

# EE 491 Weekly Report **MAY 15-08** Week 9 (10/28/14-11/1/14)

**Advisors:** Dr. McCalley      **Client:** US DOE/National Renewable Energy Laboratory

## **Members (roles):**

Alex Tillema - Team Leader

Kyle Kraus- Team Webmaster

Nick Jones- Team Communication

Jared Ward- Key Concept

Josh Martinson- Key Concept

Mohammed Aldaheri- Research

**Project Title: Hydropower Vision**

## **Weekly Summary**

The goal of last week was to begin work on the design document and start work on the group presentations

## **Meeting notes:**

**10/30 Group Meeting**

### **Duration:**

*1 hour*

### **Members Present:**

Alex Tillema- Team Leader

Nick Jones - Team Communication

Mohammed Aldaheri- Research

### **Purpose and Goals:**

The purpose of this meeting was to discuss with Dr. McCalley updates on the project and to obtain a working model of the power system that we can use to model future hydro generation additions in the Manitoba Region.

### **Achievements:**

The meeting was very interesting and a great discussion was had on a diverse portfolio. Specifically, the Manitoba region currently receives around 95% of its power from hydro. It is common knowledge that most utilities prefer to have a diverse portfolio to weather price volatility of fuel. However, in the case of the Manitoba region because they are already so heavily hedged into hydropower adding additional hydro will not be harmful. In fact, one of the main reasons developing hydropower in the Manitoba region looks beneficial is because of the lack of drought. However, a great concern is previous hydro plants in the Manitoba region failing to be economical because of export energy prices to the United States. Dr. McCalley also determined that we will be using a 13 bus model of the United States to use for our hydro generation model.

## **Pending issues**

Why are the only hydropower plants being looked at in the Manitoba region in the northern part of the province? Is there any opportunity in the south? Alex Tillema will research

## **Plans for next week**

Alex Tillema-Will research why there is no hydropower plants being looked at in the southern part of the Manitoba Province

Kyle Kraus- Will research and bring to next meeting likely non-hydro generation expansion in the Manitoba Hydro region

Nick Jones- 90% completion on group presentation.

Jared Ward- Will research and bring to the next group meeting current load data in Manitoba Hydro region so the group can look at export capacity for new transmission line construction

Josh Martinson-Will research and bring to next group meeting likely non-hydro generation expansion in the MISO region

Mohammed Aldaheri-Will start training on Plexos

## **Individual Contributions (this week)**

Alex Tillema-Attended meeting, finished design document (4)

Kyle Kraus- Aided in design document (3 hr)

Nick Jones-Attended meeting, researched cost model, and wrote weekly report (4)

Jared Ward- Aided in design document (3 hr)

Josh Martinson - Continued training on PLEXOS, attended meeting (4 hr)

Mohammed Aldaheri-Attended meeting, continued research on wind forecasting (4 hr)

## **Total contributions for the project**

Alex Tillema (27.5 hr)

Kyle Kraus (21.5 hr)

Nick Jones (25.5 hr)

Jared Ward (24.25 hr)

Mohammed Aldaheri (25.25 hr)

Josh Martinson (24.5 hr)