Lab 2: Power Flow Calculations

ECE 433 – Power Systems Stability and Transients

# Pre-lab Questions

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| **Name** | **Student ID** | **CCID** | **Lab Section** |
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## Questions

1. What does power-flow or load-flow study refer to?
2. List the types of the buses that are specified in the formulation of power-flow analysis and explain the characteristics of each bus type.
3. A 14-bus system has five generator units. List the number of unknown voltage variables to be solved for in a power-flow study.
4. In power-flow calculations, what are the possible quantities that describe a bus in a power system?
5. What are the advantages (list two) of using the per-unit system in power-flow analysis?
6. Can a power-flow study be performed by using the real-unit system to do the power-flow calculations? Explain?
7. If the reactive power consumption for a load bus is increased, which quantity would be more susceptible to this change; voltage angle or voltage magnitude? Why?
8. List three methods to increase the voltage of a particular bus in a power system.