating Margin	$ 90,140,937	$ 90,229,181	$ 90,283,741	$ 90,311,733	$ 90,311,733	$ 90,311,733	$ 90,311,733	$ 90,311,733	$ 90,311,733	$ 90,311,733
Pre-Compliance Margin as % of Revenue	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%
Revenue reduction due to controls:	$ 10,028,107	$ 10,028,107	$ 10,028,107	$ 10,028,107	$ 10,028,107	$ 10,028,107	$ 10,028,107	$ 10,028,107	$ 10,028,107	$ 10,028,107
Adjusted Total Revenue:	$ 190,534,039	$ 190,534,039	$ 190,534,039	$ 190,534,039	$ 190,534,039	$ 190,534,039	$ 190,534,039	$ 190,534,039	$ 190,534,039	$ 190,534,039
Equity financed share of investment	$ 211,528,409	$ -								
Debt financed share of investment interest	$ 6,016,662	$ 6,016,662	$ 6,016,662	$ 6,016,662	$ 6,016,662	$ 6,016,662	$ 6,016,662	$ 6,016,662	$ 6,016,662	$ 98,580,690
Property tax for net incremental investment	$ 6,166,995	$ 5,285,995	$ 4,404,996	$ 3,523,997	$ 2,642,998	$ 1,761,998	$ 880,999	$ -	$ -	$ -
Compliance O&M	$ 19,768,450	$ 19,768,450	$ 19,768,450	$ 19,768,450	$ 19,768,450	$ 19,768,450	$ 19,768,450	$ 19,768,450	$ 19,768,450	$ 19,768,450
Compliance Adjusted Total Expenses	$ 353,901,725	$ 141,404,072	$ 140,468,513	$ 139,559,522	$ 138,678,523	$ 137,797,524	$ 136,916,524	$ 136,035,525	$ 136,035,525	$ 228,599,554
Compliace Adjusted Operating Margin	$ (163,367,686)	$ 49,129,967	$ 50,065,526	$ 50,974,517	$ 51,855,516	$ 52,736,515	$ 53,617,515	$ 54,498,514	$ 54,498,514	$ (38,065,515)
Compliace Adjusted Margin % of Revenue	-86%	26%	26%	27%	27%	28%	28%	29%	29%	-20%
Margin Net Present Value - 10 Years	$ 215,943,383									
Average Annual Margin Reduction - 10 Years	$ 68,689,261									

Chalk Point (Mirant)

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Pre-Compliance Revenue										
Energy and Ancillary Services	$ 253,827,992	$ 253,827,992	$ 253,827,992	$ 253,827,992	$ 253,827,992	$ 253,827,992	$ 253,827,992	$ 253,827,992	$ 253,827,992	$ 253,827,992
Capacity	$ 24,441,904	$ 24,441,904	$ 24,441,904	$ 24,441,904	$ 24,441,904	$ 24,441,904	$ 24,441,904	$ 24,441,904	$ 24,441,904	$ 24,441,904
Total Revenue	$ 278,269,896	$ 278,269,896	$ 278,269,896	$ 278,269,896	$ 278,269,896	$ 278,269,896	$ 278,269,896	$ 278,269,896	$ 278,269,896	$ 278,269,896
Pre-Compliance Expenses										
Non-Fuel	$ 23,728,270	$ 23,728,270	$ 23,728,270	$ 23,728,270	$ 23,728,270	$ 23,728,270	$ 23,728,270	$ 23,728,270	$ 23,728,270	$ 23,728,270
Debt and Preferred Stock Service	$ 10,942,443	$ 10,942,443	$ 10,942,443	$ 10,942,443	$ 10,942,443	$ 10,942,443	$ 10,942,443	$ 10,942,443	$ 10,942,443	$ 10,942,443
Property Taxes	$ 13,517,135	$ 13,517,135	$ 13,517,135	$ 13,517,135	$ 13,517,135	$ 13,517,135	$ 13,517,135	$ 13,517,135	$ 13,517,135	$ 13,517,135
Fuel	$ 120,037,560	$ 119,720,928	$ 119,525,160	$ 119,424,723	$ 119,424,723	$ 119,424,723	$ 119,424,723	$ 119,424,723	$ 119,424,723	$ 119,424,723
Total Expenses	$ 168,225,409	$ 167,908,776	$ 167,713,009	$ 167,612,571	$ 167,612,571	$ 167,612,571	$ 167,612,571	$ 167,612,571	$ 167,612,571	$ 167,612,571
					$ -	$ -	$ -	$ -	$ -	$ -
Pre-Compliance Operating Margin	$ 110,044,487	$ 110,361,120	$ 110,556,888	$ 110,657,325	$ 110,657,325	$ 110,657,325	$ 110,657,325	$ 110,657,325	$ 110,657,325	$ 110,657,325
Pre-Compliance Margin as % of Revenue	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%
Revenue reduction due to controls:	$ 13,913,495	$ 13,913,495	$ 13,913,495	$ 13,913,495	$ 13,913,495	$ 13,913,495	$ 13,913,495	$ 13,913,495	$ 13,913,495	$ 13,913,495
Adjusted Total Revenue:	$ 264,356,402	$ 264,356,402	$ 264,356,402	$ 264,356,402	$ 264,356,402	$ 264,356,402	$ 264,356,402	$ 264,356,402	$ 264,356,402	$ 264,356,402
Equity financed share of investment	$ 253,143,848	$ -								
Debt financed share of investment interest	$ 7,200,361	$ 7,200,361	$ 7,200,361	$ 7,200,361	$ 7,200,361	$ 7,200,361	$ 7,200,361	$ 7,200,361	$ 7,200,361	$ 117,975,148
Property tax for net incremental investment	$ 9,934,979	$ 8,515,696	$ 7,096,413	$ 5,677,131	$ 4,257,848	$ 2,838,565	$ 1,419,283	$ -	$ -	$ -
Compliance O&M	$ 25,164,147	$ 25,164,147	$ 25,164,147	$ 25,164,147	$ 25,164,147	$ 25,164,147	$ 25,164,147	$ 25,164,147	$ 25,164,147	$ 25,164,147
Compliance Adjusted Total Expenses	$ 463,668,743	$ 208,788,980	$ 207,173,930	$ 205,654,210	$ 204,234,927	$ 202,815,644	$ 201,396,362	$ 199,977,079	$ 199,977,079	$ 310,751,866
Compliace Adjusted Operating Margin	$ (199,312,342)	$ 55,567,422	$ 57,182,472	$ 58,702,192	$ 60,121,474	$ 61,540,757	$ 62,960,040	$ 64,379,322	$ 64,379,322	$ (46,395,464)
Compliace Adjusted Margin % of Revenue	-75%	21%	22%	22%	23%	23%	24%	24%	24%	-18%
Margin Net Present Value - 10 Years	$ 239,125,195									
Average Annual Margin Reduction - 10 Years	$ 86,643,858									
Total Compliance Mirant Maryland Plant Margin										
Revenue:	$ 920,015,809	$ 920,015,809	$ 920,015,809	$ 920,015,809	$ 920,015,809	$ 920,015,809	$ 920,015,809	$ 920,015,809	$ 920,015,809	$ 920,015,809
Expenses:	$ 1,375,655,950	$ 634,367,828	$ 630,120,102	$ 626,032,465	$ 622,114,034	$ 618,195,603	$ 614,277,172	$ 610,358,741	$ 610,358,741	$ 932,795,597
Maryland Coal Fleet Margin:	$ (455,640,141)	$ 285,647,981	$ 289,895,706	$ 293,983,344	$ 297,901,774	$ 301,820,205	$ 305,738,636	$ 309,657,067	$ 309,657,067	$ (12,779,788)
Fleet Margin as % of Revenue	-50%	31%	32%	32%	32%	33%	33%	34%	34%	-1%

Brandon Shores (Constellation) - Existing SCR	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Pre-Compliance Revenue										
Energy and Ancillary Services	$ 489,483,001	$ 489,483,001	$ 489,483,001	$ 489,483,001	$ 489,483,001	$ 489,483,001	$ 489,483,001	$ 489,483,001	$ 489,483,001	$ 489,483,001
Capacity	$ 46,020,920	$ 46,020,920	$ 46,020,920	$ 46,020,920	$ 46,020,920	$ 46,020,920	$ 46,020,920	$ 46,020,920	$ 46,020,920	$ 46,020,920
Total Revenue	$ 535,503,921	$ 535,503,921	$ 535,503,921	$ 535,503,921	$ 535,503,921	$ 535,503,921	$ 535,503,921	$ 535,503,921	$ 535,503,921	$ 535,503,921
Pre-Compliance Expenses										
Non-Fuel	$ 28,642,693	$ 28,642,693	$ 28,642,693	$ 28,642,693	$ 28,642,693	$ 28,642,693	$ 28,642,693	$ 28,642,693	$ 28,642,693	$ 28,642,693
Debt and Preferred Stock Service	$ 28,859,425	$ 28,859,425	$ 28,859,425	$ 28,859,425	$ 28,859,425	$ 28,859,425	$ 28,859,425	$ 28,859,425	$ 28,859,425	$ 28,859,425
Property Taxes	$ 25,559,831	$ 25,559,831	$ 25,559,831	$ 25,559,831	$ 25,559,831	$ 25,559,831	$ 25,559,831	$ 25,559,831	$ 25,559,831	$ 25,559,831
Fuel	$ 226,740,359	$ 226,561,811	$ 226,451,419	$ 226,394,783	$ 226,394,783	$ 226,394,783	$ 226,394,783	$ 226,394,783	$ 226,394,783	$ 226,394,783
Total Expenses	$ 309,802,308	$ 309,623,760	$ 309,513,368	$ 309,456,732	$ 309,456,732	$ 309,456,732	$ 309,456,732	$ 309,456,732	$ 309,456,732	$ 309,456,732
					$ -	$ -	$ -	$ -	$ -	$ -
Pre-Compliance Operating Margin	$ 225,701,613	$ 225,880,161	$ 225,990,553	$ 226,047,189	$ 226,047,189	$ 226,047,189	$ 226,047,189	$ 226,047,189	$ 226,047,189	$ 226,047,189
Pre-Compliance Margin as % of Revenue	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%
Revenue reduction due to controls:	$ 26,775,196	$ 26,775,196	$ 26,775,196	$ 26,775,196	$ 26,775,196	$ 26,775,196	$ 26,775,196	$ 26,775,196	$ 26,775,196	$ 26,775,196
Adjusted Total Revenue:	$ 508,728,725	$ 508,728,725	$ 508,728,725	$ 508,728,725	$ 508,728,725	$ 508,728,725	$ 508,728,725	$ 508,728,725	$ 508,728,725	$ 508,728,725
Equity financed share of investment	$ 222,922,527	$ -								
Debt financed share of investment interest	$ 8,392,957	$ 8,392,957	$ 8,392,957	$ 8,392,957	$ 8,392,957	$ 8,392,957	$ 8,392,957	$ 8,392,957	$ 8,392,957	$ 148,275,568
Property tax for net incremental investment	$ 9,639,733	$ 8,262,628	$ 6,885,523	$ 5,508,419	$ 4,131,314	$ 2,754,209	$ 1,377,105	$ -	$ -	$ -
Compliance O&M	$ 47,723,253	$ 47,723,253	$ 47,723,253	$ 47,723,253	$ 47,723,253	$ 47,723,253	$ 47,723,253	$ 47,723,253	$ 47,723,253	$ 47,723,253
Compliance Adjusted Total Expenses	$ 598,480,776	$ 374,002,597	$ 372,515,100	$ 371,081,360	$ 369,704,255	$ 368,327,150	$ 366,950,046	$ 365,572,941	$ 365,572,941	$ 505,455,552
Compliace Adjusted Operating Margin	$ (89,752,051)	$ 134,726,128	$ 136,213,625	$ 137,647,365	$ 139,024,470	$ 140,401,575	$ 141,778,679	$ 143,155,784	$ 143,155,784	$ 3,273,173
Compliace Adjusted Margin % of Revenue	-18%	26%	27%	27%	27%	28%	28%	28%	28%	1%
Margin Net Present Value - 10 Years	$ 1,029,624,531									
Average Annual Margin Reduction - 10 Years	$ 123,027,812									

SO2 NOx and 90% Hg Compliance Plant Specific Operating Margins for Maryland Coal Burning Plants - **Base Case** - WORKPAPERS Page 5 of 7

Wagner (Constellation) - Units 2 & 3, Unit 3 existing SCR	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Pre-Compliance Revenue										
Energy and Ancillary Services	$ 140,918,413	$ 140,918,413	$ 140,918,413	$ 140,918,413	$ 140,918,413	$ 140,918,413	$ 140,918,413	$ 140,918,413	$ 140,918,413	$ 140,918,413
Capacity	$ 16,425,818	$ 16,425,818	$ 16,425,818	$ 16,425,818	$ 16,425,818	$ 16,425,818	$ 16,425,818	$ 16,425,818	$ 16,425,818	$ 16,425,818
Total Revenue	$ 157,344,232	$ 157,344,232	$ 157,344,232	$ 157,344,232	$ 157,344,232	$ 157,344,232	$ 157,344,232	$ 157,344,232	$ 157,344,232	$ 157,344,232
Pre-Compliance Expenses										
Non-Fuel	$ 16,205,314	$ 16,205,314	$ 16,205,314	$ 16,205,314	$ 16,205,314	$ 16,205,314	$ 16,205,314	$ 16,205,314	$ 16,205,314	$ 16,205,314
Debt and Preferred Stock Service	$ 5,488,853	$ 5,488,853	$ 5,488,853	$ 5,488,853	$ 5,488,853	$ 5,488,853	$ 5,488,853	$ 5,488,853	$ 5,488,853	$ 5,488,853
Property Taxes	$ 4,861,294	$ 4,861,294	$ 4,861,294	$ 4,861,294	$ 4,861,294	$ 4,861,294	$ 4,861,294	$ 4,861,294	$ 4,861,294	$ 4,861,294
Fuel	$ 62,098,690	$ 62,098,690	$ 62,098,690	$ 62,098,690	$ 62,098,690	$ 62,098,690	$ 62,098,690	$ 62,098,690	$ 62,098,690	$ 62,098,690
Total Expenses	$ 88,654,152	$ 88,654,152	$ 88,654,152	$ 88,654,152	$ 88,654,152	$ 88,654,152	$ 88,654,152	$ 88,654,152	$ 88,654,152	$ 88,654,152
					$ -	$ -	$ -	$ -	$ -	$ -
Pre-Compliance Operating Margin	$ 68,690,080	$ 68,690,080	$ 68,690,080	$ 68,690,080	$ 68,690,080	$ 68,690,080	$ 68,690,080	$ 68,690,080	$ 68,690,080	$ 68,690,080
Pre-Compliance Margin as % of Revenue	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%
Revenue reduction due to controls:	$ 7,867,212	$ 7,867,212	$ 7,867,212	$ 7,867,212	$ 7,867,212	$ 7,867,212	$ 7,867,212	$ 7,867,212	$ 7,867,212	$ 7,867,212
Adjusted Total Revenue:	$ 149,477,020	$ 149,477,020	$ 149,477,020	$ 149,477,020	$ 149,477,020	$ 149,477,020	$ 149,477,020	$ 149,477,020	$ 149,477,020	$ 149,477,020
Equity financed share of investment	$ 150,828,265	$ -								
Debt financed share of investment interest	$ 5,678,632	$ 5,678,632	$ 5,678,632	$ 5,678,632	$ 5,678,632	$ 5,678,632	$ 5,678,632	$ 5,678,632	$ 5,678,632	$ 100,322,506
Property tax for net incremental investment	$ 6,522,195	$ 5,590,453	$ 4,658,711	$ 3,726,968	$ 2,795,226	$ 1,863,484	$ 931,742	$ -	$ -	$ -
Compliance O&M	$ 16,314,038	$ 16,314,038	$ 16,314,038	$ 16,314,038	$ 16,314,038	$ 16,314,038	$ 16,314,038	$ 16,314,038	$ 16,314,038	$ 16,314,038
Compliance Adjusted Total Expenses	$ 267,997,281	$ 116,237,274	$ 115,305,532	$ 114,373,790	$ 113,442,048	$ 112,510,306	$ 111,578,564	$ 110,646,822	$ 110,646,822	$ 205,290,696
Compliace Adjusted Operating Margin	$ (118,520,261)	$ 33,239,746	$ 34,171,488	$ 35,103,230	$ 36,034,972	$ 36,966,714	$ 37,898,456	$ 38,830,198	$ 38,830,198	$ (55,813,676)
Compliace Adjusted Margin % of Revenue	-79%	22%	23%	23%	24%	25%	25%	26%	26%	-37%
Margin Net Present Value - 10 Years	$ 116,741,066									
Average Annual Margin Reduction - 10 Years	$ 57,015,973									

