September 25, 2006

Mr. Dan Nees, Director
Environmental Finance Center
University of Maryland
4511 Knox Road, Suite 205
College Park, MD 20740

Dear Mr. Nees:

Thank you for providing the opportunity for the Staff of the Public Service Commission of Maryland ("Commission") to provide comments on the modeling assumptions to be used in the University of Maryland’s Center for Integrative Environmental Research’s ("CIER") independent Study of the economic and environmental impacts related to Maryland’s potential participation in the Regional Greenhouse Gas Initiative ("RGGI"). The Commission, through its Staff, is available to answer any questions you may have on the information provided herein, and to provide any additional information that you may need.

The Commission’s Staff has reviewed the information about the Study and the models to be used in it that is shown on the CIER web site. Our comments include current cost and electricity adequacy information for Maryland, so as to help ensure that the models produce accurate assessments of the economic and environmental impacts related to Maryland’s potential participation in RGGI. In this regard, the Staff emphasizes that there are several unique realities that set Maryland apart from many of its neighbors and other RGGI states. Staff provides the following unique Maryland profile items, and updated cost information, so the Study Team will be able to use accurate input data to make the Study results more meaningful and representative of Maryland’s specific circumstances.

Attached to these comments are several documents providing additional details on Maryland’s unique circumstances and the costs of electricity supply and pollution controls. The attachments include a Staff memorandum to the Public Service Commission Commissioners on the potential impacts of enactment of Senate Bill 154 (the Healthy Air Act), including the impact of SB 154’s provisions on carbon dioxide (“CO2”) controls. Other attachments are the Commission’s formal legislative comments on SB 154, a spreadsheet detailing CO2 emissions, in-State fossil fuel capacity and Maryland’s electricity importation requirements currently and projected through the year 2025.

Some of the information provided herein relates directly to issues you are studying. Other material is provided because it relates to power plant availability (or closures) and the State’s options for securing an adequate supply of electricity at reasonable prices. Again, Staff’s overall intention is to provide you with our best assessments of and latest information on the assumptions that will be fed into the models used in the Study, and feedback on the models themselves.

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assumptions that will be fed into the models used in the Study, and feedback on the models themselves.

Among other points made in the comments below and attachments thereto, are the following:

1. A large portion (60%) of Maryland’s in-State power production is coal based;
2. Significant amounts of power are imported from the west, especially during peak load periods. Much of this power is also generated in coal-burning power plants;
3. The central Maryland (PEPCO & BGE) corridor is frequently under transmission constraints due to inadequate transmission capacity and insufficient in-region generation resources;
4. In fact, the Federal Energy Regulatory Commission (“FERC”) has designated the central Maryland corridor as a National Interest Electric Transmission Corridor;
5. The Pennsylvania-New Jersey-Maryland Interconnection, LLC (“PJM”) has proposed three major transmission projects that, if built, could relieve constraints in central Maryland. If one or more of these projects are built, PJM’s cost assignment rules likely will result in much of the expenditures for these multi-billion dollar projects being borne by electricity consumers in central Maryland;
6. During peak load periods the Central Maryland serving territory frequently endures spikes in Locational Marginal Pricing (“LMP”) levels that are far above the prices to the west and on the Delmarva peninsula;
7. Maryland power producers are currently planning to make very large investments in Maryland’s coal fired power plants to satisfy the requirements of the Healthy Air Act for NOx, SO2 and mercury emissions. These investments will significantly reduce the NOx, SO2 and mercury emissions, but will not reduce CO2 emissions. It is expected that much of the $2 billion to $3 billion being invested will be passed on to Maryland power distribution companies, and ultimately Maryland consumers, in the form of higher power prices;
8. Staff is monitoring RGGI activities as well as power industry developments aimed at creating technologies for carbon capture and sequestration (“CCS”). Staff’s current estimate is that the technology is still in the development stage, and that when it becomes available its costs will approximate those of a power plant alone, and will introduce parasitic losses (that is, consume output produced by the host power generating plant) in the range of 14% to 20%.

Staff has performed an analysis of the Maryland power situation using Present Mode of Operation factors. The study indicates that at current growth rates, the State’s power demand will double from 32MW to 65MW by 2022 and approach 76MW by 2025. The Staff analysis is attached and used the following assumptions to prepare it:

A. A 5% per year growth of electricity demand;
B. Two existing fossil fuel power plants will be decommissioned as a result of not being able to satisfy the NOx, SO2 and Mercury reductions required by the Maryland Healthy Air Act;
C. All other fossil fuel plants will remain in operation at least until 2025;
D. Two additional nuclear units will be completed as currently proposed in 2015 and 2016 (if these units are not constructed the significant capacity of those units would need to be made up by imports);
E. Demand growth would be satisfied by imports from the west (which in turn assumes construction and operation of new transmission lines referenced above); and
F. PJM should be consulted to establish the current import baseline, which could change the Power Growth Forecast attached hereto.

As to specific suggestions for the models, we provide the following:

1. What should the models use for Maryland’s base line allowance?

   As mentioned above, it is very likely that demand for power generation in the State will continue to grow and that most existing fossil fuel plants will be required to remain in operation indefinitely. The models should use a range of assumptions for Maryland’s baseline allowance allocation, including at a minimum 2004-based actual in-State CO2 emissions as well as an assumption that the State receives allowances sufficient to cover Maryland’s substantial out-of-state imports and reasonable allowances for future economic growth.

