BILL NO: Senate Bill 154

COMMITTEE: Senate Education, Health and Environmental Affairs Committee

HEARING DATE: February 1, 2006

PSC POSITION: Support with Amendments

PURPOSE OF BILL:

Senate Bill 154 proposes limits on the emissions of sulfur dioxide (SO$_2$), nitrogen oxides (NO$_x$), mercury, and carbon dioxide (CO$_2$) from the following coal-fired facilities in Maryland: H.A. Wagner units 2 and 3; R. Paul Smith units 3 and 4; Morgantown Generating Station units 1 and 2; Dickerson units 1, 2, and 3; C.P. Crane units 1 and 2; Chalk Point Generating Station units 1 and 2; and Brandon Shores units 1 and 2.

BACKGROUND:

The units specified in Senate Bill 154 have a combined summer generation capability of 4,750 megawatts (MW) and account for about 60 percent of all the electricity generated in the State of Maryland. Since coal is cheaper than most other fuels used to generate electricity, many of these units operate frequently. The units, except R. Paul Smith, are all in central and southern Maryland, a region that includes the service territories of Baltimore Gas and Electric Company, Potomac Electric Power Company, and Southern Maryland Electric Cooperative, Inc.

In 2005, customers of the central and southern Maryland companies had a maximum peak demand of 13,747 MW. By 2010, projected peak demands in the region will be 14,770 MW. Including generation that runs primarily only during times of high demand for electricity, such as many gas-fired units, central and southern Maryland has net generation capacity of 10,858 MW. Thus, in central and southern Maryland right now, peak demand exceeds available capacity by nearly 2,900 MW. In 2010, unless additional generation is constructed, peak demands are projected to exceed supply by over 3,900 MW.
Maryland depends on transmission lines to import electricity sufficient to cover the gap between in-State supply and demand. Currently, transmission capacity allows the importation of about 4,700 MW during peak demand periods. Anticipated transmission improvements will increase central and southern Maryland’s import capability by another 400 MW in the year 2010.

Thus, in 2010, the year the provisions of Senate Bill 154 are planned to take effect, central and southern Maryland is slated to have combined generation and transmission import capacity of 15,958 MW to meet an estimated 14,770 MW of load. This equates to a reserve margin of 1,188 MW, about eight percent. According to the Pennsylvania-New Jersey-Maryland Interconnection (PJM), eight percent is the minimum reserve margin necessary to ensure reliability. Thus, central and southern Maryland appears to have the bare minimum of resources available to ensure reliability for the year 2010.

**COMMENTS:**

The Public Service Commission (“Commission”) has responsibility for ensuring that Maryland’s electric system remains reliable and that electricity is priced competitively and reasonably. Absent amendments, the Commission believes that Senate Bill 154 poses significant risks to the adequacy of electricity supply in the central and southern Maryland region and the competitiveness of its pricing. The Commission urges the Committee to consider amendments from the Maryland Department of the Environment (MDE) that, in our understanding, would remove the most significant of these risks from Senate Bill 154.

The carbon dioxide control and credit trading provisions of Senate Bill 154 are very likely to increase costs of some Maryland coal generating units to the point where the owners of those facilities will choose to close them rather than comply. That choice is theirs to make. Analysis by the Commission’s Staff indicates that the R. Paul Smith coal units in Washington County will close, and that C.P. Crane’s units 1 and 2 are likely to close. Also, some combination of the Wagner, Dickerson and Chalk Point units could close. Without additional generation or transmission capacity to compensate for the closing of the coal units, central Maryland’s already tight reliability margin of eight percent as of 2010 will go into violation. That means that during times of peak electricity consumption there will be insufficient electricity in central and southern Maryland, and with the forced outage of even a
relatively small generating station or transmission line customers would be faced with blackouts and brownouts.

As noted above, if coal plants close, it is possible to counteract the negative consequences by constructing generation and/or transmission facilities. However, both options are costly and possess their own significant risks.