Crane (Constellation)	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Pre-Compliance Revenue										
Energy and Ancillary Services	$ 130,406,041	$ 130,406,041	$ 130,406,041	$ 130,406,041	$ 130,406,041	$ 130,406,041	$ 130,406,041	$ 130,406,041	$ 130,406,041	$ 130,406,041
Capacity	$ 13,777,647	$ 13,777,647	$ 13,777,647	$ 13,777,647	$ 13,777,647	$ 13,777,647	$ 13,777,647	$ 13,777,647	$ 13,777,647	$ 13,777,647
Total Revenue	$ 144,183,689	$ 144,183,689	$ 144,183,689	$ 144,183,689	$ 144,183,689	$ 144,183,689	$ 144,183,689	$ 144,183,689	$ 144,183,689	$ 144,183,689
Pre-Compliance Expenses										
Non-Fuel	$ 19,575,933	$ 19,575,933	$ 19,575,933	$ 19,575,933	$ 19,575,933	$ 19,575,933	$ 19,575,933	$ 19,575,933	$ 19,575,933	$ 19,575,933
Debt and Preferred Stock Service	$ 4,643,586	$ 4,643,586	$ 4,643,586	$ 4,643,586	$ 4,643,586	$ 4,643,586	$ 4,643,586	$ 4,643,586	$ 4,643,586	$ 4,643,586
Property Taxes	$ 4,825,460	$ 4,825,460	$ 4,825,460	$ 4,825,460	$ 4,825,460	$ 4,825,460	$ 4,825,460	$ 4,825,460	$ 4,825,460	$ 4,825,460
Fuel	$ 56,280,299	$ 56,233,416	$ 56,217,626	$ 56,209,524	$ 56,209,524	$ 56,209,524	$ 56,209,524	$ 56,209,524	$ 56,209,524	$ 56,209,524
Total Expenses	$ 85,325,277	$ 85,278,395	$ 85,262,604	$ 85,254,503	$ 85,254,503	$ 85,254,503	$ 85,254,503	$ 85,254,503	$ 85,254,503	$ 85,254,503
					$ -	$ -	$ -	$ -	$ -	$ -
Pre-Compliance Operating Margin	$ 58,858,411	$ 58,905,294	$ 58,921,085	$ 58,929,186	$ 58,929,186	$ 58,929,186	$ 58,929,186	$ 58,929,186	$ 58,929,186	$ 58,929,186
Pre-Compliance Margin as % of Revenue	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%
Revenue reduction due to controls:	$ 7,209,184	$ 7,209,184	$ 7,209,184	$ 7,209,184	$ 7,209,184	$ 7,209,184	$ 7,209,184	$ 7,209,184	$ 7,209,184	$ 7,209,184
Adjusted Total Revenue:	$ 136,974,504	$ 136,974,504	$ 136,974,504	$ 136,974,504	$ 136,974,504	$ 136,974,504	$ 136,974,504	$ 136,974,504	$ 136,974,504	$ 136,974,504
Equity financed share of investment	$ 158,200,659	$ -								
Debt financed share of investment interest	$ 5,956,201	$ 5,956,201	$ 5,956,201	$ 5,956,201	$ 5,956,201	$ 5,956,201	$ 5,956,201	$ 5,956,201	$ 5,956,201	$ 105,226,210
Property tax for net incremental investment	$ 8,026,648	$ 6,879,984	$ 5,733,320	$ 4,586,656	$ 3,439,992	$ 2,293,328	$ 1,146,664	$ -	$ -	$ -
Compliance O&M	$ 14,238,265	$ 14,238,265	$ 14,238,265	$ 14,238,265	$ 14,238,265	$ 14,238,265	$ 14,238,265	$ 14,238,265	$ 14,238,265	$ 14,238,265
Compliance Adjusted Total Expenses	$ 271,747,050	$ 112,352,844	$ 111,190,389	$ 110,035,624	$ 108,888,960	$ 107,742,296	$ 106,595,632	$ 105,448,968	$ 105,448,968	$ 204,718,977
Compliace Adjusted Operating Margin	$ (134,772,546)	$ 24,621,660	$ 25,784,115	$ 26,938,880	$ 28,085,544	$ 29,232,208	$ 30,378,872	$ 31,525,536	$ 31,525,536	$ (67,744,473)
Compliace Adjusted Margin % of Revenue	-98%	18%	19%	20%	21%	21%	22%	23%	23%	-49%
Margin Net Present Value - 10 Years	$ 25,575,334									
Average Annual Margin Reduction - 10 Years	$ 56,361,376									
Total Constellation Compliance Maryland Plant Margin										
Revenue:	$ 795,180,249	$ 795,180,249	$ 795,180,249	$ 795,180,249	$ 795,180,249	$ 795,180,249	$ 795,180,249	$ 795,180,249	$ 795,180,249	$ 795,180,249
Expenses:	$ 1,138,225,107	$ 602,592,715	$ 599,011,022	$ 595,490,774	$ 592,035,263	$ 588,579,752	$ 585,124,241	$ 581,668,731	$ 581,668,731	$ 915,465,225
Maryland Coal Fleet Margin:	$ (343,044,858)	$ 192,587,534	$ 196,169,227	$ 199,689,476	$ 203,144,986	$ 206,600,497	$ 210,056,008	$ 213,511,519	$ 213,511,519	$ (120,284,976)
Fleet Margin as % of Revenue	-43%	24%	25%	25%	26%	26%	26%	27%	27%	-15%

R. Paul Smith (AE)

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Pre-Compliance Revenue										
Energy and Ancillary Services	$ 26,501,802	$ 26,501,802	$ 26,501,802	$ 26,501,802	$ 26,501,802	$ 26,501,802	$ 26,501,802	$ 26,501,802	$ 26,501,802	$ 26,501,802
Capacity	$ 4,079,615	$ 4,079,615	$ 4,079,615	$ 4,079,615	$ 4,079,615	$ 4,079,615	$ 4,079,615	$ 4,079,615	$ 4,079,615	$ 4,079,615
Total Revenue	$ 30,581,417	$ 30,581,417	$ 30,581,417	$ 30,581,417	$ 30,581,417	$ 30,581,417	$ 30,581,417	$ 30,581,417	$ 30,581,417	$ 30,581,417
Pre-Compliance Expenses										
Non-Fuel	$ 5,151,493	$ 5,151,493	$ 5,151,493	$ 5,151,493	$ 5,151,493	$ 5,151,493	$ 5,151,493	$ 5,151,493	$ 5,151,493	$ 5,151,493
Debt and Preferred Stock Service	$ 1,025,364	$ 1,025,364	$ 1,025,364	$ 1,025,364	$ 1,025,364	$ 1,025,364	$ 1,025,364	$ 1,025,364	$ 1,025,364	$ 1,025,364
Property Taxes	$ 1,192,840	$ 1,192,840	$ 1,192,840	$ 1,192,840	$ 1,192,840	$ 1,192,840	$ 1,192,840	$ 1,192,840	$ 1,192,840	$ 1,192,840
Fuel	$ 15,454,647	$ 15,414,745	$ 15,390,074	$ 15,377,417	$ 15,377,417	$ 15,377,417	$ 15,377,417	$ 15,377,417	$ 15,377,417	$ 15,377,417
Total Expenses	$ 22,824,344	$ 22,784,442	$ 22,759,771	$ 22,747,114	$ 22,747,114	$ 22,747,114	$ 22,747,114	$ 22,747,114	$ 22,747,114	$ 22,747,114
					$ -	$ -	$ -	$ -	$ -	$ -
Pre-Compliance Operating Margin	$ 7,757,073	$ 7,796,975	$ 7,821,646	$ 7,834,303	$ 7,834,303	$ 7,834,303	$ 7,834,303	$ 7,834,303	$ 7,834,303	$ 7,834,303
Pre-Compliance Margin as % of Revenue	25%	25%	26%	26%	26%	26%	26%	26%	26%	26%
Revenue reduction due to controls:	$ 1,529,071	$ 1,529,071	$ 1,529,071	$ 1,529,071	$ 1,529,071	$ 1,529,071	$ 1,529,071	$ 1,529,071	$ 1,529,071	$ 1,529,071
Adjusted Total Revenue:	$ 29,052,346	$ 29,052,346	$ 29,052,346	$ 29,052,346	$ 29,052,346	$ 29,052,346	$ 29,052,346	$ 29,052,346	$ 29,052,346	$ 29,052,346
Equity financed share of investment	$ 38,455,937	$ -								
Debt financed share of investment interest	$ 2,757,569	$ 2,757,569	$ 2,757,569	$ 2,757,569	$ 2,757,569	$ 2,757,569	$ 2,757,569	$ 2,757,569	$ 2,757,569	$ 48,717,056
Property tax for net incremental investment	$ 2,946,098	$ 2,525,227	$ 2,104,356	$ 1,683,485	$ 1,262,614	$ 841,742	$ 420,871	$ -	$ -	$ -
Compliance O&M	$ 4,262,319	$ 4,262,319	$ 4,262,319	$ 4,262,319	$ 4,262,319	$ 4,262,319	$ 4,262,319	$ 4,262,319	$ 4,262,319	$ 4,262,319
Compliance Adjusted Total Expenses	$ 71,246,267	$ 32,329,557	$ 31,884,015	$ 31,450,487	$ 31,029,615	$ 30,608,744	$ 30,187,873	$ 29,767,002	$ 29,767,002	$ 75,726,489
Compliace Adjusted Operating Margin	$ (42,193,921)	$ (3,277,211)	$ (2,831,669)	$ (2,398,141)	$ (1,977,269)	$ (1,556,398)	$ (1,135,527)	$ (714,656)	$ (714,656)	$ (46,674,143)
Compliace Adjusted Margin % of Revenue	-145%	-11%	-10%	-8%	-7%	-5%	-4%	-2%	-2%	-161%
Margin Net Present Value - 10 Years	$ (103,473,590)									
Average Annual Margin Reduction - 10 Years	$ 18,168,940									

Baseline Cost Factors

Adjustments to Plant Historic Cost and Operating Data to Plant Revenue Projected to 2009+

GDP inflation: 1.2042

Adjusted 1998 plant valuation and non-fuel expenses (except coal transportation) to 2009+ levels

U.S. Government Budget Fiscal 2005 Table 10.1 — Gross Domestic Product and Deflators Used in the Historical Tables: 1940–2009

Central Appalachian Coal $/ton: $ 64.42

Delivered, NYMEX 1/9/06 futures plus $9.92 transportation - using 2001 EIA transporation GDP inflated to 2009

EIA Coal Transportation: Rates and Trends in the United States, 1979-2001 (with supplementary data to 2002), Table 2.01 inflated to 2009 using GDP inflation

Gas $/mcf:	$ 9.74	2009
	$ 9.35	2010+

Delivered, NYMEX 1/9/06 futures plus $1.03 Transco Zone 6 non-NY basis difference

#2 Oil $/barrel:	$ 177.79	2009
	$ 174.07	2010
	$ 171.77	2011
	$ 170.59	2012

Delivered, NYMEX 1/9/06 Crude futures adjusted for historic relationship between futures and #2 Oil New York Harbor

#6 Oil $/barrel:	$ 104.70	2009
	$ 102.50	2010
	$ 101.15	2011
	$ 100.45	2012+

Delivered, NYMEX 1/9/06 Crude futures adjusted for historic relationship between futures and #6 Oil New York Harbor

Energy Revenue $/MWH:	$ 60.697	PSC estimates
Capacity Revenue $/Net Available MW-Day	$ 98.04	PSC estimates

Plant valuation net of depreciation:	
Pepco Total Steam Plant Value 1999:	$ 2,171,663,210
Pepco Steam Plant Accumulated Provision for Depreciation 1999:	$ 661,042,073
Mirant plants net plant factor to estimate taxable value:	0.6956
BGE Total Steam Plant Value 1999:	$ 2,152,344,118
BGE Steam Plant Accumulated Provision for Depreciation 1999:	$ 829,854,608
Constellation plants net cost factor to estimate taxable value:	0.6144
PE Total Steam Plant Value 1999:	$ 917,618,289
PE Steam Plant Accumulated Provision for Depreciation 1999:	$ 499,591,942
AE plants net cost factor to estimate taxable value:	0.4556

Debt and Preferred Stock Costs

	Debt %	Real Interest Rate	
Mirant:	34%	6.50%	Mirant Plan of Reorganization Exhibit D, Page 7; Global Insight and Staff estimate for interest rates
Constellation:	50%	6.00%	Staff estimate for debt ratio; Global Insight and Staff estimate for interest rate projections
AE:	50%	6.00%	Staff estimate for debt ratio; Global Insight and Staff estimate for interest rate projections

Property Taxes: All effective rates per $100 assessed value -

State Rate:	$ 0.3300	Total Rate	(to be added to county rates for total rate)
Anne Arundel Co. Rate:	$ 2.3270	$ 2.6570	Brandon Shores & Wagner
Baltimore Co. Rate:	$ 2.7875	$ 3.1175	Crane
Charles Co. Rate:	$ 2.5650	$ 2.8950	Morgantown
Montgomery Co. Rate:	$ 1.6980	$ 2.0280	Dickerson
Prince Georges Co. Rate:	$ 2.4000	$ 2.7300	Chalk Point
Washington Co. Rate:	$ 3.1600	$ 3.4900	R. Paul Smith

