

EE 491 Weekly Report MAY 15-08 Week 5 (9/22/14-9/28/14)

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 this week was to meet with Dr. McCalley to choose a location we think would be best for the implementation of hydro generation.

Meeting notes:

9/25 Meeting with Dr. McCalley

Duration:

1 hour

Members Present:

Alex Tillema- Team Leader

Kyle Kraus- Team Webmaster

Nick Jones - Team Communication

Jared Ward- Key Concept

Josh Matinson-Key Concept

Mohammed Aldaheri- Research

Purpose and Goals:

The purpose of this meeting was to get together with Dr. McCalley and discuss the results of our research with him so he could aid us in our decision on where the best location for hydro generation would be. The goal of the meeting was to select the best location as well as a overview by Dr. McCalley on the software that we will be using to model the hydro facility in the grid.

Achievements:

It appeared that Missouri and Pennsylvania were comparable in implementing hydropower in their markets, MISO and PJM respectively. Dr. McCalley leaned heavily on choosing Missouri because it is in the Midwest and would benefit the growing wind generation that is being installed. He also urged us to look into Canada as well. Dr. McCalley then gave an overview of the software that we will be using to model the hydro facility, PLEXUS.

Pending issues

What model of the United States will be using when the team models the hydro facility in PLEXUS? This issue will be decided upon at the next meeting with Dr. McCalley.

What are the differences in construction cost of a hydro plant in Pennsylvania vs Missouri? Mohammed Aldaheri and Nick Jones will research this issue.

Plans for next week

Alex Tillema-Will finish and submit project plan

Kyle Kraus- Will continue building the website

Nick Jones-Will continue researching construction cost of hydro plants for entrance into competitive energy market

Jared Ward-Will support in writing of the project plan

Josh Martinson-Will support in writing of the project plan

Mohammed Aldaheri-Will begin research on system models of MISO and PJM markets

Individual Contributions (this week)

Alex Tillema-Attended meeting, worked on writing project plan
(3 hr)

Kyle Kraus- Attended meeting, worked on website (3 hr)

Nick Jones-Attended meeting, performed research on economics of hydro generation, wrote weekly report (3 hr)

Jared Ward- Attended meeting, assisted on project plan (3 hr)

Josh Matinson- Attended meeting, assisted on project plan (3 hr)

Mohammed Aldaheri-Attended the meeting, performed research on simulation methodology on hydro storage (4 hr)

Total contributions for the project

Alex Tillema (10.5 hr)

Kyle Kraus (10 hr)

Nick Jones (11 hr)

Jared Ward (9.75 hr)

Mohammed Aldaheri (8.25 hr)

Josh Martinson (9 hr)