



Serving the counties of District 2: Fannin, Delta, Hunt, Hopkins, Rains, Rockwall, Kaufman, Van Zandt, and part of Dallas County

CenterPoint Houston: EMP preparedness.

Ever since I was elected to the Senate, I have been working to inform other legislators of the need to harden the electric grid and to increase grid resiliency. It has been slow going. Each session, the bills I file that would require measures be taken to protect Texans from an electromagnetic pulse (EMP) strike fail to cross the finish line.

The power company lobby has repeatedly used costs as the number one rebuttal to the pleas for a hardened grid, with some touting estimates that it would cost upwards of \$2 million per substation. Lobbyists and electric companies were often in agreement that it would cost too much, and, unfortunately for the people, they held enough sway over a majority of legislators to keep any meaningful legislation from passing.

However, CenterPoint Energy, a utility company in Houston, TX, has busted the myth of excessive cost. They have taken the lead in developing and implementing new technologies to harden their substations and control center for a fraction of the predicted cost. On a recent visit, I was encouraged to see the market finally taking steps to protect the consumers, without legislation mandating it, all while maintaining profitability.

CenterPoint has patented a unique, EMP-hardened digital substation, at 25% of the cost of a traditionally constructed substation. This model can be used in new substations and also to retrofit existing substations, opening new possibilities in the quest to harden our electric grid.

The system is currently in its third year of service and is being run concurrently with parallel operations, thereby eliminating any operational risks while the operations tests are ongoing. This EMP protected substation utilizes fiber optic cables, which are resistant to EMPs, and power cables running between the control house and the module are shielded and grounded. Power is also filtered through an EMP filter prior to entering the module. The performance data demonstrates the effectiveness of this technology.

While it is exciting to see progress being made, we have to remember that this specific breakthrough is currently only being used in a limited capacity. I am hopeful that the data proves that this will be an effective tool to further harden our grid and that additional energy companies will take the initiative to implement measures to protect the lives of Texans, while there is still time.

Some additional studies need to be conducted to determine what the economic impact of an EMP attack would be and what measures can be taken to protect the most valuable aspects of our everyday lives, such as the water supply and infrastructure, medical equipment, emergency services, banking, household electronics, and automobiles.

While there is still much to do before our grid is prepared to withstand an EMP attack, I am excited to see that progress is being made.

Now that we know that the technology, at a reasonable cost, exists to protect the Texas electrical grid from both man-made and natural threats, the only thing preventing implementation is the will to do it.