Maryland State Department of Assessments and Taxation 2005-2006 County Tax Rates

Historic Operating Data for Selected Maryland Coal Plants

Operating information (capacity, output and fuel use) represents 2002-2004 data (EIA-906, for capacity only 2002 & 2003), taxable value and expenses minus fuel represent 1997-1999 data (FERC Form 1)

Morgantown Units 1&2 (Mirant)

	1997/2002	1998/2003	1999/2004	3-Year Average
Net Summer Capacity (MW)	1,244	1,244		1,244
Net Generation (MWH)	7,516,276	7,883,843	6,598,619	7,332,913
Total Plant Cost ($)	472,310,019	494,350,835	503,959,802	490,206,885
Total Production Expenses minus Fuel ($)	19,185,462	22,565,056	22,068,087	21,272,868
Fuel Use				
Coal (Tons)	2,651,248	2,883,684	2,396,929	2,643,954
Residual Oil (Barrels)	107,115	-	-	35,705
#2 Oil (Barrels)	12,711	13,043	14,375	13,376
Natural Gas (mcf)				

Dickerson Units 1, 2 &3 (Mirant)

	1997/2002	1998/2003	1999/2004	3-Year Average
Net Summer Capacity (MW)	546	546		546
Net Generation (MWH)	3,033,643	2,576,869	3,336,659	2,982,390
Total Plant Cost ($)	311,812,723	313,422,093	341,509,038	322,247,951
Total Production Expenses minus Fuel ($)	16,618,009	16,360,835	15,697,474	16,225,439
Fuel Use				
Coal (Tons)	1,138,501	982,746	1,270,398	1,130,548
Residual Oil (Barrels)	-	-	-	-
#2 Oil (Barrels)	29,367	23,856	17,942	23,722
Natural Gas (mcf)				

Chalk Point - Units 1 & 2 (Mirant)					Steam units expense allocation:		
	1997/2002	1998/2003	1999/2004	3-Year Average	Coal mWH	Oil/gas mWH	Coal%
Net Summer Capacity (MW)	683	683		683	4,181,869	1,602,530	0.72295651
Net Generation (MWH)	4,532,772	3,718,538	4,294,296	4,181,869			
Total Plant Cost ($)	583,292,753	592,380,602	597,624,009	591,099,121			
Total Production Expenses minus Fuel ($)	19,636,507	20,550,308	18,926,962	19,704,592			
Fuel Use							
Coal (Tons)	1,748,030	1,485,468	1,651,851	1,628,450			
Residual Oil (Barrels)	0	-	-	-			
#2 Oil (Barrels)	61,080	81,653	112,616	85,116			
Natural Gas (mcf)	-			-			

Brandon Shores Units 1&2 (Constellation)			Net Capacity data not available for 2004	
	1997/2002	1998/2003	1999/2004	3-Year Average
Net Summer Capacity (MW)	1,286	1,286		1,286
Net Generation (MWH)	7,160,408	8,586,900	8,445,693	8,064,334
Total Plant Cost ($)	1,296,970,612	1,302,442,519	1,300,981,252	1,300,131,461
Total Production Expenses minus Fuel ($)	23,746,563	24,548,797	23,061,624	23,785,661
Fuel Use				
Coal (Tons)	3,064,020	3,568,180	3,529,568	3,387,256
Residual Oil (Barrels)	-	-	-	-
#2 Oil (Barrels)	59,839	43,436	40,715	47,997
Natural Gas (mcf)	-	-	-	-

Net Capacity data not available for Coal units expense allocation:

Wagner Units 2&3 (Constellation)	1997/2002	1998/2003	1999/2004	3-Year Average	Coal mWH	Oil/gas mWH	Coal%
Net Summer Capacity (MW)	459	459		459	2,321,660	745,619	0.75691191
Net Generation (MWH)	1,687,328	2,717,374	2,560,278	2,321,660			
Total Plant Cost ($)	243,595,631	245,569,811	252,661,286	247,275,576			
Total Production Expenses minus Fuel ($)	13,183,213	12,152,280	15,036,490	13,457,328			
Fuel Use							
Coal (Tons)	708,261	1,090,424	1,093,213	963,966			
Residual Oil (Barrels)	-	-	-	-			
#2 Oil (Barrels)	0	-	0	-			
Natural Gas (mcf)	-	-	-	-			

Crane Units 1 and 2 (Constellation)	NA	1998/2003	1999/2004	2-Year Average - 1997 expense data not available
Net Summer Capacity (MW)		385		385
Net Generation (MWH)		2,345,972	1,950,961	2,148,467
Total Plant Cost ($)		214,913,323	203,478,385	209,195,854
Total Production Expenses minus Fuel ($)		16,419,925	16,092,835	16,256,380
Fuel Use				
Coal (Tons)		907,762	784,966	846,364
Residual Oil (Barrels)		-	-	-
#2 Oil (Barrels)		7,136	6,595	6,866
Natural Gas (mcf)		48,981	61,319	55,150

R. Paul Smith Units 3&4 (AE)

	1997/2002	1998/2003	1999/2004	3-Year Average
Net Summer Capacity (MW)	114	114		114
Net Generation (MWH)	503,446	455,727	350,695	436,623
Total Plant Cost ($)	61,039,929	61,592,698	64,279,614	62,304,080
Total Production Expenses minus Fuel ($)	4,805,101	4,065,059	3,963,655	4,277,938
Fuel Use				
Coal (Tons)	240,694	221,357	168,853	210,301
Residual Oil (Barrels)	-	-	-	-
#2 Oil (Barrels)	14,088	9,500	8,591	10,726
Natural Gas (mcf)	-	-	-	-

SO2, NOx and Hg Compliance Cost Summary - **High Cost Case** - WORKPAPERS

SO2 NOx and Hg Compliance Cost Summary

Scrubber incremental reduction in net energy output and capacity availability	3%	USEA CC Mitigation Options Handbook Version 1.0, 1999
SCR incremental reduction in net energy output and capacity availability	2%	"The Viability and Economics of Adding a ROFA/Rotamix MobotecSystem to a Selective catalytic Reduction Installation" Presentation at NETL/DOE 300c Conference on SCR
Cost increase due to high demand for equipment and labor	25%	High Cost Estimate
Present Value Real Discount Rate:	6%	
Investment and O&M Compliance Cost Inflation Factor GDP Intlation for $1999 cost estimates inflated to $2009 values	1.1886	

Plant	Nameplate Capacity MW	Cost for Scrubber upgrade	Site specific engineering and construction increase	Scrubber annual fixed O&M Cost	Scrubber variable O&M Cost $/MWH	Cost for SCR upgrade	SCR annual fixed O&M Cost	SCR variable O&M Cost $/MWH	Cost for 90% Hg upgrade	90% Hg annual fixed O&M Cost	90% Hg variable O&M Cost $/MWH
Morgantown, Unit 1	590	$ 132,365,468		$ 4,207,644	$ 2.38	$ -	$ 364,150	$ 0.78	$ 45,793,192	$ 5,049,173	$ 0.37
Morgantown, Unit 2	590	$ 132,365,468		$ 4,207,644	$ 2.38	$ 68,967,774	$ 364,150	$ 0.78	$ 45,793,192	$ 5,049,173	$ 0.37
Chalk Point, Unit 1	355	$ 122,630,091		$ 4,641,483	$ 1.19	$ 47,598,245	$ 251,319	$ 0.78	$ 27,553,531	$ 3,038,062	$ 0.37
Chalk Point, Unit 2	355	$ 122,630,091		$ 4,641,483	$ 1.19	$ 47,598,245	$ 251,319	$ 0.78	$ 27,553,531	$ 3,038,062	$ 0.37
Dickerson, Unit 1	185	$ 66,242,164		$ 2,638,692	$ 1.19	$ 29,577,373	$ 156,169	$ 0.78	$ 14,358,882	$ 1,583,215	$ 0.37
Dickerson, Unit 2	185	$ 66,242,164		$ 2,638,692	$ 1.19	$ 29,577,373	$ 156,169	$ 0.78	$ 14,358,882	$ 1,583,215	$ 0.37
Dickerson, Unit 3	185	$ 66,242,164		$ 2,638,692	$ 1.19	$ 29,577,373	$ 156,169	$ 0.78	$ 14,358,882	$ 1,583,215	$ 0.37
Brandon Shores, Unit 1	685	$ 144,010,033		$ 4,070,955	$ 2.38	0	$ 406,081	$ 0.78	$ 53,166,672	$ 5,862,175	$ 0.37
Brandon Shores, Unit 2	685	$ 144,010,033		$ 4,070,955	$ 2.38	0	$ 406,081	$ 0.78	$ 53,166,672	$ 5,862,175	$ 0.37
Wagner, Unit 2	130	$ 94,449,128	50%	$ 2,317,770	$ 1.19	$ 22,861,403	$ 120,708	$ 0.78	$ 10,090,025	$ 1,112,530	$ 0.37
Wagner, Unit 3	340	$ 176,172,806	50%	$ 4,445,364	$ 1.19	0	$ 243,522	$ 0.78	$ 26,389,297	$ 2,909,693	$ 0.37
CP Crane, Unit 1	200	$ 125,323,013	75%	$ 2,852,640	$ 1.19	$ 31,309,500	$ 165,314	$ 0.78	$ 15,523,116	$ 1,711,584	$ 0.37
CP Crane, Unit 2	200	$ 125,323,013	75%	$ 2,852,640	$ 1.19	$ 31,309,500	$ 165,314	$ 0.78	$ 15,523,116	$ 1,711,584	$ 0.37
R. Paul Smith Unit 3	34.5	$ 18,555,532		$ 697,114	$ 1.19	$ 8,680,249	$ 45,832	$ 0.78	$ 2,677,738	$ 295,248	$ 0.37
R. Paul Smith Unit 4	75.5	$ 40,607,033		$ 1,525,568	$ 1.19	$ 15,375,368	$ 81,182	$ 0.78	$ 5,859,976	$ 646,123	$ 0.37
Total:		$ 1,577,168,198				$ 362,432,405			$ 372,166,706		

Total investment:	$ 2,311,767,308	Total Annual Electric Cost Increase:	$ 569,981,082
Total Annual O&M Cost:	$ 171,304,315	Average increase $/kwh:	$ 0.00846

EPA Standalone Documentation for EPA Base Case 2004 (V.2.1.9) Using the Integrated Planning Model, Tables 5.3 and 5.6

Units with no SCR upgrade costs have existing SCR or will have by summer 2006. SCR O&M costs applied to all units to update pre-2000 FERC Form 1 data

90% Hg cost control per Section 5.3.3 and Table 5.12 for Activated Carbon Injection included for plants with electrostatic precipitators, scrubbers and SCR - see "Compliance Implications of the OTC CAIR-Plus Proposal in Maryland and Pennsylvania" prepared for Center for Energy and Economic Development, Inc.

SO2 NOx and 90% Hg Compliance Plant Operating Margins for Maryland Coal Burning Plants
All values are constant $2009   Assumes no additional cost for 90% Hg Compliance

Morgantown (Mirant)

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Pre-Compliance Revenue										
Energy and Ancillary Services	$ 445,087,746	$ 445,087,746	$ 445,087,746	$ 445,087,746	$ 445,087,746	$ 445,087,746	$ 445,087,746	$ 445,087,746	$ 445,087,746	$ 445,087,746
Capacity	$ 44,517,904	$ 44,517,904	$ 44,517,904	$ 44,517,904	$ 44,517,904	$ 44,517,904	$ 44,517,904	$ 44,517,904	$ 44,517,904	$ 44,517,904
Total Revenue	$ 489,605,651	$ 489,605,651	$ 489,605,651	$ 489,605,651	$ 489,605,651	$ 489,605,651	$ 489,605,651	$ 489,605,651	$ 489,605,651	$ 489,605,651
Pre-Compliance Expenses										
Non-Fuel	$ 25,616,788	$ 25,616,788	$ 25,616,788	$ 25,616,788	$ 25,616,788	$ 25,616,788	$ 25,616,788	$ 25,616,788	$ 25,616,788	$ 25,616,788
Debt and Preferred Stock Service	$ 9,074,723	$ 9,074,723	$ 9,074,723	$ 9,074,723	$ 9,074,723	$ 9,074,723	$ 9,074,723	$ 9,074,723	$ 9,074,723	$ 9,074,723
Property Taxes	$ 11,887,477	$ 11,887,477	$ 11,887,477	$ 11,887,477	$ 11,887,477	$ 11,887,477	$ 11,887,477	$ 11,887,477	$ 11,887,477	$ 11,887,477
Fuel	$ 176,439,987	$ 176,311,676	$ 176,232,709	$ 176,191,931	$ 176,191,931	$ 176,191,931	$ 176,191,931	$ 176,191,931	$ 176,191,931	$ 176,191,931
Total Expenses	$ 223,018,975	$ 222,890,664	$ 222,811,697	$ 222,770,919	$ 222,770,919	$ 222,770,919	$ 222,770,919	$ 222,770,919	$ 222,770,919	$ 222,770,919
					$ -	$ -	$ -	$ -	$ -	$ -
Pre-Compliance Operating Margin	$ 266,586,675	$ 266,714,986	$ 266,793,954	$ 266,834,731	$ 266,834,731	$ 266,834,731	$ 266,834,731	$ 266,834,731	$ 266,834,731	$ 266,834,731
Pre-Compliance Margin as % of Revenue	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%
Revenue reduction due to controls:	$ 24,480,283	$ 24,480,283	$ 24,480,283	$ 24,480,283	$ 24,480,283	$ 24,480,283	$ 24,480,283	$ 24,480,283	$ 24,480,283	$ 24,480,283
Adjusted Total Revenue:	$ 465,125,368	$ 465,125,368	$ 465,125,368	$ 465,125,368	$ 465,125,368	$ 465,125,368	$ 465,125,368	$ 465,125,368	$ 465,125,368	$ 465,125,368
Equity financed share of investment	$ 295,830,702	$ -								
Debt financed share of investment interest	$ 8,414,535	$ 8,414,535	$ 8,414,535	$ 8,414,535	$ 8,414,535	$ 8,414,535	$ 8,414,535	$ 8,414,535	$ 8,414,535	$ 137,868,927
Property tax for net incremental investment	$ 12,312,003	$ 10,553,146	$ 8,794,288	$ 7,035,431	$ 5,276,573	$ 3,517,715	$ 1,758,858	$ -	$ -	$ -
Compliance O&M	$ 43,833,845	$ 43,833,845	$ 43,833,845	$ 43,833,845	$ 43,833,845	$ 43,833,845	$ 43,833,845	$ 43,833,845	$ 43,833,845	$ 43,833,845
Compliance Adjusted Total Expenses	$ 583,410,061	$ 285,692,190	$ 283,854,366	$ 282,054,730	$ 280,295,873	$ 278,537,015	$ 276,778,157	$ 275,019,300	$ 275,019,300	$ 404,473,691
Compliace Adjusted Operating Margin	$ (118,284,693)	$ 179,433,178	$ 181,271,002	$ 183,070,638	$ 184,829,495	$ 186,588,353	$ 188,347,211	$ 190,106,068	$ 190,106,068	$ 60,651,677
Compliace Adjusted Margin % of Revenue	-25%	39%	39%	39%	40%	40%	40%	41%	41%	13%
Margin Net Present Value - 10 Years	$ 1,005,893,675									
Average Annual Margin Reduction - 10 Years	$ 124,181,974									

