

**Group number:** Dec1702B**Project title:** Re-Conductor or New Construction Transmission Line**Client:** Musctine Power and Water**Advisor:** Anne Kimber**Team Members & Role:**

1. Bob Cohoon (Team Leader)
2. Abdelmagieed Ibrahim (Kay Concept Holder)
3. Jinan Li (Web Master)
4. Chang Sun (Communication Leader)

### **Weekly Summary**

During this week, we have divided the jobs for every member in our team. Each member were doing research on one type of conductor. Since choosing conductor type is the most important step for our project, we planned to use the full week to do research, collect parameters from different sellers and detailed calculation for each types of conductors.

We also held a group meeting to finalize the process of developing the construction plan. With the agreement of all members, we put the last two steps, composing the plan document and selecting the route of Line 98 into the fall semester.

### **Past week accomplishments**

**Robert Cohoon:**

- Did research on T<sub>2</sub> conductor
- Did calculations for T<sub>2</sub>

**Abdelmagieed Ibrahim:**

- Did research for AAAC type of conductor from sellers
- Did systematic calculations for AAAC

**Jinan Li:**

- Did research for ACSR type of conductor from sellers
- Did systematic calculations for ACSR

**Chang Sun:**

- Did research for ACSS type of conductor from sellers
- Did systematic calculations for ACSS
- Added new materials for the 2<sup>nd</sup> version of project plan

### **Pending issues**

The client may change the starting point of Line 98 for our project (Since there are about 2 miles of transmission line would be underground, we are only taking charging of the overhead part)

The T2 type of conductor has different names at different sellers, we need to confirm the parameters of T2 conductor with our client since they would like to use it more than other types of conductors.

**Bob Cohoon:** NA

**Abdelmagieed Ibrahim:** NA

**Jinan Li:** NA

**Chang Sun:** Sending email to the client to confirm the issues above

### **Individual contributions**

<b><u>NAME</u></b>	<b><u>Individual Contributions</u></b>	<b><u>Hours this week</u></b>	<b><u>Hours cumulative</u></b>
Robert Cohoon	Research on T2 conductors	10	40
Abdelmagieed Ibrahim	Attend group meeting; Did research on AAAC conductors	15	71
Jinan Li	Attend group meeting; Did research on ACSR conductors	15	55
Chang Sun	Attend group meeting; Did research on ACSS conductors	16	65

### **Comments and extended discussion**

During the group meeting, we have developed a list of parameters to be collected and calculated for every type of conductors:

- Ampacity
- Line impedance
- Short circuit
- Positive sequence
- Price
- Galloping/Aeolian vibration
- Sag under heat
- Diameters
- Graph
- Equations
- Calculation

### **Plan for coming week**

- **Robert Cohoon:**
  - Keeping up with the team
  - Do research and calculation for T2 conductor
- **Abdelmagieed Ibrahim:**
  - Do calculation for AAAC conductor
  - Research on double underbuilt circuits
  - Work on the table of different types of conductors

- **Jinan Li:**
  - Research on ACSR conductor from different sellers
  - Do calculation for ACSR conductor
  - Develop a form on different types of poles
- **Chang Sun:**
  - Finish organizing the 2<sup>nd</sup> version of project plan
  - Research on ACSS conductor from sellers
  - Do calculation of ACSS conductor

**Summary of weekly advisor meeting**

For this week, our advisor Anne is not available for our regular meeting time, hence we did not have any advisor meeting. But our team met each other and discussed about the further movement of the project.

We have identified every member's duty for the coming week and confirmed the process of developing a formal construction plan for Line 98:

- From our client, we knew it is more on new construction of Line 98 than re-conductor since we are going to use new poles and design new route for it.
- The procedure of developing the construction plan would be:

- |  |   |               |
|--|---|---------------|
| <ul style="list-style-type: none"> <li>• Types of conductors</li> <li>• Five types of poles</li> <li>• Double underbuilt circuits</li> </ul> | } | This semester |
| <ul style="list-style-type: none"> <li>• Design of route</li> <li>• Compose of construction plan</li> </ul>                                  | } | Next semester |