

Statement of Betty Ann Kane
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U.S. Department of Energy, Office of Electricity Delivery and Energy Reliability
201 National Electric Transmission Study Workshop
December 6, 2011

On behalf of the Public Service Commission of the District of Columbia, I would like to thank you for the opportunity to participate in this workshop as preparation for the Department of Energy to conduct the 2012 Congestion Study. This will be the third study pursuant to the Energy Policy Act of 2005, with the prior studies having been conducted in 2006 and 2009. Pursuant to the Act the Department is required to conduct the triennial study in consultation with affected States. The District of Columbia, for this and most other federal purposes, is treated as a state, and our state utility commission is active along with the 50 states in the National Association of Regulatory Utility Commissioners (NARUC), its regional affiliate the Mid Atlantic Association of Regulatory Utility Commissioners (MACRUC), and the Organization of PJM States (OPSI).

The issue of congestion in the electric transmission system is of particular concern and importance to the District of Columbia. The District is located in the Pepco Zone, which remains, along with the Delmarva Peninsula and northern New Jersey, among the most congested zones in the PJM market.

In 2012 the District will become unique among the states in that it will be totally dependent, except for a very small amount of photovoltaic customer generation, on electricity generated in other states. This is due to the long planned May 31, 2012 decommissioning of our two remaining generation plants, Buzzards Point and Benning Road. In addition, the owners of the Potomac River Generating Station, located in Alexandria, Virginia but exclusively serving the District, have reached agreement with the City of Alexandria to close that plant in October 2012. The 2006 DOE National Electric Transmission Congestion Study, Task 1 Report Review of Eastern Congestion Studies and Expansion Plans identified the need to install two new Palmers Corners-Blue Plains 230 kV circuits in anticipation of the loss of the Potomac River generating capacity. These lines were completed in June, 2007. The DC PSC also ordered the construction of two 230 kV lines from Benning Road to Ritchie, which are underway and are scheduled to be completed by June 1, 2012. Thus we do not anticipate reliability problems with the loss of Potomac River and our two peaker plants next year. Nevertheless the congestion problem in the Pepco zone remains, and is getting worse.

Congestion is a direct measure of the extent to which there are differences in the cost of generation that cannot be equalized because of transmission constraints. The price signal in the energy market is the Locational Marginal Price (LMP). LMP equals to energy price plus congestion plus losses. Thus, congestion can also be seen as a

generation component and not a transmission component. The congestion payment may be equal to or sometimes greater than the transmission component, depending on many factors. As shown on the following chart, the RPM price for the Pepco Zone varied from year to year. The 2010 auction result showed an 85 percent increase from \$133 to \$247. In the 2011 auction, the price came down to roughly the 2009 level -- \$136.50. There is however not much change in the MW/day prices.

Year	2010 -2011	2011 - 2012	2012-2013	2013-2014	2014-2015
PEPCO zone Capacity price (\$MW-day)	\$174.29	\$110.04	133.46 (Auction conducted in 2009)	\$247.14	\$136.50 (Auction conducted in 2011)

There are many factors affecting the congestion costs. The lower price in the 2014–2015 auctions may be related to the completion of the TRAIL line. Other factors are the economy, which has directly affected load, since total congestion costs equal to load times unit congestion cost (\$/kWh).

I would like to suggest that DOE include some trend analysis in its 2012 Congestion Study. DOE previously had of necessity a snap shot type of analysis in these reports. Trend analysis is now feasible since it is five years since the first DOE congestion study. Trend analysis could tell us whether congestion is persistent and the correlation of congestion vs. load and the economy.

For example DC PSC staff used the historical State of the Market Reports for PJM and looked into a trend analysis over 2005–2010 for the PEPCO zone and for PJM. Overall, the PEPCO congestion traced the total congestion in PJM quite well. It also showed a strong correlation between congestion and the economy. Complete data for 2011 is not yet available.

Based on 2010 data, for D.C. total congestion costs accounted for 2.4% of the residential customer’s bill. (This is part of the generation component). I note that the total transmission amounted to only around 3.2% of residential customer’s bill. Compared to total transmission costs, 2.4% is not a small component. While this impact on the customer’s bottom line may not be within the scope of the congestion study, for State PUC’s the bottom line trend analysis would be interesting. We also note that for PJM as a whole, the total congestion costs for 2006 were \$1.6 billion and for 2010 it was slightly lower at \$1.4 billion. Thus, significant congestion is still there. According to PJM, they have not conducted specific studies to isolate how the recession, as opposed to other factors, affected the transmission congestion. PJM has also indicated that analysis of PJM peak loads suggests that peak load reduction from 2008 to 2009 primarily is a result of the recession. For the future, continued load growth

is expected to be there for the next 10 years, thus, other things being equal, the growth in load will contribute positively to congestion costs.

I also suggest that the 2012 study look more broadly at alternatives in addition to transmission for addressing congestion problems. Demand response, energy efficiency, distributed generation, and energy storage will increasingly contribute to mitigation of congestion. The 2009 study did include a small section on demand side reduction. In particular it cited the Mid-Atlantic States "ambitious energy efficiency programs," including the District's enactment of the Clean and Affordable Energy Act of 2008, and also discussed some Mid-Atlantic States' aggressive goals for distributed generation and photovoltaics, highlighting New Jersey. However, much has progressed since 2009. The District for example has increased its renewable requirements to 20% by 2020 and has also greatly increased its solar requirement. Pursuant to amendments that went into effect on August 1, 2011, solar (photovoltaic and thermal) must account for 2.5% of the retail sale of electricity in the District by 2023 -- a percentage similar to the state of New Jersey. This is a six fold increase from the prior requirement of .4% by 2020. In addition, except for about 21 MW of grandfathered facilities, all of this capacity must be generated by certified facilities of under 5 MW that are physically located in the District or on a distribution feeder serving the District. If this capacity actually materializes, as opposed to retailers electing to pay the alternative compliance fee, the shift to local distributed generation for 2.5% of the load can have an impact on interstate transmission requirement.

In the District we also have voluntary demand response programs which helped reduce demand by roughly 60-65 MWs during recent summer emergency hours. The DC PSC also adopted a new Residential Load Control program (cycling program) that will go into effect this summer. Our new Sustainable Energy Utility has a contractual obligation to reduce overall energy use in the District by 1% a year beginning in 2012. All of these initiatives will have an impact on reducing transmission constraints.

Other developments that should be watched in looking at alternatives include the work of the Eastern Interconnection States Planning Council (EISPC) and in particular it's Energy Zones Working Group, which is being carried out under a grant from DOE and with significant assistance from DOE's national laboratories. Most of the Energy Zones work is scheduled for completion in 2012. I have attached an update on this project. I also suggest DOE follow the Renewable Integration Study being undertaken by PJM including three transmission scenarios for 4 GW, 10 GW and 20 GW of off-shore Mid-Atlantic wind. Finally, I bring to your attention that stakeholders and states in the PJM region are considering the "state agreement approach" for adding transmission lines to the PJM Regional Transmission Expansion Plan (RTEP). Under this approach, states would voluntarily cooperate to suggest new transmission lines to the RTEP needed for public policy purposes, such as meeting RPS, including agreeing on cost allocation and

add the project to Regional Transmission Expansion Plan (RTEP). The debate is still on-going but such development can affect future solutions to congestion problems.

Thank you and I would be happy to answer any questions.