SO2 NOx and 90% Hg Compliance Plant Specific Operating Margins for Maryland Coal Burning Plants - **High Cost Case** - WORKPAPERS Page 2 of 7

Dickerson (Mirant)	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Pre-Compliance Revenue										
Energy and Ancillary Services	$ 181,022,938	$ 181,022,938	$ 181,022,938	$ 181,022,938	$ 181,022,938	$ 181,022,938	$ 181,022,938	$ 181,022,938	$ 181,022,938	$ 181,022,938
Capacity	$ 19,539,209	$ 19,539,209	$ 19,539,209	$ 19,539,209	$ 19,539,209	$ 19,539,209	$ 19,539,209	$ 19,539,209	$ 19,539,209	$ 19,539,209
Total Revenue	$ 200,562,146	$ 200,562,146	$ 200,562,146	$ 200,562,146	$ 200,562,146	$ 200,562,146	$ 200,562,146	$ 200,562,146	$ 200,562,146	$ 200,562,146
Pre-Compliance Expenses										
Non-Fuel	$ 19,538,674	$ 19,538,674	$ 19,538,674	$ 19,538,674	$ 19,538,674	$ 19,538,674	$ 19,538,674	$ 19,538,674	$ 19,538,674	$ 19,538,674
Debt and Preferred Stock Service	$ 5,965,463	$ 5,965,463	$ 5,965,463	$ 5,965,463	$ 5,965,463	$ 5,965,463	$ 5,965,463	$ 5,965,463	$ 5,965,463	$ 5,965,463
Property Taxes	$ 7,869,674	$ 7,869,674	$ 7,869,674	$ 7,869,674	$ 7,869,674	$ 7,869,674	$ 7,869,674	$ 7,869,674	$ 7,869,674	$ 7,869,674
Fuel	$ 77,047,399	$ 76,959,154	$ 76,904,594	$ 76,876,603	$ 76,876,603	$ 76,876,603	$ 76,876,603	$ 76,876,603	$ 76,876,603	$ 76,876,603
Total Expenses	$ 110,421,210	$ 110,332,965	$ 110,278,405	$ 110,250,414	$ 110,250,414	$ 110,250,414	$ 110,250,414	$ 110,250,414	$ 110,250,414	$ 110,250,414
					$ -	$ -	$ -	$ -	$ -	$ -
Pre-Compliance Operating Margin	$ 90,140,937	$ 90,229,181	$ 90,283,741	$ 90,311,733	$ 90,311,733	$ 90,311,733	$ 90,311,733	$ 90,311,733	$ 90,311,733	$ 90,311,733
Pre-Compliance Margin as % of Revenue	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%
Revenue reduction due to controls:	$ 10,028,107	$ 10,028,107	$ 10,028,107	$ 10,028,107	$ 10,028,107	$ 10,028,107	$ 10,028,107	$ 10,028,107	$ 10,028,107	$ 10,028,107
Adjusted Total Revenue:	$ 190,534,039	$ 190,534,039	$ 190,534,039	$ 190,534,039	$ 190,534,039	$ 190,534,039	$ 190,534,039	$ 190,534,039	$ 190,534,039	$ 190,534,039
Equity financed share of investment	$ 229,922,184	$ -								
Debt financed share of investment interest	$ 6,539,850	$ 6,539,850	$ 6,539,850	$ 6,539,850	$ 6,539,850	$ 6,539,850	$ 6,539,850	$ 6,539,850	$ 6,539,850	$ 107,152,924
Property tax for net incremental investment	$ 6,703,255	$ 5,745,647	$ 4,788,039	$ 3,830,431	$ 2,872,824	$ 1,915,216	$ 957,608	$ -	$ -	$ -
Compliance O&M	$ 19,768,450	$ 19,768,450	$ 19,768,450	$ 19,768,450	$ 19,768,450	$ 19,768,450	$ 19,768,450	$ 19,768,450	$ 19,768,450	$ 19,768,450
Compliance Adjusted Total Expenses	$ 373,354,948	$ 142,386,912	$ 141,374,744	$ 140,389,145	$ 139,431,537	$ 138,473,929	$ 137,516,321	$ 136,558,713	$ 136,558,713	$ 237,171,788
Compliace Adjusted Operating Margin	$ (182,820,909)	$ 48,147,127	$ 49,159,295	$ 50,144,894	$ 51,102,502	$ 52,060,110	$ 53,017,718	$ 53,975,326	$ 53,975,326	$ (46,637,749)
Compliace Adjusted Margin % of Revenue	-96%	25%	26%	26%	27%	27%	28%	28%	28%	-24%
Margin Net Present Value - 10 Years	$ 182,123,641									
Average Annual Margin Reduction - 10 Years	$ 72,071,235									

Chalk Point (Mirant)	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Pre-Compliance Revenue										
Energy and Ancillary Services	$ 253,827,992	$ 253,827,992	$ 253,827,992	$ 253,827,992	$ 253,827,992	$ 253,827,992	$ 253,827,992	$ 253,827,992	$ 253,827,992	$ 253,827,992
Capacity	$ 24,441,904	$ 24,441,904	$ 24,441,904	$ 24,441,904	$ 24,441,904	$ 24,441,904	$ 24,441,904	$ 24,441,904	$ 24,441,904	$ 24,441,904
Total Revenue	$ 278,269,896	$ 278,269,896	$ 278,269,896	$ 278,269,896	$ 278,269,896	$ 278,269,896	$ 278,269,896	$ 278,269,896	$ 278,269,896	$ 278,269,896
Pre-Compliance Expenses										
Non-Fuel	$ 23,728,270	$ 23,728,270	$ 23,728,270	$ 23,728,270	$ 23,728,270	$ 23,728,270	$ 23,728,270	$ 23,728,270	$ 23,728,270	$ 23,728,270
Debt and Preferred Stock Service	$ 10,942,443	$ 10,942,443	$ 10,942,443	$ 10,942,443	$ 10,942,443	$ 10,942,443	$ 10,942,443	$ 10,942,443	$ 10,942,443	$ 10,942,443
Property Taxes	$ 13,517,135	$ 13,517,135	$ 13,517,135	$ 13,517,135	$ 13,517,135	$ 13,517,135	$ 13,517,135	$ 13,517,135	$ 13,517,135	$ 13,517,135
Fuel	$ 120,037,560	$ 119,720,928	$ 119,525,160	$ 119,424,723	$ 119,424,723	$ 119,424,723	$ 119,424,723	$ 119,424,723	$ 119,424,723	$ 119,424,723
Total Expenses	$ 168,225,409	$ 167,908,776	$ 167,713,009	$ 167,612,571	$ 167,612,571	$ 167,612,571	$ 167,612,571	$ 167,612,571	$ 167,612,571	$ 167,612,571
					$ -	$ -	$ -	$ -	$ -	$ -
Pre-Compliance Operating Margin	$ 110,044,487	$ 110,361,120	$ 110,556,888	$ 110,657,325	$ 110,657,325	$ 110,657,325	$ 110,657,325	$ 110,657,325	$ 110,657,325	$ 110,657,325
Pre-Compliance Margin as % of Revenue	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%
Revenue reduction due to controls:	$ 13,913,495	$ 13,913,495	$ 13,913,495	$ 13,913,495	$ 13,913,495	$ 13,913,495	$ 13,913,495	$ 13,913,495	$ 13,913,495	$ 13,913,495
Adjusted Total Revenue:	$ 264,356,402	$ 264,356,402	$ 264,356,402	$ 264,356,402	$ 264,356,402	$ 264,356,402	$ 264,356,402	$ 264,356,402	$ 264,356,402	$ 264,356,402
Equity financed share of investment	$ 275,156,356	$ -								
Debt financed share of investment interest	$ 7,826,479	$ 7,826,479	$ 7,826,479	$ 7,826,479	$ 7,826,479	$ 7,826,479	$ 7,826,479	$ 7,826,479	$ 7,826,479	$ 128,233,856
Property tax for net incremental investment	$ 10,798,890	$ 9,256,191	$ 7,713,493	$ 6,170,794	$ 4,628,096	$ 3,085,397	$ 1,542,699	$ -	$ -	$ -
Compliance O&M	$ 25,164,147	$ 25,164,147	$ 25,164,147	$ 25,164,147	$ 25,164,147	$ 25,164,147	$ 25,164,147	$ 25,164,147	$ 25,164,147	$ 25,164,147
Compliance Adjusted Total Expenses	$ 487,171,281	$ 210,155,594	$ 208,417,128	$ 206,773,992	$ 205,231,293	$ 203,688,595	$ 202,145,896	$ 200,603,197	$ 200,603,197	$ 321,010,574
Compliace Adjusted Operating Margin	$ (222,814,880)	$ 54,200,808	$ 55,939,274	$ 57,582,410	$ 59,125,108	$ 60,667,807	$ 62,210,505	$ 63,753,204	$ 63,753,204	$ (56,654,173)
Compliace Adjusted Margin % of Revenue	-84%	21%	21%	22%	22%	23%	24%	24%	24%	-21%
Margin Net Present Value - 10 Years	$ 197,763,268									
Average Annual Margin Reduction - 10 Years	$ 90,780,050									
Total Compliance Mirant Maryland Plant Margin										
Revenue:	$ 920,015,809	$ 920,015,809	$ 920,015,809	$ 920,015,809	$ 920,015,809	$ 920,015,809	$ 920,015,809	$ 920,015,809	$ 920,015,809	$ 920,015,809
Expenses:	$ 1,443,936,290	$ 638,234,696	$ 633,646,237	$ 629,217,867	$ 624,958,703	$ 620,699,539	$ 616,440,375	$ 612,181,210	$ 612,181,210	$ 962,656,053
Maryland Coal Fleet Margin:	$ (523,920,481)	$ 281,781,113	$ 286,369,571	$ 290,797,942	$ 295,057,106	$ 299,316,270	$ 303,575,434	$ 307,834,598	$ 307,834,598	$ (42,640,245)
Fleet Margin as % of Revenue	-57%	31%	31%	32%	32%	33%	33%	33%	33%	-5%

Brandon Shores (Constellation) - Existing SCR	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Pre-Compliance Revenue										
Energy and Ancillary Services	$ 489,483,001	$ 489,483,001	$ 489,483,001	$ 489,483,001	$ 489,483,001	$ 489,483,001	$ 489,483,001	$ 489,483,001	$ 489,483,001	$ 489,483,001
Capacity	$ 46,020,920	$ 46,020,920	$ 46,020,920	$ 46,020,920	$ 46,020,920	$ 46,020,920	$ 46,020,920	$ 46,020,920	$ 46,020,920	$ 46,020,920
Total Revenue	$ 535,503,921	$ 535,503,921	$ 535,503,921	$ 535,503,921	$ 535,503,921	$ 535,503,921	$ 535,503,921	$ 535,503,921	$ 535,503,921	$ 535,503,921
Pre-Compliance Expenses										
Non-Fuel	$ 28,642,693	$ 28,642,693	$ 28,642,693	$ 28,642,693	$ 28,642,693	$ 28,642,693	$ 28,642,693	$ 28,642,693	$ 28,642,693	$ 28,642,693
Debt and Preferred Stock Service	$ 28,859,425	$ 28,859,425	$ 28,859,425	$ 28,859,425	$ 28,859,425	$ 28,859,425	$ 28,859,425	$ 28,859,425	$ 28,859,425	$ 28,859,425
Property Taxes	$ 25,559,831	$ 25,559,831	$ 25,559,831	$ 25,559,831	$ 25,559,831	$ 25,559,831	$ 25,559,831	$ 25,559,831	$ 25,559,831	$ 25,559,831
Fuel	$ 226,740,359	$ 226,561,811	$ 226,451,419	$ 226,394,783	$ 226,394,783	$ 226,394,783	$ 226,394,783	$ 226,394,783	$ 226,394,783	$ 226,394,783
Total Expenses	$ 309,802,308	$ 309,623,760	$ 309,513,368	$ 309,456,732	$ 309,456,732	$ 309,456,732	$ 309,456,732	$ 309,456,732	$ 309,456,732	$ 309,456,732
					$ -	$ -	$ -	$ -	$ -	$ -
Pre-Compliance Operating Margin	$ 225,701,613	$ 225,880,161	$ 225,990,553	$ 226,047,189	$ 226,047,189	$ 226,047,189	$ 226,047,189	$ 226,047,189	$ 226,047,189	$ 226,047,189
Pre-Compliance Margin as % of Revenue	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%
Revenue reduction due to controls:	$ 26,775,196	$ 26,775,196	$ 26,775,196	$ 26,775,196	$ 26,775,196	$ 26,775,196	$ 26,775,196	$ 26,775,196	$ 26,775,196	$ 26,775,196
Adjusted Total Revenue:	$ 508,728,725	$ 508,728,725	$ 508,728,725	$ 508,728,725	$ 508,728,725	$ 508,728,725	$ 508,728,725	$ 508,728,725	$ 508,728,725	$ 508,728,725
Equity financed share of investment	$ 242,307,094	$ -								
Debt financed share of investment interest	$ 9,122,779	$ 9,122,779	$ 9,122,779	$ 9,122,779	$ 9,122,779	$ 9,122,779	$ 9,122,779	$ 9,122,779	$ 9,122,779	$ 161,169,096
Property tax for net incremental investment	$ 10,477,970	$ 8,981,117	$ 7,484,264	$ 5,987,412	$ 4,490,559	$ 2,993,706	$ 1,496,853	$ -	$ -	$ -
Compliance O&M	$ 47,723,253	$ 47,723,253	$ 47,723,253	$ 47,723,253	$ 47,723,253	$ 47,723,253	$ 47,723,253	$ 47,723,253	$ 47,723,253	$ 47,723,253
Compliance Adjusted Total Expenses	$ 619,433,404	$ 375,450,909	$ 373,843,664	$ 372,290,175	$ 370,793,322	$ 369,296,469	$ 367,799,616	$ 366,302,763	$ 366,302,763	$ 518,349,080
Compliace Adjusted Operating Margin	$ (110,704,679)	$ 133,277,816	$ 134,885,061	$ 136,438,550	$ 137,935,403	$ 139,432,256	$ 140,929,109	$ 142,425,962	$ 142,425,962	$ (9,620,355)
Compliace Adjusted Margin % of Revenue	-22%	26%	27%	27%	27%	27%	28%	28%	28%	-2%
Margin Net Present Value - 10 Years	$ 987,425,085									
Average Annual Margin Reduction - 10 Years	$ 127,247,757									

