

## **Background Overview of Feeder 15197**

For the past two years, residents have expressed concern regarding the level of service provided by Pepco. The supply line, Feeder 15197, serves the communities comprising Crestwood and part of Petworth (a map is available at <u>http://www.crestwood-dc.org/</u>). To remedy the problem, Pepco is committed to investing approximately \$1.8 million to take the necessary steps to improve the current level of service.

Feeder 15197 originates in Northeast D.C. at the Fort Slocum Substation, on North Dakota Avenue, N.E., and extends for 11.9 miles into Northwest D.C. along Nicholson Street, NW, Missouri Avenue, NW, and Allison Street NW, between Kansas Avenue, NW, and 14th Street, NW, 14th Street, NW between Webster and Ingraham Streets, NW and Webster Street, NW between 14th and 18th Streets, NW.

While part of the feeder is underground, sixty-six percent (66%) is overhead, and travels through a maze of trees. Many times outages are caused by tree branches falling onto overhead lines, wind/lightning, street level accidents, animals coming in contact with energized equipment and accidents from digging into underground lines.

In 2005, Feeder 15197 was identified as a priority feeder, based on the frequency and duration of outages. Pepco reported this finding to the Public Service Commission and took corrective actions that included:

- Installing automatic circuit reclosers (ACR), an automatic sectionalizing device.
- Installing additional fuse protection at various locations along the route of the feeder.
- Replacing deteriorating equipment, such as cross arms.
- Installing animal guards.
- Installing lightning arresters and animal guards at various locations.
- Installing tree wire along 17th Street NW.

In that same year, 55% of the feeder's outages were due to tree limbs and storms. In 2006, 45% of the outages were due to trees and storms, following the improvements outlined above.

As a result, Pepco has undertaken a number of more comprehensive improvements and upgrades to improve feeder reliability. The variability of weather from year-to-year, and the increasing age of already mature trees in the area preclude our ability to predict the expected improvement in reliability performance. Nonetheless, Pepco is confident that the planned improvements will significantly reduce the types of outages recently experienced on the feeder.

## **Current Status of Feeder 15197**

On December 6, 2006, Pepco Region President Thomas Graham, along with William Gausman, Vice President of Asset Management, and Chester Knapp, Manager of the Reliability Group within Asset Management, met with Advisory Neighborhood Commission 4C07, and members of the Crestwood Neighborhood Association, to address issues associated with the performance of feeder 15197. A \$1.8 million improvement plan to increase the efficiency and performance of feeder 15197 was presented, and questions were fielded from the affected community.

Another meeting was held on January 16, 2007, hosted by the Crestwood Neighborhood Association and the Crestwood Neighborhood League, where the improvement plan was again presented by Mr. Gausman, along with Mr. Graham, Mr. Knapp, and Pepco arborist Nathan McElroy. Questions raised at the meeting were outlined, and can be found at <u>http://www.crestwood-dc.org/electrical-problems-solutions</u>. At that time, Mr. Graham pledged to remain available to all community groups for meetings, and to publish this monthly newsletter to communicate progress on the improvement plan.

Phase One of the planned improvements started the week of November 20, 2006, and was completed January 23, 2007 with the energizing of the newly installed 8,000 feet of underground cable. Some residents may have experienced brief outages due to this temporary transfer, but most customers were not expected to sustain any interruptions.

The entire project is slated to continue until the third quarter of the year, ending in September 2007. Once completed, Pepco anticipates these improvements will decrease both the frequency and duration of outages.

#### **Next Steps**

On a daily basis, residents can expect to see Pepco employees, and contractors, working to replace tree wire on overhead lines with pre-assembled aerial cable, or PAC. Crews will be putting in automatic circuit reclosers, or ACR's, lightning arresters and animal guards to meet the goal of improving the reliability of feeder 15197. No service interruptions are anticipated with this process.

Pepco appreciates your patience, and welcomes any feedback on how we can deliver better service. Please contact Kimberley Johnson at 202-872-2477 or <u>krjohnson@pepco.com</u> with comments.