The approximate cost of gas for each megawatt hour (MWH) produced is $68, compared to the approximate cost of coal of $22 per MWH produced. Additionally, the costs of construction of new combined-cycle gas turbines are about $600 per kW. Thus, if the State needs 1,000 MW of new gas generation, the construction costs would be an estimated $600,000,000. While the costs of that new capacity would be spread to a certain extent through PJM, in the event of shortages or even constraints the effect would be to raise prices in central and southern Maryland. The Commission has an active docket (Case No. 9047) investigating the high prices of electricity in central Maryland, which now are among the highest in PJM due to the relative lack of generation in central Maryland and the limited amount of high voltage transmission lines in the region.

Unfortunately, the availability of additional natural gas supply in central and southern Maryland that could fuel that amount of new generation is questionable. The Commission is aware of no new natural gas pipeline construction that could augment the supply, except for recent talk concerning the possibility of construction of expensive liquefied natural gas (LNG) import facilities in Baltimore and expansion of the existing LNG facilities at Cove Point in Southern Maryland. The natural gas delivery problems that resulted from Hurricanes Katrina and Rita also highlighted a growing national concern with excessive reliance on natural gas for new generation.

The other possibility is to try to build new transmission lines to serve the region. Importantly, lines sufficient to replace the closing of coal-fired stations would run from West Virginia or elsewhere in the mid-west into central Maryland. The line(s) would be hundreds of miles long, and cost hundreds of millions to several billion dollars. More importantly, if past history is any indication, it will take at least a decade (or more) to obtain permits and complete construction, at best. Thus, the line(s) will not be in service anywhere near the 2010 timeframe. Additionally, the power carried by those lines would be generated by coal-fired power plants located in the mid-west coalfields. It is the Commission’s understanding that such units are
the source of much of Maryland’s transported NOx and SO2 problems, so the Commission expects that the additional combustion of coal in those areas will provide additional transported emissions into Maryland.

In addition to the CO2 provisions, the Commission is concerned about Senate Bill 154’s SO2 and mercury controls. First, the SO2 and mercury provisions require all coal fired generating units in Maryland to be retrofitted with selective catalytic reduction (SCR) and flue gas desulphurization (scrubbers) equipment. However, the carbon dioxide provisions of the bill make it likely that some coal plants will have to close and be replaced with gas-fired generation. The competing goals of the bill will result in the most expensive coal generation possible coupled with significant new gas generation costs.

Additionally, some of the units required by Senate Bill 154 to have scrubbers likely do not have room on site for these massive facilities. If not, they may have no alternative but to close. Some sites of other units may require extremely creative (and costly) engineering to fit the scrubbers on the sites, raising costs potentially to the point where it becomes more economic to close a unit. Similarly, the Commission understands that mercury removal to the degree mandated by Senate Bill 154 may not be possible. Even if such removal is possible, adding these costs to the costs of the controls for the other pollutants may cause the owner to close at least some of the affected facilities rather than add the required controls. Additionally, there are questions as to whether the equipment and manpower will be available in time to comply with the statutory requirements.

Pollution control equipment needs power to operate. Any such power is not available to serve customers, which worsens the reliability issues discussed above. Additionally, the loss of some plant output for these reasons, not to mention plant closings, further restricts the capacity of transmission lines to import power into a region. Particularly of note would be closings of the Dickerson units and the R. Paul Smith plant, because they sit near the major transmission import line serving central Maryland. Loss of that generation removes valuable sources of “reactive power,” a form of electricity essential to the stability of electric current when transmitting large amounts of power.

Finally, Maryland relies on coal-fired generation to a much greater degree than the states comprising the Regional Greenhouse Gas Initiative (RGGI). Just 15% of the RGGI-state fuel mix are coal-fired plants. A 10 percent reduction in CO2 emissions in the RGGI states represents just 1.5 percent of
supply. In contrast, 60% of Maryland’s fuel mix is coal fired. Maryland would need to replace roughly 6 percent of its coal-fired plants to achieve a 10% reduction. Accordingly, Maryland’s costs of complying with the RGGI standards is likely to exceed the compliance costs for the RGGI states, and will increase Maryland’s reliance on natural gas as an electricity generation fuel.

FOR ADDITIONAL INFORMATION CONTACT:

Susan Stevens Miller, General Counsel
Maryland Public Service Commission
(410) 767-8039