Wagner (Constellation) - Units 2 & 3, Unit 3 existing SCR	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Pre-Compliance Revenue										
Energy and Ancillary Services	$ 140,918,413	$ 140,918,413	$ 140,918,413	$ 140,918,413	$ 140,918,413	$ 140,918,413	$ 140,918,413	$ 140,918,413	$ 140,918,413	$ 140,918,413
Capacity	$ 16,425,818	$ 16,425,818	$ 16,425,818	$ 16,425,818	$ 16,425,818	$ 16,425,818	$ 16,425,818	$ 16,425,818	$ 16,425,818	$ 16,425,818
Total Revenue	$ 157,344,232	$ 157,344,232	$ 157,344,232	$ 157,344,232	$ 157,344,232	$ 157,344,232	$ 157,344,232	$ 157,344,232	$ 157,344,232	$ 157,344,232
Pre-Compliance Expenses										
Non-Fuel	$ 16,205,314	$ 16,205,314	$ 16,205,314	$ 16,205,314	$ 16,205,314	$ 16,205,314	$ 16,205,314	$ 16,205,314	$ 16,205,314	$ 16,205,314
Debt and Preferred Stock Service	$ 5,488,853	$ 5,488,853	$ 5,488,853	$ 5,488,853	$ 5,488,853	$ 5,488,853	$ 5,488,853	$ 5,488,853	$ 5,488,853	$ 5,488,853
Property Taxes	$ 4,861,294	$ 4,861,294	$ 4,861,294	$ 4,861,294	$ 4,861,294	$ 4,861,294	$ 4,861,294	$ 4,861,294	$ 4,861,294	$ 4,861,294
Fuel	$ 62,098,690	$ 62,098,690	$ 62,098,690	$ 62,098,690	$ 62,098,690	$ 62,098,690	$ 62,098,690	$ 62,098,690	$ 62,098,690	$ 62,098,690
Total Expenses	$ 88,654,152	$ 88,654,152	$ 88,654,152	$ 88,654,152	$ 88,654,152	$ 88,654,152	$ 88,654,152	$ 88,654,152	$ 88,654,152	$ 88,654,152
					$ -	$ -	$ -	$ -	$ -	$ -
Pre-Compliance Operating Margin	$ 68,690,080	$ 68,690,080	$ 68,690,080	$ 68,690,080	$ 68,690,080	$ 68,690,080	$ 68,690,080	$ 68,690,080	$ 68,690,080	$ 68,690,080
Pre-Compliance Margin as % of Revenue	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%
Revenue reduction due to controls:	$ 7,867,212	$ 7,867,212	$ 7,867,212	$ 7,867,212	$ 7,867,212	$ 7,867,212	$ 7,867,212	$ 7,867,212	$ 7,867,212	$ 7,867,212
Adjusted Total Revenue:	$ 149,477,020	$ 149,477,020	$ 149,477,020	$ 149,477,020	$ 149,477,020	$ 149,477,020	$ 149,477,020	$ 149,477,020	$ 149,477,020	$ 149,477,020
Equity financed share of investment	$ 202,742,746	$ -								
Debt financed share of investment interest	$ 7,633,195	$ 7,633,195	$ 7,633,195	$ 7,633,195	$ 7,633,195	$ 7,633,195	$ 7,633,195	$ 7,633,195	$ 7,633,195	$ 134,853,109
Property tax for net incremental investment	$ 8,767,108	$ 7,514,664	$ 6,262,220	$ 5,009,776	$ 3,757,332	$ 2,504,888	$ 1,252,444	$ -	$ -	$ -
Compliance O&M	$ 16,314,038	$ 16,314,038	$ 16,314,038	$ 16,314,038	$ 16,314,038	$ 16,314,038	$ 16,314,038	$ 16,314,038	$ 16,314,038	$ 16,314,038
Compliance Adjusted Total Expenses	$ 324,111,238	$ 120,116,048	$ 118,863,604	$ 117,611,160	$ 116,358,716	$ 115,106,272	$ 113,853,828	$ 112,601,384	$ 112,601,384	$ 239,821,298
Compliace Adjusted Operating Margin	$ (174,634,218)	$ 29,360,972	$ 30,613,416	$ 31,865,860	$ 33,118,304	$ 34,370,748	$ 35,623,192	$ 36,875,636	$ 36,875,636	$ (90,344,278)
Compliace Adjusted Margin % of Revenue	-117%	20%	20%	21%	22%	23%	24%	25%	25%	-60%
Margin Net Present Value - 10 Years	$ 3,725,268									
Average Annual Margin Reduction - 10 Years	$ 68,317,553									

Crane (Constellation)	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Pre-Compliance Revenue										
Energy and Ancillary Services	$ 130,406,041	$ 130,406,041	$ 130,406,041	$ 130,406,041	$ 130,406,041	$ 130,406,041	$ 130,406,041	$ 130,406,041	$ 130,406,041	$ 130,406,041
Capacity	$ 13,777,647	$ 13,777,647	$ 13,777,647	$ 13,777,647	$ 13,777,647	$ 13,777,647	$ 13,777,647	$ 13,777,647	$ 13,777,647	$ 13,777,647
Total Revenue	$ 144,183,689	$ 144,183,689	$ 144,183,689	$ 144,183,689	$ 144,183,689	$ 144,183,689	$ 144,183,689	$ 144,183,689	$ 144,183,689	$ 144,183,689
Pre-Compliance Expenses										
Non-Fuel	$ 19,575,933	$ 19,575,933	$ 19,575,933	$ 19,575,933	$ 19,575,933	$ 19,575,933	$ 19,575,933	$ 19,575,933	$ 19,575,933	$ 19,575,933
Debt and Preferred Stock Service	$ 4,643,586	$ 4,643,586	$ 4,643,586	$ 4,643,586	$ 4,643,586	$ 4,643,586	$ 4,643,586	$ 4,643,586	$ 4,643,586	$ 4,643,586
Property Taxes	$ 4,825,460	$ 4,825,460	$ 4,825,460	$ 4,825,460	$ 4,825,460	$ 4,825,460	$ 4,825,460	$ 4,825,460	$ 4,825,460	$ 4,825,460
Fuel	$ 56,280,299	$ 56,233,416	$ 56,217,626	$ 56,209,524	$ 56,209,524	$ 56,209,524	$ 56,209,524	$ 56,209,524	$ 56,209,524	$ 56,209,524
Total Expenses	$ 85,325,277	$ 85,278,395	$ 85,262,604	$ 85,254,503	$ 85,254,503	$ 85,254,503	$ 85,254,503	$ 85,254,503	$ 85,254,503	$ 85,254,503
					$ -	$ -	$ -	$ -	$ -	$ -
Pre-Compliance Operating Margin	$ 58,858,411	$ 58,905,294	$ 58,921,085	$ 58,929,186	$ 58,929,186	$ 58,929,186	$ 58,929,186	$ 58,929,186	$ 58,929,186	$ 58,929,186
Pre-Compliance Margin as % of Revenue	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%
Revenue reduction due to controls:	$ 7,209,184	$ 7,209,184	$ 7,209,184	$ 7,209,184	$ 7,209,184	$ 7,209,184	$ 7,209,184	$ 7,209,184	$ 7,209,184	$ 7,209,184
Adjusted Total Revenue:	$ 136,974,504	$ 136,974,504	$ 136,974,504	$ 136,974,504	$ 136,974,504	$ 136,974,504	$ 136,974,504	$ 136,974,504	$ 136,974,504	$ 136,974,504
Equity financed share of investment	$ 211,559,120	$ -								
Debt financed share of investment interest	$ 7,965,128	$ 7,965,128	$ 7,965,128	$ 7,965,128	$ 7,965,128	$ 7,965,128	$ 7,965,128	$ 7,965,128	$ 7,965,128	$ 140,717,267
Property tax for net incremental investment	$ 10,733,903	$ 9,200,489	$ 7,667,074	$ 6,133,659	$ 4,600,244	$ 3,066,830	$ 1,533,415	$ -	$ -	$ -
Compliance O&M	$ 14,238,265	$ 14,238,265	$ 14,238,265	$ 14,238,265	$ 14,238,265	$ 14,238,265	$ 14,238,265	$ 14,238,265	$ 14,238,265	$ 14,238,265
Compliance Adjusted Total Expenses	$ 329,821,693	$ 116,682,276	$ 115,133,071	$ 113,591,555	$ 112,058,140	$ 110,524,725	$ 108,991,310	$ 107,457,896	$ 107,457,896	$ 240,210,034
Compliace Adjusted Operating Margin	$ (192,847,189)	$ 20,292,228	$ 21,841,433	$ 23,382,950	$ 24,916,364	$ 26,449,779	$ 27,983,194	$ 29,516,609	$ 29,516,609	$ (103,235,530)
Compliace Adjusted Margin % of Revenue	-141%	15%	16%	17%	18%	19%	20%	22%	22%	-75%
Margin Net Present Value - 10 Years	$ (92,183,553)									
Average Annual Margin Reduction - 10 Years	$ 68,137,265									
Total Constellation Compliance Maryland Plant Margin										
Revenue:	$ 795,180,249	$ 795,180,249	$ 795,180,249	$ 795,180,249	$ 795,180,249	$ 795,180,249	$ 795,180,249	$ 795,180,249	$ 795,180,249	$ 795,180,249
Expenses:	$ 1,273,366,335	$ 612,249,233	$ 607,840,339	$ 603,492,890	$ 599,210,178	$ 594,927,466	$ 590,644,755	$ 586,362,043	$ 586,362,043	$ 998,380,412
Maryland Coal Fleet Margin:	$ (478,186,086)	$ 182,931,016	$ 187,339,911	$ 191,687,360	$ 195,970,071	$ 200,252,783	$ 204,535,495	$ 208,818,206	$ 208,818,206	$ (203,200,163)
Fleet Margin as % of Revenue	-60%	23%	24%	24%	25%	25%	26%	26%	26%	-26%

R. Paul Smith (AE)

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Pre-Compliance Revenue										
Energy and Ancillary Services	$ 26,501,802	$ 26,501,802	$ 26,501,802	$ 26,501,802	$ 26,501,802	$ 26,501,802	$ 26,501,802	$ 26,501,802	$ 26,501,802	$ 26,501,802
Capacity	$ 4,079,615	$ 4,079,615	$ 4,079,615	$ 4,079,615	$ 4,079,615	$ 4,079,615	$ 4,079,615	$ 4,079,615	$ 4,079,615	$ 4,079,615
Total Revenue	$ 30,581,417	$ 30,581,417	$ 30,581,417	$ 30,581,417	$ 30,581,417	$ 30,581,417	$ 30,581,417	$ 30,581,417	$ 30,581,417	$ 30,581,417
Pre-Compliance Expenses										
Non-Fuel	$ 5,151,493	$ 5,151,493	$ 5,151,493	$ 5,151,493	$ 5,151,493	$ 5,151,493	$ 5,151,493	$ 5,151,493	$ 5,151,493	$ 5,151,493
Debt and Preferred Stock Service	$ 1,025,364	$ 1,025,364	$ 1,025,364	$ 1,025,364	$ 1,025,364	$ 1,025,364	$ 1,025,364	$ 1,025,364	$ 1,025,364	$ 1,025,364
Property Taxes	$ 1,192,840	$ 1,192,840	$ 1,192,840	$ 1,192,840	$ 1,192,840	$ 1,192,840	$ 1,192,840	$ 1,192,840	$ 1,192,840	$ 1,192,840
Fuel	$ 15,454,647	$ 15,414,745	$ 15,390,074	$ 15,377,417	$ 15,377,417	$ 15,377,417	$ 15,377,417	$ 15,377,417	$ 15,377,417	$ 15,377,417
Total Expenses	$ 22,824,344	$ 22,784,442	$ 22,759,771	$ 22,747,114	$ 22,747,114	$ 22,747,114	$ 22,747,114	$ 22,747,114	$ 22,747,114	$ 22,747,114
					$ -	$ -	$ -	$ -	$ -	$ -
Pre-Compliance Operating Margin	$ 7,757,073	$ 7,796,975	$ 7,821,646	$ 7,834,303	$ 7,834,303	$ 7,834,303	$ 7,834,303	$ 7,834,303	$ 7,834,303	$ 7,834,303
Pre-Compliance Margin as % of Revenue	25%	25%	26%	26%	26%	26%	26%	26%	26%	26%
Revenue reduction due to controls:	$ 1,529,071	$ 1,529,071	$ 1,529,071	$ 1,529,071	$ 1,529,071	$ 1,529,071	$ 1,529,071	$ 1,529,071	$ 1,529,071	$ 1,529,071
Adjusted Total Revenue:	$ 29,052,346	$ 29,052,346	$ 29,052,346	$ 29,052,346	$ 29,052,346	$ 29,052,346	$ 29,052,346	$ 29,052,346	$ 29,052,346	$ 29,052,346
Equity financed share of investment	$ 41,799,932	$ -								
Debt financed share of investment interest	$ 2,997,358	$ 2,997,358	$ 2,997,358	$ 2,997,358	$ 2,997,358	$ 2,997,358	$ 2,997,358	$ 2,997,358	$ 2,997,358	$ 52,953,322
Property tax for net incremental investment	$ 3,202,281	$ 2,744,812	$ 2,287,343	$ 1,829,875	$ 1,372,406	$ 914,937	$ 457,469	$ -	$ -	$ -
Compliance O&M	$ 4,262,319	$ 4,262,319	$ 4,262,319	$ 4,262,319	$ 4,262,319	$ 4,262,319	$ 4,262,319	$ 4,262,319	$ 4,262,319	$ 4,262,319
Compliance Adjusted Total Expenses	$ 75,086,233	$ 32,788,930	$ 32,306,791	$ 31,836,665	$ 31,379,197	$ 30,921,728	$ 30,464,259	$ 30,006,791	$ 30,006,791	$ 79,962,754
Compliace Adjusted Operating Margin	$ (46,033,887)	$ (3,736,584)	$ (3,254,445)	$ (2,784,319)	$ (2,326,851)	$ (1,869,382)	$ (1,411,913)	$ (954,444)	$ (954,444)	$ (50,910,408)
Compliace Adjusted Margin % of Revenue	-158%	-13%	-11%	-10%	-8%	-6%	-5%	-3%	-3%	-175%
Margin Net Present Value - 10 Years	$ (114,236,678)									
Average Annual Margin Reduction - 10 Years	$ 19,245,249									

Baseline Cost Factors

Adjustments to Plant Historic Cost and Operating Data to Plant Revenue Projected to 2009+

GDP inflation: 1.2042

Adjusted 1998 plant valuation and non-fuel expenses (except coal transportation) to 2009+ levels

U.S. Government Budget Fiscal 2005 Table 10.1 — Gross Domestic Product and Deflators Used in the Historical Tables: 1940–2009

Central Appalachian Coal $/ton: $ 64.42

Delivered, NYMEX 1/9/06 futures plus $9.92 transportation - using 2001 EIA transporation GDP inflated to 2009

