

# SEL VSC FAULT DETECTION

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## Transcript

The objective of this senior design project is to design and simulate a power system protection scheme that uses voltage measurements from different locations in or near a wind farm to determine fault locations in these networks that have inverter based resources. The dominant generation is either a type 4 wind turbine or a type 3 wind turbine. However, traditional methods for detecting faults in type 3 and type 4 wind turbines do not work because these wind turbines have more complex fault current characteristics. This new design will be built off an existing model in Real Time Digital Simulator (RTDS) designed by Shashidhar Reddy Sathu.

## Specifications

Generally short circuit tests are done to determine the settings for protection schemes of the part of the power system that is under study, however, the exact specifications will be determined throughout the course of the project. The project will mostly be research to get familiarized with the simulator tools as well as designing a new method to determine fault locations in a power system. Some additional specifications will be operating ranges of voltage, frequency, and power for each type of wind turbine.