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Electrical infrastructure faces crisis, experts say

By Edward Marshall / Journal Staff Writer

SHEPHERDSTOWN - Experts said this week that the infrastructure that provides electricity to homes and businesses throughout the country is nearing the breaking point because of increased energy demands - and it remains vulnerable to cyber and terrorist attacks.

That's part of the nation's grim electrical picture according to industry and homeland security experts who gathered Wednesday at a forum in Shepherdstown to discuss the need for an improved electric transmission infrastructure system in West Virginia and the Mid-Atlantic region. The forum was sponsored by West Virginians for Reliable Power, and it included Daniel Larcamp, spokesperson for the Edison Electrical Institute. Larcamp previously served as chief of staff for the Federal Energy Regulatory Commission.

"The fact is that the United States has a growing appetite for electricity, and we've done very little about that for several decades ..." Larcamp said. "I don't want to be an alarmist here, but the window within which we can act to maintain reliable power supplies is getting to be tighter and tighter."

In the last 10 years, the Eastern Panhandle has seen the summer peak demand for electricity grow by about 4.1 percent, four times the statewide average, he said. In the winter, demand has grown more than 6 percent per year. If that growth continues, it would require the region's electrical infrastructure to be doubled in size every 10 years, according to Larcamp.

The Panhandle has also seen more than 4,200 new commercial connections, 450 new industrial connections and more than 23,000 new residential connections to the network in the past 10 years.

"If we want to continue to meet our current and future electricity requirements reliably, we've got to expand our electricity infrastructure," Larcamp said.

William Brier, vice president of policy and public affairs for EEI, said people have to understand that the nation is not just facing a gasoline crisis, but a full-fledged energy crisis.

The growing demand for electricity is one of the most fundamental issues facing the nation today, Brier said. Government estimates speculate that the country will see a 30 percent increase in the demand over the next few decades.

"I think it's important to understand that we're all part of the problem and we're also, I think, part of the solution," he said.

Many of the uses of electricity, particularly in the home, didn't exist 30, 20 or even 10 years ago, he said. The average home today uses 60 percent more electricity than three decades ago. Just two standard cable set top boxes, for example, use the same amount of electricity as a refrigerator.

"The biggest issue that we face in addition to trying to build this infrastructure is the rising cost of doing it," Brier said.

The same power plant built in 2000 would cost twice as much if it's built in 2008, he added, and the increased costs will ultimately have to be absorbed by consumers.

West Virginia is on part of the grid that is run by PJM Interconnections, and the grid spans 13 states including the District of Columbia.

"We're finding as PJM does their long-term studies that that need for reinforcement of the grid is something that is pretty much universal across major portions of this area," said PJM spokesperson Robert Hinkle.

The lines within the system currently operate very close to their limits, Hinkle added. In three to five years, these lines are expected to no longer be able to both meet demand and still carry the levels of energy required to be reliable.

PJM has determined that major transmission expansions are needed to resolve numerous reliability concerns in the coming years.

The energy crisis also presents a threat to both national and homeland security. Bruce deGrazia, president of Global Homeland Security Advisors and former assistant deputy undersecretary for the Department of Defense, said the need for reliable energy has been an issue since the late 1990s.

"The Department of Defense is the world's largest bureaucracy. It is also the largest U.S. user of energy," deGrazia said.

Last year alone, the department spent more than \$4 billion on energy costs. Right now, deGrazia said, the nation's defense facilities face an unacceptable risk for an extended power loss. Everything from command and control, intelligence and strategic defense depend on the grid.

The August 2003 blackout is one example where national security was compromised, deGrazia said. The grid also faces threats from attacks and natural disasters.

"The grid is an easy target," deGrazia said. "What's the bottom line here? The grid is brittle, it is centralized. We all know here the capacity is strained, and it's largely unprotected from physical attack," deGrazia said.

More information is available from the Coalition for Reliable Power at <http://forreliablepower.org>.

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