EIA Coal Transportation: Rates and Trends in the United States, 1979-2001 (with supplementary data to 2002), Table 2.01 inflated to 2009 using GDP inflation

Gas $/mcf:	$ 9.74	2009
	$ 9.35	2010+

Delivered, NYMEX 1/9/06 futures plus $1.03 Transco Zone 6 non-NY basis difference

#2 Oil $/barrel:	$ 177.79	2009
	$ 174.07	2010
	$ 171.77	2011
	$ 170.59	2012

Delivered, NYMEX 1/9/06 Crude futures adjusted for historic relationship between futures and #2 Oil New York Harbor

#6 Oil $/barrel:	$ 104.70	2009
	$ 102.50	2010
	$ 101.15	2011
	$ 100.45	2012+

Delivered, NYMEX 1/9/06 Crude futures adjusted for historic relationship between futures and #6 Oil New York Harbor

Energy Revenue $/MWH:	$ 60.697	PSC estimates
Capacity Revenue $/Net Available MW-Day	$ 98.04	PSC estimates

Plant valuation net of depreciation:	
Pepco Total Steam Plant Value 1999:	$ 2,171,663,210
Pepco Steam Plant Accumulated Provision for Depreciation 1999:	$ 661,042,073
Mirant plants net plant factor to estimate taxable value:	0.6956
BGE Total Steam Plant Value 1999:	$ 2,152,344,118
BGE Steam Plant Accumulated Provision for Depreciation 1999:	$ 829,854,608
Constellation plants net cost factor to estimate taxable value:	0.6144
PE Total Steam Plant Value 1999:	$ 917,618,289
PE Steam Plant Accumulated Provision for Depreciation 1999:	$ 499,591,942
AE plants net cost factor to estimate taxable value:	0.4556

Debt and Preferred Stock Costs

	Debt %	Real Interest Rate	
Mirant:	34%	6.50%	Mirant Plan of Reorganization Exhibit D, Page 7; Global Insight and Staff estimate for interest rates
Constellation:	50%	6.00%	Staff estimate for debt ratio; Global Insight and Staff estimate for interest rate projections
AE:	50%	6.00%	Staff estimate for debt ratio; Global Insight and Staff estimate for interest rate projections

Property Taxes:		All effective rates per $100 assessed value -	
State Rate:	$ 0.3300	Total Rate	(to be added to county rates for total rate)
Anne Arundel Co. Rate:	$ 2.3270	$ 2.6570	Brandon Shores & Wagner
Baltimore Co. Rate:	$ 2.7875	$ 3.1175	Crane
Charles Co. Rate:	$ 2.5650	$ 2.8950	Morgantown
Montgomery Co. Rate:	$ 1.6980	$ 2.0280	Dickerson
Prince Georges Co. Rate:	$ 2.4000	$ 2.7300	Chalk Point
Washington Co. Rate:	$ 3.1600	$ 3.4900	R. Paul Smith

Maryland State Department of Assessments and Taxation 2005-2006 County Tax Rates

SO2, NOx and Hg Compliance Cost Summary - **Low Cost Case** - Workpapers

SO2 NOx and Hg Compliance Cost Summary

Scrubber incremental reduction in net energy output and capacity availability	3%	USEA CC Mitigation Options Handbook Version 1.0, 1999
SCR incremental reduction in net energy output and capacity availability	2%	"The Viability and Economics of Adding a ROFA/Rotamix MobotecSystem to a Selective catalytic Reduction Installation" Presentation at NETL/DOE 300c Conference on SCR
Cost increase due to high demand for equipment and labor	10%	Low Cost Estimate
Present Value Real Discount Rate:	6%	
Investment and O&M Compliance Cost Inflation Factor GDP Intlation for $1999 cost estimates inflated to $2009 values	1.1886	

Plant	Nameplate Capacity MW	Cost for Scrubber upgrade	Site specific engineering and construction increase	Scrubber annual fixed O&M Cost	Scrubber variable O&M Cost $/MWH	Cost for SCR upgrade	SCR annual fixed O&M Cost	SCR variable O&M Cost $/MWH	Cost for 90% Hg upgrade	90% Hg annual fixed O&M Cost	90% Hg variable O&M Cost $/MWH
Morgantown, Unit 1	590	$ 116,481,611		$ 4,207,644	$ 2.38	$ -	$ 364,150	$ 0.78	$ -	$ -	$ -
Morgantown, Unit 2	590	$ 116,481,611		$ 4,207,644	$ 2.38	$ 60,691,641	$ 364,150	$ 0.78	$ -	$ -	$ -
Chalk Point, Unit 1	355	$ 107,914,480		$ 4,641,483	$ 1.19	$ 41,886,455	$ 251,319	$ 0.78	$ -	$ -	$ -
Chalk Point, Unit 2	355	$ 107,914,480		$ 4,641,483	$ 1.19	$ 41,886,455	$ 251,319	$ 0.78	$ -	$ -	$ -
Dickerson, Unit 1	185	$ 58,293,104		$ 2,638,692	$ 1.19	$ 26,028,089	$ 156,169	$ 0.78	$ -	$ -	$ -
Dickerson, Unit 2	185	$ 58,293,104		$ 2,638,692	$ 1.19	$ 26,028,089	$ 156,169	$ 0.78	$ -	$ -	$ -
Dickerson, Unit 3	185	$ 58,293,104		$ 2,638,692	$ 1.19	$ 26,028,089	$ 156,169	$ 0.78	$ -	$ -	$ -
									$ -	$ -	$ -
Brandon Shores, Unit 1	685	$ 126,728,829		$ 4,070,955	$ 2.38	0	$ 406,081	$ 0.78	$ -	$ -	$ -
Brandon Shores, Unit 2	685	$ 126,728,829		$ 4,070,955	$ 2.38	0	$ 406,081	$ 0.78	$ -	$ -	$ -
Wagner, Unit 2	130	$ 60,951,170	10%	$ 2,317,770	$ 1.19	$ 20,118,035	$ 120,708	$ 0.78	$ -	$ -	$ -
Wagner, Unit 3	340	$ 113,690,184	10%	$ 4,445,364	$ 1.19	0	$ 243,522	$ 0.78	$ -	$ -	$ -
CP Crane, Unit 1	200	$ 75,623,486	20%	$ 2,852,640	$ 1.19	$ 27,552,360	$ 165,314	$ 0.78	$ -	$ -	$ -
CP Crane, Unit 2	200	$ 75,623,486	20%	$ 2,852,640	$ 1.19	$ 27,552,360	$ 165,314	$ 0.78	$ -	$ -	$ -
R. Paul Smith Unit 3	34.5	$ 16,328,868	0%	$ 697,114	$ 1.19	$ 7,638,619	$ 45,832	$ 0.78	$ -	$ -	$ -
R. Paul Smith Unit 4	75.5	$ 35,734,189	0%	$ 1,525,568	$ 1.19	$ 13,530,324	$ 81,182	$ 0.78	$ -	$ -	$ -
Total:		$ 1,255,080,537				$ 318,940,516			$ -		

Total investment:	$ 1,574,021,054	Total Annual Electric Cost Increase:	$ 421,198,674
Total Annual O&M Cost:	$ 120,654,027	Average increase $/kwh:	$ 0.00625

EPA Standalone Documentation for EPA Base Case 2004 (V.2.1.9) Using the Integrated Planning Model, Tables 5.3 and 5.6
Units with no SCR upgrade costs have existing SCR or will have by summer 2006. SCR O&M costs applied to all units to update pre-2000 FERC Form 1 data
No additional cost included for 90% Hg control assuming Section 5.3.3 and Table 5.12 are feasible and no requirement for Activated Carbon Injection for plants with electrostatic precipitators, scrubbers and SCR

SO2 NOx and 90% Hg Compliance Plant Operating Margins for Maryland Coal Burning Plants
All values are constant $2009 Assumes no additional cost for 90% Hg Compliance

Morgantown (Mirant)	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Pre-Compliance Revenue										
Energy and Ancillary Services	$ 444,974,980	$ 444,974,980	$ 444,974,980	$ 444,974,980	$ 444,974,980	$ 444,974,980	$ 444,974,980	$ 444,974,980	$ 444,974,980	$ 444,974,980
Capacity	$ 44,517,904	$ 44,517,904	$ 44,517,904	$ 44,517,904	$ 44,517,904	$ 44,517,904	$ 44,517,904	$ 44,517,904	$ 44,517,904	$ 44,517,904
Total Revenue	$ 489,492,884	$ 489,492,884	$ 489,492,884	$ 489,492,884	$ 489,492,884	$ 489,492,884	$ 489,492,884	$ 489,492,884	$ 489,492,884	$ 489,492,884
Pre-Compliance Expenses										
Non-Fuel	$ 25,616,788	$ 25,616,788	$ 25,616,788	$ 25,616,788	$ 25,616,788	$ 25,616,788	$ 25,616,788	$ 25,616,788	$ 25,616,788	$ 25,616,788
Debt and Preferred Stock Service	$ 9,074,723	$ 9,074,723	$ 9,074,723	$ 9,074,723	$ 9,074,723	$ 9,074,723	$ 9,074,723	$ 9,074,723	$ 9,074,723	$ 9,074,723
Property Taxes	$ 11,887,477	$ 11,887,477	$ 11,887,477	$ 11,887,477	$ 11,887,477	$ 11,887,477	$ 11,887,477	$ 11,887,477	$ 11,887,477	$ 11,887,477
Fuel	$ 176,439,987	$ 176,311,676	$ 176,232,709	$ 176,191,931	$ 176,191,931	$ 176,191,931	$ 176,191,931	$ 176,191,931	$ 176,191,931	$ 176,191,931
Total Expenses	$ 223,018,975	$ 222,890,664	$ 222,811,697	$ 222,770,919	$ 222,770,919	$ 222,770,919	$ 222,770,919	$ 222,770,919	$ 222,770,919	$ 222,770,919
					$ -	$ -	$ -	$ -	$ -	$ -
Pre-Compliance Operating Margin	$ 266,473,909	$ 266,602,220	$ 266,681,187	$ 266,721,965	$ 266,721,965	$ 266,721,965	$ 266,721,965	$ 266,721,965	$ 266,721,965	$ 266,721,965
Pre-Compliance Margin as % of Revenue	54%	54%	54%	54%	54%	54%	54%	54%	54%	54%
Revenue reduction due to controls:	$ 24,474,644	$ 24,474,644	$ 24,474,644	$ 24,474,644	$ 24,474,644	$ 24,474,644	$ 24,474,644	$ 24,474,644	$ 24,474,644	$ 24,474,644
Adjusted Total Revenue:	$ 465,018,240	$ 465,018,240	$ 465,018,240	$ 465,018,240	$ 465,018,240	$ 465,018,240	$ 465,018,240	$ 465,018,240	$ 465,018,240	$ 465,018,240
Equity financed share of investment	$ 204,267,974	$ -								
Debt financed share of investment interest	$ 5,810,148	$ 5,810,148	$ 5,810,148	$ 5,810,148	$ 5,810,148	$ 5,810,148	$ 5,810,148	$ 5,810,148	$ 5,810,148	$ 95,197,038
Property tax for net incremental investment	$ 8,501,308	$ 7,286,836	$ 6,072,363	$ 4,857,890	$ 3,643,418	$ 2,428,945	$ 1,214,473	$ -	$ -	$ -
Compliance O&M	$ 31,168,667	$ 31,168,667	$ 31,168,667	$ 31,168,667	$ 31,168,667	$ 31,168,667	$ 31,168,667	$ 31,168,667	$ 31,168,667	$ 31,168,667
Compliance Adjusted Total Expenses	$ 472,767,072	$ 267,156,315	$ 265,862,875	$ 264,607,624	$ 263,393,152	$ 262,178,679	$ 260,964,207	$ 259,749,734	$ 259,749,734	$ 349,136,624
Compliace Adjusted Operating Margin	$ (7,748,832)	$ 197,861,925	$ 199,155,365	$ 200,410,616	$ 201,625,088	$ 202,839,561	$ 204,054,033	$ 205,268,506	$ 205,268,506	$ 115,881,616
Compliace Adjusted Margin % of Revenue	-2%	43%	43%	43%	43%	44%	44%	44%	44%	25%
Margin Net Present Value - 10 Years	$ 1,239,106,124									
Average Annual Margin Reduction - 10 Years	$ 94,219,469									

Dickerson (Mirant)

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Pre-Compliance Revenue										
Energy and Ancillary Services	$ 180,977,074	$ 180,977,074	$ 180,977,074	$ 180,977,074	$ 180,977,074	$ 180,977,074	$ 180,977,074	$ 180,977,074	$ 180,977,074	$ 180,977,074
Capacity	$ 19,539,209	$ 19,539,209	$ 19,539,209	$ 19,539,209	$ 19,539,209	$ 19,539,209	$ 19,539,209	$ 19,539,209	$ 19,539,209	$ 19,539,209
Total Revenue	$ 200,516,283	$ 200,516,283	$ 200,516,283	$ 200,516,283	$ 200,516,283	$ 200,516,283	$ 200,516,283	$ 200,516,283	$ 200,516,283	$ 200,516,283
Pre-Compliance Expenses										
Non-Fuel	$ 19,538,674	$ 19,538,674	$ 19,538,674	$ 19,538,674	$ 19,538,674	$ 19,538,674	$ 19,538,674	$ 19,538,674	$ 19,538,674	$ 19,538,674
Debt and Preferred Stock Service	$ 5,965,463	$ 5,965,463	$ 5,965,463	$ 5,965,463	$ 5,965,463	$ 5,965,463	$ 5,965,463	$ 5,965,463	$ 5,965,463	$ 5,965,463
Property Taxes	$ 7,869,674	$ 7,869,674	$ 7,869,674	$ 7,869,674	$ 7,869,674	$ 7,869,674	$ 7,869,674	$ 7,869,674	$ 7,869,674	$ 7,869,674
Fuel	$ 77,047,399	$ 76,959,154	$ 76,904,594	$ 76,876,603	$ 76,876,603	$ 76,876,603	$ 76,876,603	$ 76,876,603	$ 76,876,603	$ 76,876,603
Total Expenses	$ 110,421,210	$ 110,332,965	$ 110,278,405	$ 110,250,414	$ 110,250,414	$ 110,250,414	$ 110,250,414	$ 110,250,414	$ 110,250,414	$ 110,250,414
					$ -	$ -	$ -	$ -	$ -	$ -
Pre-Compliance Operating Margin	$ 90,095,073	$ 90,183,318	$ 90,237,878	$ 90,265,869	$ 90,265,869	$ 90,265,869	$ 90,265,869	$ 90,265,869	$ 90,265,869	$ 90,265,869
Pre-Compliance Margin as % of Revenue	45%	45%	45%	45%	45%	45%	45%	45%	45%	45%
Revenue reduction due to controls:	$ 10,025,814	$ 10,025,814	$ 10,025,814	$ 10,025,814	$ 10,025,814	$ 10,025,814	$ 10,025,814	$ 10,025,814	$ 10,025,814	$ 10,025,814
Adjusted Total Revenue:	$ 190,490,469	$ 190,490,469	$ 190,490,469	$ 190,490,469	$ 190,490,469	$ 190,490,469	$ 190,490,469	$ 190,490,469	$ 190,490,469	$ 190,490,469
Equity financed share of investment	$ 175,962,887	$ -								
Debt financed share of investment interest	$ 5,005,045	$ 5,005,045	$ 5,005,045	$ 5,005,045	$ 5,005,045	$ 5,005,045	$ 5,005,045	$ 5,005,045	$ 5,005,045	$ 82,005,736
Property tax for net incremental investment	$ 5,130,101	$ 4,397,230	$ 3,664,358	$ 2,931,486	$ 2,198,615	$ 1,465,743	$ 732,872	$ -	$ -	$ -
Compliance O&M	$ 13,974,840	$ 13,974,840	$ 13,974,840	$ 13,974,840	$ 13,974,840	$ 13,974,840	$ 13,974,840	$ 13,974,840	$ 13,974,840	$ 13,974,840
Compliance Adjusted Total Expenses	$ 310,494,083	$ 133,710,080	$ 132,922,648	$ 132,161,785	$ 131,428,914	$ 130,696,042	$ 129,963,170	$ 129,230,299	$ 129,230,299	$ 206,230,990
Compliace Adjusted Operating Margin	$ (120,003,614)	$ 56,780,389	$ 57,567,820	$ 58,328,683	$ 59,061,555	$ 59,794,427	$ 60,527,298	$ 61,260,170	$ 61,260,170	$ (15,740,521)
Compliace Adjusted Margin % of Revenue	-63%	30%	30%	31%	31%	31%	32%	32%	32%	-8%
Margin Net Present Value - 10 Years	$ 338,836,377									
Average Annual Margin Reduction - 10 Years	$ 56,354,098									

