BEFORE THE PUBLIC SERVICE COMMISSION
OF THE STATE OF DELAWARE

IN THE MATTER OF INTEGRATED RESOURCE PLANNING FOR THE PROVISION OF STANDARD OFFER SERVICE BY DELMARVA POWER & LIGHT COMPANY UNDER DEL. C. §1007(C) & (D)	**)**	**PSC DOCKET NO. 14-0559**

<u>COMMENTS OF THE DNREC DIVISION OF ENERGY & CLIMATE</u>

Introduction

The Delaware Department of Natural Resources & Environmental Control ("DNREC") respectfully submits these comments on the Delmarva Power and Light, Inc. ("Delmarva" or "DPL") 2014 Integrated Resource Plan ("IRP") filed December 1, 2014.

The IRP provides useful data and analysis and presents us with the opportunity to discuss broader policy issues that face us today and in coming years. The IRP is necessarily incomplete, given ongoing developments like the Exelon merger, RPS cost cap rule-making, energy efficiency planning under the newly established Energy Efficiency Advisory Council, the EPA 111(d) process, and broader changes in utility practices and regulation relating to distributed generation and microgrids. DNREC is not proposing to debate or discuss all of these issues, but simply to identify them as examples of ways in which the energy policy landscape is changing. Since the IRP is necessarily a work in progress, we should use the IRP process as an opportunity to further our understanding and clarify our thinking relating to current issues. In that spirit, DNREC proposes that the issues of externalities, energy efficiency, RPS compliance costs and avoided costs and prices suppression effects be placed on the table for discussion in this docket.

1. Externalities

The IRP Regulations require that DPL shall "[i]nclude a current evaluation, detailing and giving consideration to environmental benefits and externalities associated with the utilization of specific methods of energy production." (IRP Regulations 6.1.4) The IRP Regulations go further in stating "[t]he IRP must show an investigation of all reasonable opportunities for a more diverse supply at the lowest reasonable cost, including consideration of environmental benefits and externalities." (IRP Regulations 5.2)

The 2010 and 2012 IRPs broke new ground in considering environmental and health externalities in resource planning, and the 2014 IRP builds on the methods developed in the previous versions. By including externalities and a broader economic analysis of energy efficiency and renewable energy, the IRP provides us with a more complete picture of all of the costs and benefits of the energy Delmarva procures for Delaware ratepayers. DPL has streamlined the externality analysis by building upon some of the modeling used in the previous iteration—a time and money saving approach that DNREC thinks is appropriate.

DNREC believes that some particulars of the externality calculations should be examined, particularly the amount of PJM generation mix displaced by renewable generation and the price put on CO2 emissions. Tables 13, 14, 15 and 16 on pages 78-9 present estimated benefits of renewable energy generation based on 50 percent and 25 percent of average PJM emissions avoided. These may be safe, conservative assumptions, but a fuller discussion of the rationale for these assumed rates of avoided emissions would be useful.

Tables 15 and 16 present estimated values of avoided CO2 emissions based on the avoided emissions estimates in Tables 13 and 14. DPL has assigned a value of $1/ton to CO2 emissions, the low end of a range of $1 to $100, which is two orders of magnitude. While DPL

also used the low end of the ranges for SO2 and NOx to be conservative, it should be noted that the ranges for SO2 ($43,000 to $110,000) and NOx ($9,500 to $25,000) are narrower than the CO2 range. To better understand the externality value of reducing carbon emissions, a value from the mid-range of the EPA tables would be more appropriate.

On September 12, 2013, Governor Markell signed Executive Order 41 creating the Cabinet Committee on Climate and Resiliency, which "shall oversee development of an implementation plan to maintain and build upon Delaware's leadership in responsibly reducing greenhouse gas emissions, including identifying appropriate interim goals."[1] Delaware's Sea Level Rise Advisory Committee has published a comprehensive vulnerability assessment, which details economic and environmental risks from sea level rise along the state's entire coastline.[2] On December 1, 2014, the State's Climate Change Advisory Committee released an impact assessment of the effects of higher temperatures and increased precipitation on Delaware.[3] While climate change is a global problem, the effects in Delaware will be local and are expected to be significant. Delaware's decision makers have an obligation to understand the extent to which our energy use contributes to the problem.

2. Energy Efficiency

HA 2 to SB 150, which was passed in the last legislative session, gives DPL the authority to provide energy efficiency ("EE") programs working with the Energy Efficiency Advisory Council ("EEAC") and present them to the PSC for rate recovery. The EEAC has begun the work of developing EE program portfolios. The IRP includes some projections of energy

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[1] Executive Order Number Forty One: Preparing Delaware for Emerging Climate Impacts and Seizing Economic Opportunities from Reducing Emissions. Available at http://governor.delaware.gov/orders/EO41.pdf.

[2] *Preparing for Tomorrow's High Tide: Sea Level Rise Vulnerability Assessment for the State of Delaware*, Sea Level Rise Advisory Committee. Available at http://www.dnrec.delaware.gov/coastal/Pages/SLR/DelawareSLRVulnerabilityAssessment.aspx.

[3] *Climate Framework for Delaware*, December 1, 2014. Available at http://www.dnrec.delaware.gov/energy/Pages/Climate-Framework.aspx.

efficiency savings that should be considered a starting point for understanding the possible scope of energy efficiency savings while specific programs are considered and proposed by the EEAC. It is to be expected that more meaningful projections will be developed when the EEAC proposes programs for DPL to present to the Commission for approval.

3. RPS Compliance Costs

DPL has used conservative cost estimates in its RPS cost projections. For instance, the cost of SRECs is projected to increase significantly in the coming years. The cost of installed solar power has declined over the last several years, and while some incentives are likely to decrease or even disappear (which may be appropriate given decreasing supply costs), it may be that DPL is erring on the high side. The cost assumptions and the factors driving those assumptions should be discussed.

4. Avoided Cost and Price Suppression Effects of Renewable Energy

The IRP includes cost projections for compliance with the state's Renewable Portfolio Standards. However, these figures do not provide a complete picture of the costs and benefits of renewable energy, which would include estimated avoided cost and price suppression benefits from the siting of renewable energy resources in Delaware.

Even though renewable energy sources such as wind and solar photovoltaics (PV) are more expensive than conventional baseload generation, they provide net positive benefits to the grid when they replace expensive, inefficient generating units within the PJM region. When demand peaks, as on hot summer afternoons, more expensive generating units are called into service to meet the demand, driving up the locational marginal pricing (LMP) for the region, including Delaware. Distributed solar PV generation, which roughly matches demand on such occasions, can reduce the need for such expensive power and reduce the need to import this

power over overloaded transmission lines. By helping to ameliorate LMP costs, distributed PV can benefit all power customers.

These avoided cost or price suppression effects, which have been calculated in other regions, can be substantial. DNREC is engaged in research into the price suppression effects of distributed PV and would welcome the opportunity to discuss this investigation as part of this docket.

Conclusion

The IRP is a valuable tool that illuminates and expands our understanding of all the costs of our energy supply and provides us with a more complete picture that includes environmental externalities. DNREC is committed to working with DPL and all stakeholders to engage in this docket in a collaborative way to more fully illuminate the overall picture of costs and benefits of our changing energy picture.

Respectfully submitted,

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Dated: March 30, 2015

CERTIFICATE OF SERVICE

I certify that on March 30, 2015, I filed the attached *Comments of the DNREC Division of Energy & Climate* with the Public Service Commission, and caused the same to be served through the Public Service Commission's DelaFile and via electronic delivery on parties listed on the service list in this matter.

STATE OF DELAWARE
DEPARTMENT OF JUSTICE

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