

# Avista Microgrid Automatic Generator Controller

Presented by

Caution: Large Load

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## Problem Statement:

The Avista Microgrid Automatic Generator Controller is a project based around designing a controller to regulate and control two hydro-generator units on the Spokane River in a micro-grid operation. The problem occurs when attempting to operate both generators in a safe manner in response to changes in system load.

## Problem Objective:

It was the goal of this project team to design, simulate and validate a model of the entire hydro system to later be the subject of an automatic generator controller.



Ian King, Conner Warner, Gigi Young, Dr. Herbert Hess (left to right)

## Model:

To the right is a Simulink model of both the Monroe Street and Upper Falls hydro-generating units on the Spokane River.

## Validation:

The model was validated in steady-state conditions by comparing the power output of a given system condition with the power output of an ATP file developed by Mohammed Allehyani for his Master's Thesis.

## Results:

Constructed a model which describes a steady state behavior of both hydro-generator units with an applied load within the micro-grid. The outputs correspond with the output of our contrasted file.