Chalk Point (Mirant)	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Pre-Compliance Revenue										
Energy and Ancillary Services	$ 253,763,683	$ 253,763,683	$ 253,763,683	$ 253,763,683	$ 253,763,683	$ 253,763,683	$ 253,763,683	$ 253,763,683	$ 253,763,683	$ 253,763,683
Capacity	$ 24,441,904	$ 24,441,904	$ 24,441,904	$ 24,441,904	$ 24,441,904	$ 24,441,904	$ 24,441,904	$ 24,441,904	$ 24,441,904	$ 24,441,904
Total Revenue	$ 278,205,587	$ 278,205,587	$ 278,205,587	$ 278,205,587	$ 278,205,587	$ 278,205,587	$ 278,205,587	$ 278,205,587	$ 278,205,587	$ 278,205,587
Pre-Compliance Expenses										
Non-Fuel	$ 23,728,270	$ 23,728,270	$ 23,728,270	$ 23,728,270	$ 23,728,270	$ 23,728,270	$ 23,728,270	$ 23,728,270	$ 23,728,270	$ 23,728,270
Debt and Preferred Stock Service	$ 10,942,443	$ 10,942,443	$ 10,942,443	$ 10,942,443	$ 10,942,443	$ 10,942,443	$ 10,942,443	$ 10,942,443	$ 10,942,443	$ 10,942,443
Property Taxes	$ 13,517,135	$ 13,517,135	$ 13,517,135	$ 13,517,135	$ 13,517,135	$ 13,517,135	$ 13,517,135	$ 13,517,135	$ 13,517,135	$ 13,517,135
Fuel	$ 120,037,560	$ 119,720,928	$ 119,525,160	$ 119,424,723	$ 119,424,723	$ 119,424,723	$ 119,424,723	$ 119,424,723	$ 119,424,723	$ 119,424,723
Total Expenses	$ 168,225,409	$ 167,908,776	$ 167,713,009	$ 167,612,571	$ 167,612,571	$ 167,612,571	$ 167,612,571	$ 167,612,571	$ 167,612,571	$ 167,612,571
					$ -	$ -	$ -	$ -	$ -	$ -
Pre-Compliance Operating Margin	$ 109,980,178	$ 110,296,811	$ 110,492,579	$ 110,593,016	$ 110,593,016	$ 110,593,016	$ 110,593,016	$ 110,593,016	$ 110,593,016	$ 110,593,016
Pre-Compliance Margin as % of Revenue	40%	40%	40%	40%	40%	40%	40%	40%	40%	40%
Revenue reduction due to controls:	$ 13,910,279	$ 13,910,279	$ 13,910,279	$ 13,910,279	$ 13,910,279	$ 13,910,279	$ 13,910,279	$ 13,910,279	$ 13,910,279	$ 13,910,279
Adjusted Total Revenue:	$ 264,295,308	$ 264,295,308	$ 264,295,308	$ 264,295,308	$ 264,295,308	$ 264,295,308	$ 264,295,308	$ 264,295,308	$ 264,295,308	$ 264,295,308
Equity financed share of investment	$ 208,404,745	$ -								
Debt financed share of investment interest	$ 5,927,813	$ 5,927,813	$ 5,927,813	$ 5,927,813	$ 5,927,813	$ 5,927,813	$ 5,927,813	$ 5,927,813	$ 5,927,813	$ 97,124,938
Property tax for net incremental investment	$ 8,179,131	$ 7,010,684	$ 5,842,236	$ 4,673,789	$ 3,505,342	$ 2,336,895	$ 1,168,447	$ -	$ -	$ -
Compliance O&M	$ 17,624,191	$ 17,624,191	$ 17,624,191	$ 17,624,191	$ 17,624,191	$ 17,624,191	$ 17,624,191	$ 17,624,191	$ 17,624,191	$ 17,624,191
Compliance Adjusted Total Expenses	$ 408,361,289	$ 198,471,464	$ 197,107,249	$ 195,838,365	$ 194,669,917	$ 193,501,470	$ 192,333,023	$ 191,164,575	$ 191,164,575	$ 282,361,700
Compliace Adjusted Operating Margin	$ (144,065,982)	$ 65,823,844	$ 67,188,059	$ 68,456,943	$ 69,625,391	$ 70,793,838	$ 71,962,285	$ 73,130,732	$ 73,130,732	$ (18,066,393)
Compliace Adjusted Margin % of Revenue	-55%	25%	25%	26%	26%	27%	27%	28%	28%	-7%
Margin Net Present Value - 10 Years	$ 397,979,450									
Average Annual Margin Reduction - 10 Years	$ 70,694,123									
Total Compliance Mirant Maryland Plant Margin										
Revenue:	$ 919,804,016	$ 919,804,016	$ 919,804,016	$ 919,804,016	$ 919,804,016	$ 919,804,016	$ 919,804,016	$ 919,804,016	$ 919,804,016	$ 919,804,016
Expenses:	$ 1,191,622,445	$ 599,337,858	$ 595,892,772	$ 592,607,774	$ 589,491,983	$ 586,376,191	$ 583,260,400	$ 580,144,608	$ 580,144,608	$ 837,729,314
Maryland Coal Fleet Margin:	$ (271,818,428)	$ 320,466,158	$ 323,911,244	$ 327,196,242	$ 330,312,034	$ 333,427,825	$ 336,543,617	$ 339,659,408	$ 339,659,408	$ 82,074,702
Fleet Margin as % of Revenue	-30%	35%	35%	36%	36%	36%	37%	37%	37%	9%

Brandon Shores (Constellation) - Existing SCR	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Pre-Compliance Revenue										
Energy and Ancillary Services	$ 489,358,987	$ 489,358,987	$ 489,358,987	$ 489,358,987	$ 489,358,987	$ 489,358,987	$ 489,358,987	$ 489,358,987	$ 489,358,987	$ 489,358,987
Capacity	$ 46,020,920	$ 46,020,920	$ 46,020,920	$ 46,020,920	$ 46,020,920	$ 46,020,920	$ 46,020,920	$ 46,020,920	$ 46,020,920	$ 46,020,920
Total Revenue	$ 535,379,907	$ 535,379,907	$ 535,379,907	$ 535,379,907	$ 535,379,907	$ 535,379,907	$ 535,379,907	$ 535,379,907	$ 535,379,907	$ 535,379,907
Pre-Compliance Expenses										
Non-Fuel	$ 28,642,693	$ 28,642,693	$ 28,642,693	$ 28,642,693	$ 28,642,693	$ 28,642,693	$ 28,642,693	$ 28,642,693	$ 28,642,693	$ 28,642,693
Debt and Preferred Stock Service	$ 28,859,425	$ 28,859,425	$ 28,859,425	$ 28,859,425	$ 28,859,425	$ 28,859,425	$ 28,859,425	$ 28,859,425	$ 28,859,425	$ 28,859,425
Property Taxes	$ 25,559,831	$ 25,559,831	$ 25,559,831	$ 25,559,831	$ 25,559,831	$ 25,559,831	$ 25,559,831	$ 25,559,831	$ 25,559,831	$ 25,559,831
Fuel	$ 226,740,359	$ 226,561,811	$ 226,451,419	$ 226,394,783	$ 226,394,783	$ 226,394,783	$ 226,394,783	$ 226,394,783	$ 226,394,783	$ 226,394,783
Total Expenses	$ 309,802,308	$ 309,623,760	$ 309,513,368	$ 309,456,732	$ 309,456,732	$ 309,456,732	$ 309,456,732	$ 309,456,732	$ 309,456,732	$ 309,456,732
					$ -	$ -	$ -	$ -	$ -	$ -
Pre-Compliance Operating Margin	$ 225,577,599	$ 225,756,147	$ 225,866,539	$ 225,923,175	$ 225,923,175	$ 225,923,175	$ 225,923,175	$ 225,923,175	$ 225,923,175	$ 225,923,175
Pre-Compliance Margin as % of Revenue	42%	42%	42%	42%	42%	42%	42%	42%	42%	42%
Revenue reduction due to controls:	$ 26,768,995	$ 26,768,995	$ 26,768,995	$ 26,768,995	$ 26,768,995	$ 26,768,995	$ 26,768,995	$ 26,768,995	$ 26,768,995	$ 26,768,995
Adjusted Total Revenue:	$ 508,610,912	$ 508,610,912	$ 508,610,912	$ 508,610,912	$ 508,610,912	$ 508,610,912	$ 508,610,912	$ 508,610,912	$ 508,610,912	$ 508,610,912
Equity financed share of investment	$ 155,734,899	$ -								
Debt financed share of investment interest	$ 5,863,366	$ 5,863,366	$ 5,863,366	$ 5,863,366	$ 5,863,366	$ 5,863,366	$ 5,863,366	$ 5,863,366	$ 5,863,366	$ 103,586,125
Property tax for net incremental investment	$ 6,734,370	$ 5,772,317	$ 4,810,264	$ 3,848,211	$ 2,886,159	$ 1,924,106	$ 962,053	$ -	$ -	$ -
Compliance O&M	$ 33,176,041	$ 33,176,041	$ 33,176,041	$ 33,176,041	$ 33,176,041	$ 33,176,041	$ 33,176,041	$ 33,176,041	$ 33,176,041	$ 33,176,041
Compliance Adjusted Total Expenses	$ 511,310,984	$ 354,435,484	$ 353,363,039	$ 352,344,350	$ 351,382,297	$ 350,420,244	$ 349,458,191	$ 348,496,138	$ 348,496,138	$ 446,218,898
Compliace Adjusted Operating Margin	$ (2,700,072)	$ 154,175,428	$ 155,247,873	$ 156,266,562	$ 157,228,615	$ 158,190,667	$ 159,152,720	$ 160,114,773	$ 160,114,773	$ 62,392,014
Compliace Adjusted Margin % of Revenue	-1%	30%	31%	31%	31%	31%	31%	31%	31%	12%
Margin Net Present Value - 10 Years	$ 1,320,183,353									
Average Annual Margin Reduction - 10 Years	$ 93,847,916									

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Wagner (Constellation) - Units 2 & 3, Unit 3 existing SCR

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Pre-Compliance Revenue										
Energy and Ancillary Services	$ 140,882,710	$ 140,882,710	$ 140,882,710	$ 140,882,710	$ 140,882,710	$ 140,882,710	$ 140,882,710	$ 140,882,710	$ 140,882,710	$ 140,882,710
Capacity	$ 16,425,818	$ 16,425,818	$ 16,425,818	$ 16,425,818	$ 16,425,818	$ 16,425,818	$ 16,425,818	$ 16,425,818	$ 16,425,818	$ 16,425,818
Total Revenue	$ 157,308,529	$ 157,308,529	$ 157,308,529	$ 157,308,529	$ 157,308,529	$ 157,308,529	$ 157,308,529	$ 157,308,529	$ 157,308,529	$ 157,308,529
Pre-Compliance Expenses										
Non-Fuel	$ 16,205,314	$ 16,205,314	$ 16,205,314	$ 16,205,314	$ 16,205,314	$ 16,205,314	$ 16,205,314	$ 16,205,314	$ 16,205,314	$ 16,205,314
Debt and Preferred Stock Service	$ 5,488,853	$ 5,488,853	$ 5,488,853	$ 5,488,853	$ 5,488,853	$ 5,488,853	$ 5,488,853	$ 5,488,853	$ 5,488,853	$ 5,488,853
Property Taxes	$ 4,861,294	$ 4,861,294	$ 4,861,294	$ 4,861,294	$ 4,861,294	$ 4,861,294	$ 4,861,294	$ 4,861,294	$ 4,861,294	$ 4,861,294
Fuel	$ 62,098,690	$ 62,098,690	$ 62,098,690	$ 62,098,690	$ 62,098,690	$ 62,098,690	$ 62,098,690	$ 62,098,690	$ 62,098,690	$ 62,098,690
Total Expenses	$ 88,654,152	$ 88,654,152	$ 88,654,152	$ 88,654,152	$ 88,654,152	$ 88,654,152	$ 88,654,152	$ 88,654,152	$ 88,654,152	$ 88,654,152
					$ -	$ -	$ -	$ -	$ -	$ -
Pre-Compliance Operating Margin	$ 68,654,377	$ 68,654,377	$ 68,654,377	$ 68,654,377	$ 68,654,377	$ 68,654,377	$ 68,654,377	$ 68,654,377	$ 68,654,377	$ 68,654,377
Pre-Compliance Margin as % of Revenue	44%	44%	44%	44%	44%	44%	44%	44%	44%	44%
Revenue reduction due to controls:	$ 7,865,426	$ 7,865,426	$ 7,865,426	$ 7,865,426	$ 7,865,426	$ 7,865,426	$ 7,865,426	$ 7,865,426	$ 7,865,426	$ 7,865,426
Adjusted Total Revenue:	$ 149,443,102	$ 149,443,102	$ 149,443,102	$ 149,443,102	$ 149,443,102	$ 149,443,102	$ 149,443,102	$ 149,443,102	$ 149,443,102	$ 149,443,102
Equity financed share of investment	$ 119,668,248	$ -								
Debt financed share of investment interest	$ 4,505,468	$ 4,505,468	$ 4,505,468	$ 4,505,468	$ 4,505,468	$ 4,505,468	$ 4,505,468	$ 4,505,468	$ 4,505,468	$ 79,596,610
Property tax for net incremental investment	$ 5,174,757	$ 4,435,506	$ 3,696,255	$ 2,957,004	$ 2,217,753	$ 1,478,502	$ 739,251	$ -	$ -	$ -
Compliance O&M	$ 11,479,135	$ 11,479,135	$ 11,479,135	$ 11,479,135	$ 11,479,135	$ 11,479,135	$ 11,479,135	$ 11,479,135	$ 11,479,135	$ 11,479,135
Compliance Adjusted Total Expenses	$ 229,481,760	$ 109,074,261	$ 108,335,010	$ 107,595,759	$ 106,856,508	$ 106,117,257	$ 105,378,006	$ 104,638,755	$ 104,638,755	$ 179,729,897
Compliace Adjusted Operating Margin	$ (80,038,658)	$ 40,368,841	$ 41,108,092	$ 41,847,343	$ 42,586,594	$ 43,325,845	$ 44,065,096	$ 44,804,347	$ 44,804,347	$ (30,286,794)
Compliace Adjusted Margin % of Revenue	-54%	27%	28%	28%	28%	29%	29%	30%	30%	-20%
Margin Net Present Value - 10 Years	$ 232,585,054									
Average Annual Margin Reduction - 10 Years	$ 45,395,872									

