Before The Public Service Commission    
Of the State of Delaware

IN THE MATTER OF THE APPLICATION OF DELMARVA POWER & LIGHT FOR APPROVAL OF  
NATURAL GAS BASE RATE CASE DOCKET 12-546

Pre-filed Direct Testimony of David T Stevenson on Behalf of the Caesar Rodney Institute  
6/3/13

Q. Please state your name, address, and employment.
A. My name is David T. Stevenson and my business address is Suite 301, 9 E. Loockerman St., Dover, DE, 19963. I am employed by the Caesar Rodney Institute as the Director of the Center for Energy Competitiveness.

Q. What does the Caesar Rodney Institute do?
A. CRI is a non-profit organization dedicated to improving Delaware’s economy and protecting individual liberty.

Q. What is your educational and professional background?
A. I hold a B. S. degree (1970) in Agricultural Economics for Rutgers University. I was employed by Dupont Company in various sales, marketing, technical, and business management positions from 1970 to 1993. I started and managed four companies from 1993 to 2010. I have conducted analytical work for CRI for three years, mostly on energy issues.

Q. Please relate your experience before the Public Service Commission.
A. I have been an intervenor in numerous rate cases including two dockets on the SREC Pilot Procurement Program, the 2010 and 2012 IRP, the Fuel Cell Tariff application, the Chesapeake Utility gas expansion docket, and the current Delmarva Power electric base rate case. In addition I have testified for the Attorney General as replacement for the Public Advocate in the Washington Gas Electric request for an SREC contract with Delmarva Power.

Q. What is the purpose of your testimony in this proceeding?
A. Our comments will focus on the changes requested to encourage expansion of natural gas service to more residential and small business customers. We encourage expanded direct use of natural gas which offers both environmental and economic benefits. Compared to fuel oil and electric fired residential heating and hot water, natural gas cuts CO2 emission dramatically and greatly reduces SO2 and NOX. Each new customer might spend $10,000 to $15,000 in capital conversion cost plus pipeline installation cost. In addition each customer may have up to $2000 a year in new discretionary income from fuel savings. Each 1000 new customers would add $20 million in direct capital expenditure putting about 140 people to work and would add $2 million a year elsewhere in the economy creating another 14 permanent jobs. Fuel switching is encouraged by Delaware Code and is a specific goal of DNREC.
Q. What do you specifically recommend?

A. We specifically recommend:

- Approval of Tariff Section XVII- Extensions to allow 100 feet of extension per customer, aggregated for a development, without charge should be granted. CIAC Charges for mains above 100 feet per customer prorated for the number of applicants at the average of the last three years installed cost of mains for existing residential developments should also be granted.

- Delmarva Power should have a detailed forecast of growth in its customer base if the requested 100 foot/customer tariff change is approved. Delmarva responded in question CRI-2 they have about 115,000 residential customers and are adding 688/year or 0.6% a year now. From US Census data we can estimate there are about 208,000 households in Delmarva’s service area for a 55% market penetration. Potential customers are about evenly split between fuel oil and electric space heating according to census data. From the discussion below most can justify the cost of conversion though we have no information how many of the 93,000 potential customers are in developments. The forecast should detail growth potential and timing development by development.

- With the forecast in place Delmarva should determine the potential added revenue and increase in cost/customer to arrive at an estimated impact on the current rate increase request. We note, adding an additional 20,000 new customers, or 17%, at $430/year in current Customer and Commodity Charges (See answer to question PSC-ME-3) would raise the same $8.3 million revenue as the proposed tariff.

Q. Are existing customers subsidizing new customers for the 100 feet of no charge main?

A. We think the answer is no. No single customer has ever been able to pay the full charge of obtaining piped natural gas service. The whole point of a regulated utility is to allow protection for investment in infrastructure to enable service expansion to meet the greater public good of reliable, affordable energy, telephone, cable, and water delivery. Existing residential infrastructure averages about 90 feet/customer according to the answer to PSC –ME-8 so new customers will see about the same benefit as existing customers. If more pipeline is needed the new customers will pay for it. With the current tariff structure a new customer pays the whole cost to get to their home and the next customers along the way get their service for free. That is the real unfair subsidy. New customers will benefit existing customers by spreading overhead cost over a wider base.

