

IEEE POWER CASE COMPETITION

M A R C H 2 0 1 8

WHAT?

IEEE UNIVERSITY OF TORONTO IS HOSTING A POWER CASE COMPETITION WHICH WILL...

- ◆ *Promote and support* Power and Engineering for students to pursue their interests in power system design
- ◆ *Share professional knowledge*, and generate ideas to solve and/or improve modern electricity dispatch systems

For the competition, the students are given a power system and are expected to optimally dispatch the system for 24 hours. Each generator being dispatched has an associated cost and environmental footprint. The student groups are expected to minimize the cost and environmental footprint of the system, while satisfying transmission line constraints.

The system includes generation resource types such as Solar, Wind, Coal, Nuclear and Hydro. Each have their own cost profiles/curves and environmental footprints.

During the competition, the students are allowed to submit their dispatch plans in an excel file to the organizers. The organizers will run the simulation of the system to solve for the system parameters and provide feedback to the student groups about their constraints (whether they're violated) as well as their total cost and environmental footprint.

WHO?

- ◆ Geared towards 1st, 2nd, and 3rd year undergraduate university students
- ◆ Students to apply their entry-level energy/power knowledge to get a sense of how electricity operators control power systems.

WHY?

One of the more recent changes in the electrical utility industry is the shift towards renewable sources of generation. Growing environmental concerns, implementation of "green" policies, and increases in distributed generation will heighten the complexity of electrical power dispatching.

- ◆ To expose students to dispatch modelling of power generation systems
- ◆ To promote and support power and energy engineering for students to pursue their interests in power system design
- ◆ To create opportunities for participants to tackle real-life engineering problems and develop an intuition for technical problem solving

How?

THROUGH THE METICULOUS PLANNING OF THE STUDENTS AND COLLABORATION WITH SPONSORS.

WHY COLLABORATE?

Organizers may broaden their own network, reach out to a wider audience, and obtain new members. We are seeking your input and support to make this event a success, whether it is through funding, expertise (through speakers and/or judges), or volunteers. We are also seeking your suggestions regarding technical design and logistical details. We are looking forward to collaborating on this competition with you!