Crane (Constellation)

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Pre-Compliance Revenue										
Energy and Ancillary Services	$ 130,373,002	$ 130,373,002	$ 130,373,002	$ 130,373,002	$ 130,373,002	$ 130,373,002	$ 130,373,002	$ 130,373,002	$ 130,373,002	$ 130,373,002
Capacity	$ 13,777,647	$ 13,777,647	$ 13,777,647	$ 13,777,647	$ 13,777,647	$ 13,777,647	$ 13,777,647	$ 13,777,647	$ 13,777,647	$ 13,777,647
Total Revenue	$ 144,150,649	$ 144,150,649	$ 144,150,649	$ 144,150,649	$ 144,150,649	$ 144,150,649	$ 144,150,649	$ 144,150,649	$ 144,150,649	$ 144,150,649
Pre-Compliance Expenses										
Non-Fuel	$ 19,575,933	$ 19,575,933	$ 19,575,933	$ 19,575,933	$ 19,575,933	$ 19,575,933	$ 19,575,933	$ 19,575,933	$ 19,575,933	$ 19,575,933
Debt and Preferred Stock Service	$ 4,643,586	$ 4,643,586	$ 4,643,586	$ 4,643,586	$ 4,643,586	$ 4,643,586	$ 4,643,586	$ 4,643,586	$ 4,643,586	$ 4,643,586
Property Taxes	$ 4,825,460	$ 4,825,460	$ 4,825,460	$ 4,825,460	$ 4,825,460	$ 4,825,460	$ 4,825,460	$ 4,825,460	$ 4,825,460	$ 4,825,460
Fuel	$ 56,280,299	$ 56,233,416	$ 56,217,626	$ 56,209,524	$ 56,209,524	$ 56,209,524	$ 56,209,524	$ 56,209,524	$ 56,209,524	$ 56,209,524
Total Expenses	$ 85,325,277	$ 85,278,395	$ 85,262,604	$ 85,254,503	$ 85,254,503	$ 85,254,503	$ 85,254,503	$ 85,254,503	$ 85,254,503	$ 85,254,503
					$ -	$ -	$ -	$ -	$ -	$ -
Pre-Compliance Operating Margin	$ 58,825,372	$ 58,872,255	$ 58,888,045	$ 58,896,147	$ 58,896,147	$ 58,896,147	$ 58,896,147	$ 58,896,147	$ 58,896,147	$ 58,896,147
Pre-Compliance Margin as % of Revenue	41%	41%	41%	41%	41%	41%	41%	41%	41%	41%
Revenue reduction due to controls:	$ 7,207,532	$ 7,207,532	$ 7,207,532	$ 7,207,532	$ 7,207,532	$ 7,207,532	$ 7,207,532	$ 7,207,532	$ 7,207,532	$ 7,207,532
Adjusted Total Revenue:	$ 136,943,117	$ 136,943,117	$ 136,943,117	$ 136,943,117	$ 136,943,117	$ 136,943,117	$ 136,943,117	$ 136,943,117	$ 136,943,117	$ 136,943,117
Equity financed share of investment	$ 126,791,040	$ -								
Debt financed share of investment interest	$ 4,773,639	$ 4,773,639	$ 4,773,639	$ 4,773,639	$ 4,773,639	$ 4,773,639	$ 4,773,639	$ 4,773,639	$ 4,773,639	$ 84,334,292
Property tax for net incremental investment	$ 6,433,014	$ 5,514,012	$ 4,595,010	$ 3,676,008	$ 2,757,006	$ 1,838,004	$ 919,002	$ -	$ -	$ -
Compliance O&M	$ 10,063,042	$ 10,063,042	$ 10,063,042	$ 10,063,042	$ 10,063,042	$ 10,063,042	$ 10,063,042	$ 10,063,042	$ 10,063,042	$ 10,063,042
Compliance Adjusted Total Expenses	$ 233,386,012	$ 105,629,087	$ 104,694,295	$ 103,767,191	$ 102,848,189	$ 101,929,187	$ 101,010,185	$ 100,091,183	$ 100,091,183	$ 179,651,836
Compliace Adjusted Operating Margin	$ (96,442,896)	$ 31,314,029	$ 32,248,822	$ 33,175,925	$ 34,094,927	$ 35,013,929	$ 35,932,931	$ 36,851,933	$ 36,851,933	$ (42,708,720)
Compliace Adjusted Margin % of Revenue	-70%	23%	24%	24%	25%	26%	26%	27%	27%	-31%
Margin Net Present Value - 10 Years	$ 136,332,816									
Average Annual Margin Reduction - 10 Years	$ 45,252,588									
Total Constellation Compliance Maryland Plant Margin										
Revenue:	$ 794,997,131	$ 794,997,131	$ 794,997,131	$ 794,997,131	$ 794,997,131	$ 794,997,131	$ 794,997,131	$ 794,997,131	$ 794,997,131	$ 794,997,131
Expenses:	$ 974,178,756	$ 569,138,832	$ 566,392,344	$ 563,707,300	$ 561,086,995	$ 558,466,689	$ 555,846,383	$ 553,226,077	$ 553,226,077	$ 805,600,631
Maryland Coal Fleet Margin:	$ (179,181,626)	$ 225,858,298	$ 228,604,787	$ 231,289,830	$ 233,910,136	$ 236,530,442	$ 239,150,748	$ 241,771,054	$ 241,771,054	$ (10,603,500)
Fleet Margin as % of Revenue	-23%	28%	29%	29%	29%	30%	30%	30%	30%	-1%

SO2 NOx and 90% Hg Compliance Plant Specific Operating Margins for Maryland Coal Burning Plants - **Low Cost Case** -WORKPAPERS Page 7 of 7

R. Paul Smith (AE)

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Pre-Compliance Revenue										
Energy and Ancillary Services	$ 26,495,087	$ 26,495,087	$ 26,495,087	$ 26,495,087	$ 26,495,087	$ 26,495,087	$ 26,495,087	$ 26,495,087	$ 26,495,087	$ 26,495,087
Capacity	$ 4,079,615	$ 4,079,615	$ 4,079,615	$ 4,079,615	$ 4,079,615	$ 4,079,615	$ 4,079,615	$ 4,079,615	$ 4,079,615	$ 4,079,615
Total Revenue	$ 30,574,702	$ 30,574,702	$ 30,574,702	$ 30,574,702	$ 30,574,702	$ 30,574,702	$ 30,574,702	$ 30,574,702	$ 30,574,702	$ 30,574,702
Pre-Compliance Expenses										
Non-Fuel	$ 5,151,493	$ 5,151,493	$ 5,151,493	$ 5,151,493	$ 5,151,493	$ 5,151,493	$ 5,151,493	$ 5,151,493	$ 5,151,493	$ 5,151,493
Debt and Preferred Stock Service	$ 1,025,364	$ 1,025,364	$ 1,025,364	$ 1,025,364	$ 1,025,364	$ 1,025,364	$ 1,025,364	$ 1,025,364	$ 1,025,364	$ 1,025,364
Property Taxes	$ 1,192,840	$ 1,192,840	$ 1,192,840	$ 1,192,840	$ 1,192,840	$ 1,192,840	$ 1,192,840	$ 1,192,840	$ 1,192,840	$ 1,192,840
Fuel	$ 15,454,647	$ 15,414,745	$ 15,390,074	$ 15,377,417	$ 15,377,417	$ 15,377,417	$ 15,377,417	$ 15,377,417	$ 15,377,417	$ 15,377,417
Total Expenses	$ 22,824,344	$ 22,784,442	$ 22,759,771	$ 22,747,114	$ 22,747,114	$ 22,747,114	$ 22,747,114	$ 22,747,114	$ 22,747,114	$ 22,747,114
					$ -	$ -	$ -	$ -	$ -	$ -
Pre-Compliance Operating Margin	$ 7,750,359	$ 7,790,261	$ 7,814,931	$ 7,827,588	$ 7,827,588	$ 7,827,588	$ 7,827,588	$ 7,827,588	$ 7,827,588	$ 7,827,588
Pre-Compliance Margin as % of Revenue	25%	25%	26%	26%	26%	26%	26%	26%	26%	26%
Revenue reduction due to controls:	$ 1,528,735	$ 1,528,735	$ 1,528,735	$ 1,528,735	$ 1,528,735	$ 1,528,735	$ 1,528,735	$ 1,528,735	$ 1,528,735	$ 1,528,735
Adjusted Total Revenue:	$ 29,045,967	$ 29,045,967	$ 29,045,967	$ 29,045,967	$ 29,045,967	$ 29,045,967	$ 29,045,967	$ 29,045,967	$ 29,045,967	$ 29,045,967
Equity financed share of investment	$ 33,361,263	$ -								
Debt financed share of investment interest	$ 2,392,244	$ 2,392,244	$ 2,392,244	$ 2,392,244	$ 2,392,244	$ 2,392,244	$ 2,392,244	$ 2,392,244	$ 2,392,244	$ 42,262,981
Property tax for net incremental investment	$ 2,555,797	$ 2,190,683	$ 1,825,569	$ 1,460,455	$ 1,095,341	$ 730,228	$ 365,114	$ -	$ -	$ -
Compliance O&M	$ 3,168,111	$ 3,168,111	$ 3,168,111	$ 3,168,111	$ 3,168,111	$ 3,168,111	$ 3,168,111	$ 3,168,111	$ 3,168,111	$ 3,168,111
Compliance Adjusted Total Expenses	$ 64,301,759	$ 30,535,480	$ 30,145,695	$ 29,767,924	$ 29,402,811	$ 29,037,697	$ 28,672,583	$ 28,307,469	$ 28,307,469	$ 68,178,206
Compliace Adjusted Operating Margin	$ (35,255,792)	$ (1,489,512)	$ (1,099,728)	$ (721,957)	$ (356,843)	$ 8,271	$ 373,384	$ 738,498	$ 738,498	$ (39,132,238)
Compliace Adjusted Margin % of Revenue	-121%	-5%	-4%	-2%	-1%	0%	1%	3%	3%	-135%
Margin Net Present Value - 10 Years	$ (76,197,419)									
Average Annual Margin Reduction - 10 Years	$ 15,434,609									

Baseline Cost Factors

Adjustments to Plant Historic Cost and Operating Data to Plant Revenue Projected to 2009+

GDP inflation:	1.2042	

Adjusted 1998 plant valuation and non-fuel expenses (except coal transportation) to 2009+ levels

U.S. Government Budget Fiscal 2005 Table 10.1 — Gross Domestic Product and Deflators Used in the Historical Tables: 1940–2009

Central Appalachian Coal $/ton:	$ 64.42	

Delivered, NYMEX 1/9/06 futures plus $9.92 transportation - using 2001 EIA transporation GDP inflated to 2009

EIA Coal Transportation: Rates and Trends in the United States, 1979-2001 (with supplementary data to 2002), Table 2.01 inflated to 2009 using GDP inflation

Gas $/mcf:	$ 9.74	2009
	$ 9.35	2010+

Delivered, NYMEX 1/9/06 futures plus $1.03 Transco Zone 6 non-NY basis difference

#2 Oil $/barrel:	$ 177.79	2009
	$ 174.07	2010
	$ 171.77	2011
	$ 170.59	2012

Delivered, NYMEX 1/9/06 Crude futures adjusted for historic relationship between futures and #2 Oil New York Harbor

#6 Oil $/barrel:	$ 104.70	2009
	$ 102.50	2010
	$ 101.15	2011
	$ 100.45	2012+

Delivered, NYMEX 1/9/06 Crude futures adjusted for historic relationship between futures and #6 Oil New York Harbor

Energy Revenue $/MWH:	$ 60.682	PSC estimates
Capacity Revenue $/Net Available MW-Day	$ 98.04	PSC estimates

Plant valuation net of depreciation:	
Pepco Total Steam Plant Value 1999:	$ 2,171,663,210
Pepco Steam Plant Accumulated Provision for Depreciation 1999:	$ 661,042,073
Mirant plants net plant factor to estimate taxable value:	0.6956
BGE Total Steam Plant Value 1999:	$ 2,152,344,118
BGE Steam Plant Accumulated Provision for Depreciation 1999:	$ 829,854,608
Constellation plants net cost factor to estimate taxable value:	0.6144
PE Total Steam Plant Value 1999:	$ 917,618,289
PE Steam Plant Accumulated Provision for Depreciation 1999:	$ 499,591,942
AE plants net cost factor to estimate taxable value:	0.4556

Debt and Preferred Stock Costs

	Debt %	Real Interest Rate	
Mirant:	34%	6.50%	Mirant Plan of Reorganization Exhibit D, Page 7; Global Insight and Staff estimate for interest rates
Constellation:	50%	6.00%	Staff estimate for debt ratio; Global Insight and Staff estimate for interest rate projections
AE:	50%	6.00%	Staff estimate for debt ratio; Global Insight and Staff estimate for interest rate projections

Property Taxes:		All effective rates per $100 assessed value -	
State Rate:	$ 0.3300	Total Rate	(to be added to county rates for total rate)
Anne Arundel Co. Rate:	$ 2.3270	$ 2.6570	Brandon Shores & Wagner
Baltimore Co. Rate:	$ 2.7875	$ 3.1175	Crane
Charles Co. Rate:	$ 2.5650	$ 2.8950	Morgantown
Montgomery Co. Rate:	$ 1.6980	$ 2.0280	Dickerson
Prince Georges Co. Rate:	$ 2.4000	$ 2.7300	Chalk Point
Washington Co. Rate:	$ 3.1600	$ 3.4900	R. Paul Smith

Maryland State Department of Assessments and Taxation 2005-2006 County Tax Rates