2. What rate should be assumed for purposes of valuing a credit?

   Staff observes that RGGI does not predict the cost of credits. Credit costs are often pegged to the price of natural gas but, of course, when credit trading starts the price will be determined by a market whose electric generation underpinnings may or may not resemble those existing today. Accordingly, the Staff recommends that the models incorporate a reasonable range of inputs so to enhance the models’ ability to produce a reasonable range of results.

3. How does the RGGI 25% set aside proposal impact Maryland?

   RGGI has proposed a 25% set aside of credits to create a state wide fund to be used for the purpose of improving energy efficiency and identifying ways to slow the growth of electricity demand. Other stakeholders argue that a greater percentage of credits be put for auction for those purposes, and RGGI leaves it to individual states to determine the percentage of set-asides in each state. Since Maryland has not determined what percentage will be set-aside for auction, the Staff suggests that the models use a range of 25% to 50% to cover these possibilities. That range would have to be modeled after the modeling of the cost of credits. In any event, the Staff anticipates that much of the set aside credit costs will be passed on to Maryland electricity users, particularly those in central Maryland, in the form of higher rates. This is due to the
particular capacity constraints in the central part of the State discussed above and at length in the attached Staff memorandum.

4. What are some other credit cost components of implementing RGGI?

In addition to the cost of the set-aside credits, additional costs will be incurred in the form of credits needed to cover CO2 emissions associated with growth in electricity demand. Additionally, imports of fossil fuel power from non-RGGI states may require purchase of additional CO2 credits in the future, depending on how RGGI resolves the leakage issue. Another potential credit cost issue potentially arises if “behind-the-meter” sources of CO2 are included in RGGI’s scope.

5. What investments are currently proposed for Maryland power plants?

The Commission has received a request for a Certificate of Public Convenience and Necessity (CPCN) for the Brandon Shores generating facility to install scrubbers, stacks, selective catalytic reduction equipment, and activated carbon injection facilities required to satisfy the Healthy Air Act. We anticipate additional filings from Constellation as well as several requests for CPCN’s from Mirant to upgrade its plants. If Allegheny Energy is not granted relief from the provisions of the Healthy Air Act pursuant to its provisions, we expect that company will close the R. Paul Smith units. Additionally, Staff believes it likely that Constellation Energy will close the Crane station due to the severe difficulties it will encounter in trying to comply with the provisions of the Healthy Air Act. Not including the costs of placing controls on R. Paul Smith or Crane, or including the costs of termination of operations at those units, Staff is of the understanding that the total investment to satisfy the Healthy Air Act will be in the range of $2.5 to $3.5 billion before any effort is made regarding carbon credits, capture or sequestration.

As noted earlier, we attach to this letter the Commission’s comments on SB 154 and the Staff analysis underlying those comments. It should be noted that the costs associated with the equipment upgrades have risen significantly since the time the article was written. Both Constellation Energy and Allegheny Energy have provided updates to the Securities and Exchange Commission detailing those cost increases, which result in capital costs for those projects far in excess of the “generic” scrubber and SCR costs contained in the Environmental Protection Agency’s ("EPA") relatively recent models and which formed the basis of much of Maryland’s economic analysis of the provisions of the
Healthy Air Act. The Staff analysis, attached, attempted to provide a reasonable range of cost assumptions in order to account for the cost escalations that have in fact occurred, but the most recent actual numbers from generators show that costs have grown at an even higher rate. Some of the higher costs appear to be site-related, while others are due to rapidly-escalating material and labor costs related to the startling increase in demand for pollution control equipment. Regardless of the cause(s), the models should incorporate the real-world costs of this equipment and not merely assume that relatively-recent estimates contained in EPA’s and other widely-used data bases are in fact accurate.

6. What measures are being taken to incorporate Maryland-specific conditions in the models?

We have documented the macro concerns and issues that we believe are critical to the unique circumstances faced by the power industry in Maryland. We hope the study group will keep these matters in mind during the execution of models and declare for each whether the Model was able to address each the issues and concerns we listed at the beginning of this filing.

7. Do the models incorporate the impact of plants to be shut down and new plants to come on line?

As noted above, Staff has identified two fossil fuel plants in Maryland that may be decommissioned because they will be unable to achieve the emission reduction required by the Clean Air Act. Constellation Energy has already made public statements about the likelihood of closing its CP Crane station, while Allegheny Energy fought for and obtained a provision in the Healthy Air Act providing a possible exemption from the installation of controls on its R. Paul Smith station.

Staff anticipates the study team will conduct runs of the models that incorporate those closures. In addition, Staff has concerns regarding some of the remaining fossil fuel plants’ abilities to achieve CO2 reductions, or adequate sequestration and credit purchases that will allow them to continue in operation. These concerns are detailed in the Staff memorandum attached to this letter and in the Commission’s comments on SB 154. Additionally, it has come to our attention that Mirant is planning to close one of its coal-fired stations in New York due to the costs of adding required environmental controls. While such information is highly confidential and not likely to be disclosed by a plant owner until it is sufficiently certain of the decision, the Staff recommends
that the Study Group discuss the possibility of plant closures with each of Maryland's generators, and conduct model runs accordingly.

Thank you again for the opportunity to provide information and comments on the models and inputs thereto. Please let us know if you have questions about any of this material or if you would like any additional information.

Sincerely,

/s/ O. Ray Bourland

O. Ray Bourland
Executive Secretary
Public Service Commission
of Maryland