Q. Shouldn’t Delmarva consider an Expansion Area Charge similar to that requested by Chesapeake Utility in PSC Docket 12-292?

A. We have opposed the EAC. We did a survey of what has happened in other states (see attached “Comparative Natural Gas Expansion Strategies”). Utah used an Expansion Area Charge similar to the Chesapeake Utility proposal but they had limited impact with few customer subscriptions which led to customer dissatisfaction with long pay-off extensions and acrimonious PSC rate cases that tried to fix the problem. Florida has an EAC formula but no development has ever signed up for service. The charge itself lowers the driving force needed to get people to sign up and creates an unfair permanent two tiered rate structure. It appears Chesapeake Utilities will see approval of their tariff request. Granting Delmarva their request sets up a perfect one to one comparison of strategies so we can compare future results.
Q. Can potential customers afford the cost of conversion to natural gas?
A. The answer is probably yes for homeowners living in developments that can aggregate demand to benefit from the “no charge” 100 feet of new gas main. We prepared the following table based on the equivalent alternative fuel usage for 700 CCF/year of natural gas using the proposed tariff rates.

<table>
<thead>
<tr>
<th>Fuel</th>
<th>Fuel Cost</th>
<th>Fuel Use</th>
<th>Fuel Cost/Yr</th>
<th>Savings/Yr.</th>
<th>Conversion Cost</th>
<th>Payback Years</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fuel Oil</td>
<td>$3.80/Gal.</td>
<td>489 Gals.</td>
<td>$1858</td>
<td>$885</td>
<td>$10,000 to $15,000</td>
<td>11 to 17</td>
</tr>
<tr>
<td>Electric</td>
<td>$0.102/KWh</td>
<td>19,893 KWh</td>
<td>$2029</td>
<td>$1056</td>
<td>$10,000 to $15,000</td>
<td>9.5 to 14</td>
</tr>
<tr>
<td>Propane</td>
<td>$2.80/Gal.</td>
<td>738 Gals.</td>
<td>$2066</td>
<td>$1093</td>
<td>$1,500 to $4,000</td>
<td>1.5 to 4</td>
</tr>
</tbody>
</table>

The fuel oil and electric savings are based on a direct comparison to the 700 CCF a new natural gas furnace or hot water heater would use. In our experience most of the oil burners and electric heat pumps in Delaware are near the end of their useful life, had low efficiency to begin with, and are probably using more than twice the fuel of a new system so payback times are probably in the five to eight year range. For comparison, new solar electric systems seem to be able to sell when payback times average six to seven years.

Q. Does this conclude your testimony?
A. Yes it does.

**Appendix** “Comparative Natural Gas Expansion Strategies” 10/22/12

Several states have developed policies to expand natural gas service to underserved areas. A few general comments:
- Programs focused on either expanding transmission and large diameter distribution mains or on local distribution but did not have a balanced approach
- Most programs avoided direct rate increases to fund the programs but instead used bonds, withheld customer refunds, or created new non-residential fees
- Most programs avoided having existing customers subsidize expansion area customers
- Utah used and Expansion Area Charge similar to the Delaware proposal but they had limited impact with few customer subscriptions which led to customer dissatisfaction with long pay-off extensions
- None of the programs were particularly successful but the North Carolina program seemed to have the most success and the Vermont and Maine programs are too new to tell

**Transmission and Large Diameter Distribution Programs**
North Carolina – created state infrastructure legislation in 1998 which provided up to $200 million in state bonds for natural gas expansion. This was designed to pay the heavy cost to bring service to the one third of NC counties with no gas service, not for local gas expansion. In addition, the utility can apply interstate pipeline company refunds for overcharges run up during rate cases. Pipeline companies can begin charging anticipated new rates 5 months after submitting tariff requests to FERC but final approval, often at a lower rate, may not be approved for years. NC applied $114 million from this source and $188 million from the bond fund to lay pipelines to the unserved counties. The goal of the legislation was met and the fund is closed. Other strategies were legislated but never used. Natural gas availability increased from 19% in 1990 of potential customers to 25% in 2010.

