

# Streetlight Replacement and Improvement Project

## Background

In the past two (2) triennial Chevy Chase Village Resident surveys, residents overwhelmingly supported upgrading the street lighting throughout the Village. In November 2008, the Village contracted with Rummel, Klepper & Kahl, LLP (RKK) to conduct a full photometric (light dispersion) survey of the Village. Based on the results of the survey RKK and the Village were able to identify numerous areas where street lighting was lacking.

Currently, the streetlights in the Village are located on PEPCO-owned power poles that use a mercury vapor bulb. However, the U.S. Congress passed the Energy Policy Act of 2005 which states that the manufacturing and importing of these bulbs would be prohibited beginning January 1, 2008, due to the high levels of mercury used within the bulb and needed for manufacturing. The nature of mercury vapor light bulbs is that they rarely burn out, and thus usually appear to function properly. This is because mercury vapor bulbs suffer a significant amount of lumen (light output) depreciation. As a result, the lamp typically produces approximately 50% less light every 3-5 years. This depreciation is one contributing factor to the low light levels along Village streets.

Over the past year, the Village's Public Works Committee (PWC) has studied possible ways to increase the lighting along Village streets for the purposes of safety and energy efficiency. The PWC during this time has looked at 3 specific types of lights: High pressure sodium, induction and light emitting diodes, more commonly known as LED.

In late January of this year, and with the assistance of PEPCO the Village installed multiple sample streetlights in the triangle park located across the street from the Village Hall at the intersection of Laurel Parkway and West Kirke Street. These sample fixtures included three high pressure sodium bulbs, and 2 induction bulbs. Simultaneously, PEPCO began its pilot program testing LED streetlights along Dorset Avenue (between Little Falls Parkway and Surrey Street) in the Town of Somerset. During these pilot programs, several requests were made through the *Crier*, listserv and Village website soliciting comments on the bulbs and fixtures. Unfortunately less than a handful or responses were received.

## Options Explored

Currently, the LED streetlights are in the test phase and are not yet available for purchase from PEPCO. When Pepco's pilot program is completed, if all necessary requirements (such as durability, reliability and light dispersion) are met, PEPCO will file for a rate tariff with the Maryland Public Service Commission to allow the installation and purchase of LED streetlight technology. PEPCO officials have indicated that a tariff might be available in about 4 years. LED lights are 70% more cost efficient than the existing mercury vapor streetlights.

In order to upgrade the street lighting throughout Village streets the Village considered two (2) options; 1) install new induction streetlights for a cost, or 2) allow PEPCO to convert the existing streetlights from using mercury vapor bulbs to high pressure sodium bulbs at no cost to the Village.

1) The Village with assistance of the PWC and PEPCO investigated the feasibility of replacing the existing mercury vapor streetlights with new induction fixtures. The induction fixtures would provide a 33% increase in the street lighting in the Village and would also increase the lifecycle (or increased energy efficiency) of the lights by 75% with minimal light depreciation. Estimated costs to purchase these light range between \$163,200 and \$761,600 depending on the style of the fixture. Induction fixtures emit a "white" light, which respondents preferred in the 2009 Resident Survey.

2) Another option the PWC considered was the conversion of the existing mercury vapor bulbs to high pressure sodium bulbs. Because the manufacturing of the mercury vapor bulbs has been banned the Maryland Public Service Commission has mandated that PEPCO complete the conversion to high pressure sodium bulbs, free of charge. The high pressure sodium bulbs would provide a 42% increase in street lighting and would provide the same life expectancy; however, the effects of light

depreciation would not be seen for 5-8 years. The major difference seen by the high pressure sodium bulbs is that the color of the light emitted appears to have a yellow or orange tint versus the “white” light emitted by the induction bulbs conversion to the high pressure sodium bulbs would be at NO cost to the Village.

To contract with PEPCO to install new poles and fixtures to provide lighting where non currently exists, would cost approximately \$12,000 to \$20,000 per fixture depending on the complexity of the installation.

### **Next Steps**

As a result of all the factors considered, the PWC presented its recommendation to the Board at its July 12, 2010 regular meeting. The Board unanimously approved the PWC’s recommendation to ask PEPCO to replace all existing mercury vapor bulbs with high pressure sodium bulbs throughout the Village, and to postpone the Village’s streetlight replacement project until LED bulb technology is available. The PWC based its recommendation on the results of the 2009 Resident Survey, from which the majority of respondents preferred a white light, in particular, the induction fixture. However, the PWC felt that instead of spending the Village’s *SafeSpeed* (speed camera) funds on a technology that may become obsolete in 4-5 years, the more appropriate course would be to wait until LED or comparable technology is available.

Since the July 12, 2010 Board meeting, Village staff has contacted PEPCO and informed them of the Village’s decision. PEPCO is currently in the process of converting the mercury vapor bulbs and fixtures to high pressure sodium bulbs and fixtures throughout the Village, which should be completed by the end of September barring any weather delays. Please stay tuned to the Village website ([www.chevychasevillagemd.gov](http://www.chevychasevillagemd.gov)) and listserv for further updates on the project or contact Director of Municipal Operations, Michael Younes at [michael.younes@montgomerycountymd.gov](mailto:michael.younes@montgomerycountymd.gov) for more information.