

As A Historic Power Failure Continues, Houston Must Make Its Electricity Lines More Resistant To Storms

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The winds of Hurricane Ike inflicted minor structural damage on buildings in the Houston metropolitan area, but trees toppled by the storm smashed homes and severed power lines, leaving millions in the dark. In the storm's aftermath, residents justifiably question whether more can't be done to secure the electrical grid.

The first solution that many people suggest is burying power lines to get them out of the reach of high winds and falling trees. Unfortunately, the cost of replacing existing overhead lines is prohibitive, especially in an urban environment. In 2004 the Kirby Coalition looked at the undergrounding option for improving the appearance of the street during a \$40 million storm sewer project, but eventually rejected it because of the price tag. (Plans call for burying the utilities along Upper Kirby as part of a road-widening and flood control project.)

After a December ice storm in Oklahoma knocked out power to 600,000 customers, a state commission launched a study to determine the feasibility of burying electrical lines. It concluded that the cost would be \$57 billion, or about \$16,664 per Oklahoman. A Virginia study estimated the annual cost of a statewide effort would be \$3,500 per customer.

A 2006 survey by the Edison Electric Institute, an electric industry association, found that burying overhead lines costs about \$1 million per mile, or 10 times the cost of traditional pole wires. While the underground systems were more reliable, when they did fail, primarily due to flooding, the duration of the outages was much longer due to the inaccessibility of the lines.

The report concluded that "while communities and individuals continue to push for undergrounding — particularly after extended power outages caused by major storms — the reliability benefits that would result are uncertain, and there appears to be little economic justification or customer support for paying the required premiums."

There are alternative recommendations in the Oklahoma study that Houston officials should seriously consider as requirements for companies operating electrical distribution systems in the area.

Some are obvious, like extensive and frequent trimming of vegetation around lines and the replacement of wood poles with higher-strength concrete or metal.

Undergrounding is recommended for new lateral distribution lines and those in neighborhoods where most customers are willing to accept the added expense.

Utilities should be required to put lines underground when relocating for major road projects. The study also recommends incentives to encourage residents to buy backup generators and require their presence in specified service facilities.

Houston City Controller Annise Parker agrees that burying existing lines is impractical, “but certainly anything that is being built should be put underground.” She also suggests that certain critical nodes in the grid should be buried or hardened in some other fashion to facilitate power restoration.

The University of Florida is part of the Hurricane Hardening Project, a collaboration with utility companies to determine the impact of hurricane winds on underground and above ground lines, and look for the best methods to reduce outages and speed the restoration of service. Mark Jamison, director of the school’s Public Utility Research Center, said that the study findings will allow policymakers to make informed choices.

Houston and Harris County officials should consider commissioning a similar report, perhaps working with local university researchers, to study all options for minimizing electrical disruption in a future hurricane. It should include a review of CenterPoint’s maintenance practices and those of other transmission companies, as well as new technology that could create a more storm-resistant grid.

We’ve all learned in the past week that it’s no fun being in the dark. Our elected representatives should do everything possible to shine a light on the problem and come up with workable solutions.