

The Safety of Our Grid

When power outage occurs, ARES is most likely called to the front line. ARES has assisted power outages in WILCO in 2021 and a few months ago in Fall County.

Therefore, we talk often of our grid, especially after Winter Storm Uri in February 2021 that left the energy independent Texas periodically in the dark during roll-outs. Since then, Texans have been thinking more often about the grid and what could cause it to collapse, like wicked weather, a cyberattack, or even a dreadful solar CME or manmade EMP attack.

Although I knew that renewable energy supplies were part of the problem in Texas in 2021, little I knew until a couple of weeks ago, to what extent the clean energy from solar can cause the grid to fail. And if that is not enough, our grid may suffer failure from an evil act as simple as the pushing of a button. This training is the summary mainly of two articles, one sent by our own WB5YYQ, taken from Technology.org, and another that echoed it a few days later from the Epoch Times.

First, here is the danger of entrusting our grid to solar power.

Transmission grid operators have to very carefully match supply and demand on the electric grid at all moments. If you have too much electricity on the grid, you can blow out transformers, and that can lead to a whole set of bad consequences. If there's too little energy on the wires, then you get the depowering and the blackout, and possibly the entire collapse of the electrical grid, like we almost experienced in 2021 (we were 4.5 minutes away) and saw in Spain a few weeks ago.

It all revolves around inertia, the energy stored in large rotating generators and some industrial motors, which gives them the tendency to remain rotating. This stored energy can be particularly valuable when a large power plant fails, as it can temporarily make up for the power lost from the failed generator, reducing the fluctuations of energy in the grid.

With a traditional power plant that's creating steam or hot air to power turbines that spin, there's a lot of built-in inertia in those machines so that you're not going to get those huge fluctuations of electricity on the grid. Alternative power supply like solar and wind, however, do not provide inertia.

In Spain at the moment of the blackout, they had this very high amount of solar energy, 59%, on the system. Running with very little inertia, in a span of just five minutes, between 1230 and 1235 on April 29 local time (1030-1035 GMT), the solar PV generation plunged by more than 50% to 8 gigawatts (GW) from more than 18 GW causing the blackout.

In Texas, in 2023, per comparison, wind and solar energy produced 31% of the state's electricity, according to Environment Texas. And solar farms keep increasing, making us also further

susceptible to lack of inertia to stabilize difference in power going down the wires. ... what could go wrong, and when?

But there is another even more serious problem with solar energy.

China, that manufactures virtually all inverters and solar panels in both the United States and Europe, has been installing cellular radios inside the inverters, which can act as kill switches.

On November 14, 2024, Chinese company Deye remotely disabled a large number of its branded inverters sold in the United States, leaving many homeowners with inoperable solar systems. Sending a little message, without warning, to its users on the monitor the Chinese explained, "We've turned this off because these solar panels are only authorized to be used in certain countries. They can't be used in Pakistan, the United States, and a few other countries." ... Nice.

The Chinese government has made clear that the solar panel companies are an extension of the military. Being able to deactivate the panel, they can cause our grid to fail. Both the United States and Europe can go dark in a blink of an eye.

Chinese justify the presence of these cellular radios to provide information on how to manage the grid, and there is benefit to that, maybe because of the so many inverters necessary to make it all work.

Generally, utilities install firewalls to block direct communications with China. However, U.S. experts who analyze grid-connected equipment have identified unauthorized communications component not documented in product specifications including cellular radios in batteries. These components are capable of circumventing security firewalls remotely.

The fact that these devices can kill the inverters on a moment notice presents a potential catastrophic mass grid failure.

Our Dept. of Energy is aware of the problem and say they are working to address the issue.

As US-China tensions are rising, Western governments, including ours, are finally reconsidering China's role in strategic infrastructure. Utilities are also considering restrictions on inverter manufacturers with some reaching out to alternative suppliers. Florida and Power Light Co. is actively minimizing reliance on the Chinese inverters.

Chinese solar panels and equipment have entered in mass the Western world markets because of their cheap costs due to coerced labor and subsidies. And they do this not only for solar panels, but for drones, critical military technology, and telecom, like Huawei, known for the 5G controversy.

By the number, Europe has 200 gigawatt of solar power capacity connected to inverters made in China, and it would be enough to control 3 or 4 gigawatt to cause widespread disruption to European electricity supplies. Some European nations have passed legislation blocking remote Chinese access to solar, wind, and battery installations above 100 Kilowatt.

In Texas we should have approximately 24 GW by the end of 2025 and in the whole Country we have 239 GW.

NATO has acknowledged that China's efforts to control member states' critical infrastructure, including inverters, are intensifying. The alliance emphasizes the urgent need to identify strategic dependencies and take steps to reduce them as renewable energy reliance grows.

This is KD5BJ with tonight's training, back to net.

Hidden Communication Devices in Chinese Power Inverters Spark Security Alarm
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Posted May 14, 2025 on Technology.org
Written by Alius Noreika

And

Michael Shellenberger: How China Gained Control of Solar—And Why It Matters
The Epoch Times - American Thoughtful Leaders.

[Reuter Iberian Power Outage](#)

environmentamerica.org

[Sol-Ark Deye Dispute](#)