#### Below are 3 pictures of the crews replacing the underground cables along 9th Street between Gallatin and Hamilton Streets N.W.





## Overall Project Status



### 30% Complete



#### **Project Overview of Feeder 15197**

The following corrective actions began the week of November 20, 2006:

- Inspected equipment in 71 manholes along 9<sup>th</sup> Street, NW, and re-taped the connections and splices. 100% Completed
- Replaced approximately 8.000 feet of underground cable along 9<sup>th</sup> Street • between Allison Street, NW and Nicholson Street, NW. Estimated completion was February 2007 - actual completion was January 23, 2007. 100% Completed
- Replaced all bare wire overhead lines with tree wire. • 100% Completed
- Reroute trunk of feeder avoiding trees and install pre-assembled aerial cable • (PAC) along Madison Street, NW, 4<sup>th</sup> Street, NW, and Missouri Avenue, NW. Engineering design completed, pending construction work.
- Replace the existing open wire of the main trunk with pre-assembled aerial • cable (PAC) along Allison Street, NW from 9th Street, NW to 14th Street, NW, and 14th Street, NW from Allison Street, NW to Webster Street, NW, and Webster Street, NW from 14th Street, NW to 17th Street, NW and 17th Street, NW from Webster Street, NW to Decatur Street, NW. Engineering design completed, pending construction work.
- Replace existing bare wire with tree wire and fuse as a lateral along 17th • Street. NW.

Engineering design completed, pending construction work.

- Replace four (4) existing manually operated gang switches with SF6 remote • operated switches.
- Engineering design completed, pending construction work.
- Relocate automatic circuit recloser (ACR) to Webster St. between 17th & 18th Streets, NW. Engineering design completed, pending construction work.
- Trim / remove 20-25 trees identified as requiring immediate attention. • Engineering design completed, pending construction work.
- Address 12 other tree issues (5 removals). • 48% Completed
- Pepco's Vegetation Management is working with the DC Department of Transportation Urban Forestry Administration (UFA) to resolve approximately 8 remaining issues. Discussion ongoing to reach a consensus

The final step of Phase-One began the week of November 20, 2007 and was completed with the energizing of the newly installed 8,000 feet of underground cable. Pepco appreciates your patience while we complete the remaining work to improve service reliability to the area.

#### 25 50 п 75 100 % 25 50 100 % 75

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Project Status







# **Glossary of Terms**

Animal Guard: A non-conductive device installed on energized electrical equipment to minimize customer outages due to animal contact.

Automatic Circuit Recloser (ACR): Remote control device monitored and operated by the Control Center designed to detect faults on the feeder downstream, and open to isolate faults from the rest of the feeder, thereby reducing the number of customers affected. The ACR also attempts to automatically reclose circuits because many of the faults are temporary and usually fall clear. In instances where faults do not clear themselves, the ACR will remain open until crews make repairs.

**Cross Arm:** A non-conductive assembly (usually wooden) for supporting electrical wires on a utility pole.

**Feeder**: An electrical line that carries a large block of power from the substation to the customer. This includes overhead as well as underground facilities.

Fuse: A safety device used to protect an electric circuit against excessive current.

Gang Switch: A switch manually operated by field crews to isolate faults, or to restore customer load.

Lateral: A tap/wire off the main trunk of the feeder serving the smaller areas, protected by a fuse.

**Lightning Arrester:** Protective devices for limiting surge voltages due to lightning strikes or equipment faults or other events, to prevent damage to equipment and disruption of service (also called surge arresters). These devices are installed on many different pieces of equipment such as power poles and towers, power transformers, circuit breakers, bus structures, and steel superstructures in substations.

Manhole: An underground utility vault used to house electrical and other utility equipment.

**Pre-assembled Aerial Cable (PAC):** A type of insulated overhead cable which is more robust than standard overhead wire and is better able to withstand falling tree limbs.

**SF6 Remote Switch:** A switch that is monitored and operated via remote control by the Control Center to isolate or restore customer load.

**Tree Wire:** An insulated overhead wire used to withstand incidental tree contact, particularly in heavily wooded areas.

