

# Underground power lines not cure-all for avoiding storms

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July 29, 2010



Pepco workers clear a tree that fell onto power lines during Sunday's storm, when hundreds of thousands of area residents lost power. (Photo by Rick Giammaria/Courtesy Pepco holdings inc.)

Option expensive, wires deteriorate, officials say

The lengthy power outages left in the wake of Sunday's storm have prompted calls for burying power lines underground, where they would be sheltered from wind, rain and snow -- but such a move is expensive and wouldn't necessarily solve the problem, officials say.

In the aftermath of the quick but powerful storm, hundreds of thousands of Washington-area residents saw their lights go dark -- many for days -- after the 70-mph wind downed trees and more than 1,500 power lines.

About 25,000 Pepco customers, mostly in Montgomery County, were still without power Wednesday and frustrated by the slow fixes and the company's telephone hot line and Web site, which gave customers bad information -- when they were working at all. Pepco region President

Thomas Graham acknowledged Wednesday the technology performed poorly.

D.C. officials are weighing underground lines. But such a move would cost about \$3.5 million per mile, according to a report given this month to D.C.'s Public Service Commission by the Cambridge, Mass., firm Shaw Consultants International Inc.

### **Pros and cons to underground lines**

#### **PROS:**

- » Improved aesthetics
- » Lower tree trimming costs because of the reduced need for trimming
- » Lower storm damage and associated restoration cost
- » Fewer vehicle accidents from contact with poles
- » Reduced accidental live-wire contact
- » Fewer momentary interruptions
- » Improved customer relations regarding tree trimming

#### **CONS:**

- » Environmental damage to existing trees
- » Increased exposure to dig-ins
- » Longer interruptions and more customers affected per outage
- » Susceptibility to flooding
- » Underground cable has a shorter life expectancy than overhead wire, mainly because of water and

animal intrusion, as well as insulation degradation

Source: Shaw Consultants International Inc.

"You can argue until the cows come home which is best -- underground or overhead," said Pepco spokesman David Morehead.

Virginia and Maryland have studied the issue as well, both finding it an expensive endeavor. A 2005 report from the Virginia State Corporation Commission said the cost to place wires underground would run more than \$80 billion, or \$3,000 per customer.

One argument supporting buried power lines is that they help reduce power outages during storms that knock over trees. And many people think neighborhoods look nicer without black wires draped across them, said Jim Owen, a spokesman for the Edison Electric Institute, a trade group for electric companies.

But burying existing lines is not a panacea, said Betty Ann Kane, chairwoman of the D.C. Public Service Commission.

"It is expensive," said Kane, who pointed out that downtown Washington's power lines are underground. "While it reduces the outages, when it comes time to repair the outage, it will almost double the amount of time it takes to fix."

And the cables can deteriorate from melting snow, which gets underground, she said.

"It can help in some situations, and it's very expensive," she said. "And it's not foolproof -- all of downtown [D.C.] is underground, and yet we do get power failures downtown -- transformers go, cables deteriorate."

Downed overhead lines are easier to spot than damaged underground lines, said Morehead, and heavy rain, wind and snow can lead to corrosion and deterioration that can damage underground lines.

Many of the houses without power this week were in neighborhoods with underground lines, demonstrating that having lines underground doesn't matter when a power station or substation blows, or if major aboveground feeder or supply lines for the underground wires go down.

An option is trimming back trees -- but in lush Montgomery County, "no one's particularly keen for those to be cut back," Owen said.

"We love our trees, and prize our trees," Kane said.

Pepco in October will begin to install meters that are read every 15 minutes, which should help, Kane said. Currently Pepco does not know a customer's power is out unless the company receives a call.

"I think people assume that the company knows their power's out," she said. "This will greatly improve the ability to respond to outages."

Regardless of future plans, the existing system wasn't working for people like Jill Brown of Kensington. Pepco told her Tuesday afternoon that the power would be back by 11:30 p.m., but by Wednesday morning that estimate had changed to "by Friday," she wrote in an e-mail.

*Examiner Staff Writers Brian Hughes and Hayley Peterson contributed to this report.*

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