EE 491 WEEKLY REPORT **Date: 04/03/2017**

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 exchange the parameters of different types of conductors and filled the table.

Past week accomplishments

Robert Cohoon:
- Did research on T_2 conductor
- Did calculations for T_2

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

Pending issues

Bob Cohoon: NA

Abdelmagieed Ibrahim: NA

Jinan Li: NA

Chang Sun: NA

Individual contributions

NAME	Individual Contributions	Hours this week	Hours cumulative
Robert Cohoon	Research on T2 conductors	20	60
Abdelmagieed Ibrahim	Attend group meeting; Did research on AAAC conductors	12	83
Jinan Li	Attend group meeting; Did research on ACSR conductors	10	65
Chang Sun	Attend group meeting; Did research on ACSS conductors	10	80

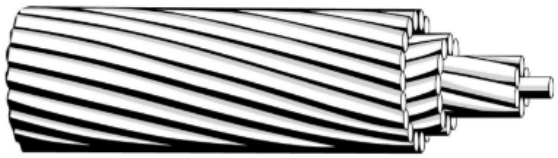
Comments and extended discussion

AAAC:

Conductor Data

Code Word	Size (KCMIL)	Stranding	Diameter (ins.)		Weight Per 1000 Feet (lbs.)	Rated Strength (lbs.)	Resistance OHMS/1000ft.		Allowable Ampacity+ (Amps)	ACSR With Equivalent Diameter	
			Individual Wires	Complete Cable			DC @ 20°C	AC @ 75°C		Size	Stranding (Al/Stl)
Flint	740.8	37	.1415	.9900	690.8	24400	.0272	.0327	790	636.0	26/7

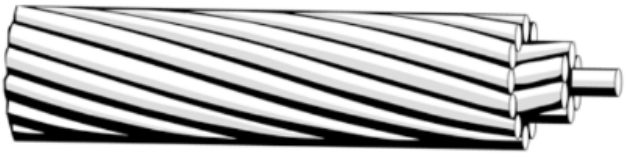
ACSR:



Conductor Data

Code Word	Size (AWG or KCMIL)	Stranding (Al/Stl)	Diameter (inches)			Weight Per 1000ft (lbs.)			Rated Strength (lbs.)	Resistance OHMS/1000ft.		Allowable Ampacity+ (Amps)
			AL	Steel	Complete Cable	AL	Steel	Total		DC @ 20°C	AC @ 75°C	
Kingbird	636.0	18/1	.1880	.1880	.9400	597.2	93.6	690.8	15700	.0270	.0332	773
Swift	636.0	36/1	.1329	.1329	.9300	596.0	47.0	643.0	13690	.0271	.0334	769
Rook	636.0	24/7	.1628	.1085	.9770	600.0	219.2	819.2	22600	.0268	.0330	784

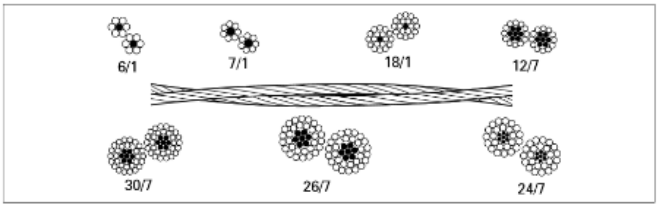
ACSS:



Conductor Data

Code Word	Size (KCMIL)	Stranding	Diameter (ins.)		Weight Per 1000 Feet (lbs.)	Rated Strength (lbs.)	Resistance OHMS/1000ft.		Ampacity at 200C
			Individual Wires	Complete Cable			DC @ 20°C	AC @ 75°C	
Partridge	266.8	26/7	0.2363	0.642	366.8	8880	0.0619	0.0761	812
Junco	266.8	30/7	0.2829	0.660	417.4	11700	0.0615	0.0756	822

T2:



Conductor Data

Code Word	Size (KCMIL)	Stranding	Diameter (ins.)	Weight Per 1000 Feet (lbs.)	Rated Strength (lbs.)	Resistance OHMS/1000ft.		Ampacity at 75 C
Ostrich	600		1.114	825	24400	.0283	.0348	790
Merlin	672		1.119	730	17400	0.0255	.0315	830

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:**
  - 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 printed out the exact satellite map of our transmission line and discussed the pole distribution along the route. Since that there is about 1 mile of transmission line along the stream (shown in the yellow square on the picture), the poles are supposed to set in the bushes and muddy area. We were discussing to change a route for that part.