Contact: Bill Gilmore, PUC Staff, 919-733-9563, gilmore@ncuc.net

Georgia – Created a Universal Service Fund in 1998 whereby distributors send funds from about a dozen different sources to the PUC ($25 MM max) to be held in account. The fund generated $12 MM in 2010 with $8 MM used for pipeline extension and $32 MM since inception. The fund was primarily used for extension to under-served areas and to install pipelines in growth corridors in anticipation of future revenue. Money, up to 5% of a utilities capital budget, could be used for mains or for approach mains if costs exceeded the normal formulas used to calculate maximum charges for new service. The fund also paid for low income fuel cost assistance, building new compressed natural gas vehicle filling stations and other uses. Most of the revenue came from unique charges. When gas was de-regulated Georgia required large users with interruptible service to pay a fixed fee for pipeline usage and 95% of that fee went to the fund. Atlantic Gas Light Company, by far the largest gas supplier in Georgia, began selling storage and pipeline services through an asset management affiliate company to third party suppliers and part of that fee went to the fund. The % of homes with natural gas service dropped from 53% in 1990 to 44% in 2010.

Contact: Tony Wackerly, PUC Staff manager of Universal Service Fund, 404-656-4516

Maine – Passed legislation in 2012 authorizing $330 million in state bonds for pipeline infrastructure to expand natural gas service. $275 million will go for loans when utilities put up at least 25% of the cost. $55 million can be used for capital reserve funds. Only 4% of homes in Maine have natural gas service.

Local Expansion for Underserved Areas

Vermont – Vermont Gas Systems with 45,000 residential customers, got PUC approval in 2011 to create an expansion fee by foregoing implementing a 5% fuel reduction ($.0373/CCF) for twenty years to instead put the money in the “System Expansion and Reliability Fund”. The fund will grow by $4.4 million a year. New customers will pay the same total rate as existing customers. The cost would be about $26 a year for each residential customer using 700 CCF/year. 15% of Vermont homes have natural gas service.

Utah – In the early 1990’s the PSC approved defined tariffs for specific expansion areas ranging from $16.50/month to $30/month to be paid by Expansion Area Customers. The fee was calculated based on an expected cost of the expansion and an expected number of customers signing up for the service. Using these estimates, a pay-off date was estimated (15 to 20 years) but the actual pay-off date depended on how many people signed up for service. Areas with high sign up rates saw early pay-off dates and were generally pleased with the program. However, more expansion areas were under-subscribed and saw extended pay-off dates and petitioned for changes to the rate. See the links below for the discussions held in dockets to
address this issue. In the end, the PSC decided to change the original rate of return assumption for these expansion areas (13.64% to 6%) and to recalculate the pay-off date which then averaged 10 to 11 years for 1400 customers. The EAC process still exists but is now based on a 6% IRR. The percent of homes with natural gas service grew from 82% in 1990 to 86% in 2010.

http://www.psc.utah.gov/utilities/gas/07orders/Apr/06057T04oos.pdf  
http://www.psc.utah.gov/utilities/gas/08orders/dec/0705713ROocosard.pdf pages 12-15,

Contact: Becky Wilson, Executive Staff Director, 801-530-6716, rlwilson@Utah.gov

Florida – Florida Power & Light can use an Expansion Area Charge for under-served customers using a 4x revenue formula with cost spread out over a maximum of ten years.