

Assignment: Information Security

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Objectives of this assignment

- To provide students with an opportunity to apply the cyber security definitions introduced in the lectures to a power grid application.
- To provide students with an opportunity to use the research resources.

Please note that this is an *individual* project and each person can talk to others, but must ultimately do their own paper selection, reading and write their own assignment report.

Questions

1. For this assignment you must select a recent paper (within the last five years) on the topic of cyber security of the smart grid. There are many articles you can find. For example, the following recent special issues have a variety of papers on the topic:

IEEE Power and Energy Magazine Special Issue on Cybersecurity for Electric Systems, vol. 10, no. 1, Jan.-Feb. 2012.

Proceedings of the IEEE, Special Issue on Cyber-Physical Systems, vol. 100, no. 1, January 2012.

- In the lectures, we defined vulnerability, cyber attack, threat and countermeasure. Based on the paper you have read, please specify a scenario of attack that you think may be possible to apply to some component of the smart grid. In your discussion you must specify (i) a **vulnerability**, (ii) a **cyber attack**, (iii) a **threat**, and (iv) a **possible countermeasure**. Be creative. This question is trying to get you thinking in terms of “security”.
2. Using the same paper, discuss and justify which security objectives within the C-I-A framework is being addressed. It may be more than one.