

Cyber Attack on the Smart Grid

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It is no hidden secret that Power Grids are one of the most complex systems that have been engineered, making it a modern marvel. After decades since its invention, there has been a dire need to bring an update to the Power Grid Systems. It has to operate in a new and efficient manner that meets the power demands of the consumer and provide resources to see how operations are. With these new developments comes new concerns and threats to our power systems.

Our group endeavored on making such a device. We developed a Smart Grid using Open Source software packages and operated with a demo neighborhood set up which consumes electricity. We built a (set up in the demo neighborhood to sense the electricity) sensing mechanism to monitor power consumption of each unit in the demo and generate statistical data. We also provided a graphical user interface for customers to use conveniently. Our Smart Grid also is capable of being remote controlled by an external computer.

Lastly, by virtue of the Smart Grid being on a network, there will be hack attacks that will compromise its operations. We implemented a Denial of Service Attack, clogging the network in which the Smart Grid is connected to and freezing its operations and seeing other potential consequences.