

**Instructors**: Dr. Hooker Dr. McConomy **Advisor**:

# Team 310 Robotic Lineworker

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## Project Background

Dr. Roberts

Florida Power & Light (FPL) is the largest energy company in the United States with upwards of 5 million customer accounts across the state.

Bureau of Labor Statistics (BLS) reports that electrical power line installers are among the Top 10 most dangerous jobs in terms of fatal injuries each year



BLS reports that most line worker injuries are due to overexertion

### **Mission Critical Criteria**

Voltage threshold of 17 kV

Allow for 60 feet of space between on-site line workers and energized components

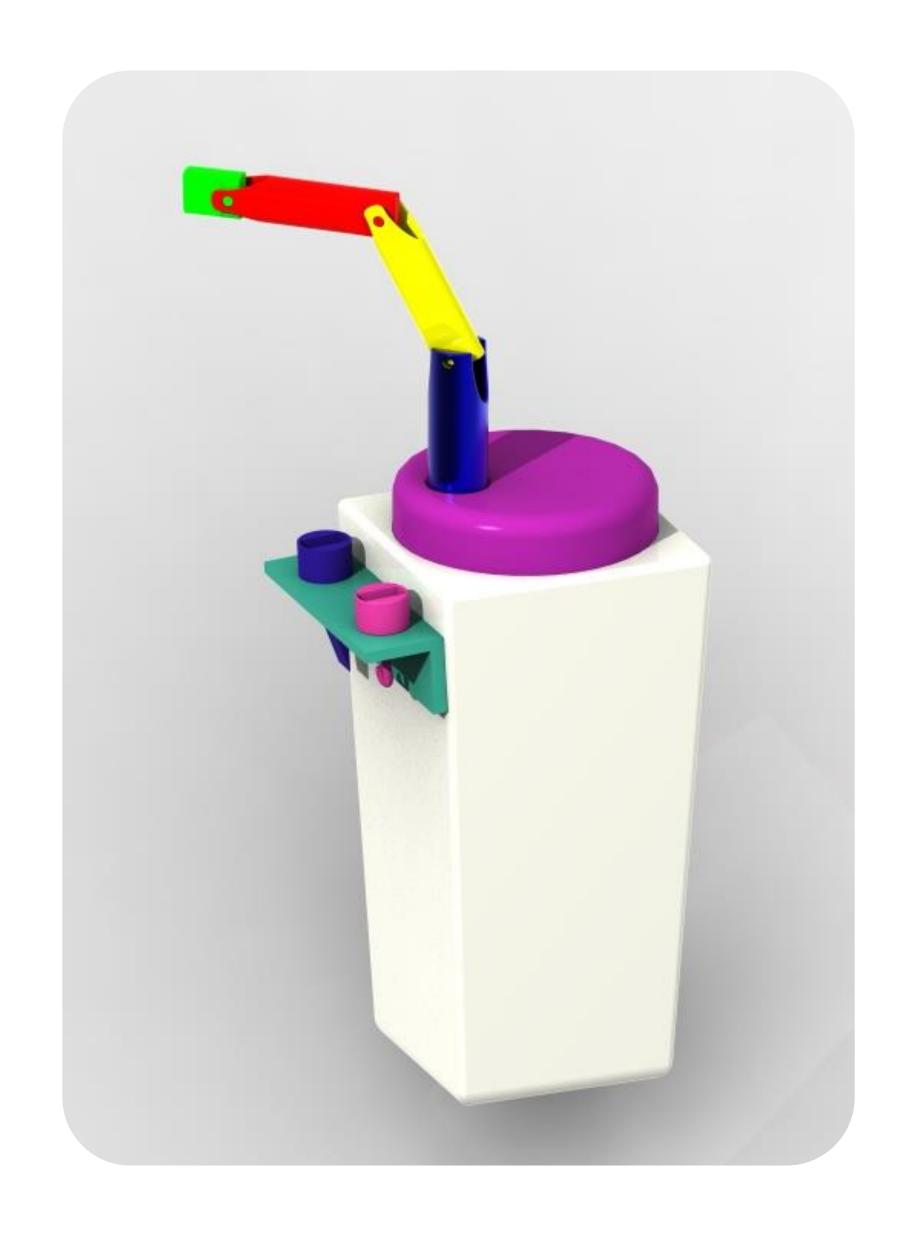
Perform up to six (6) degrees of motion during operation

Adhere to all relevant FPL company standards

### **Mission Statement**

"Our team is determined to develop a solution for Florida Power & Light that aids in the performance of routine installation and repair on distribution power lines while increasing operator safety."

## **Proposed Design**



### **Spring 2020 Timeline**

#### January:

Finish Prototype Begin Semi Operational Model

#### February:

Finish Semi Operational Model Complete Team Web Design

#### March:

Finish Working Model Design Testing/Benchmarking Engineering Design Day Preparation

#### April:

Engineering Design Day FPL Quality Exposition

## Design Specifications

- Device will drop into existing boom truck bucket.
- Modular attachments are in reach of the arm.
- Motors and other components will be housed in the main body.

### **Additional Resources**

- Center for Advanced Power Systems
- 5-Megawatt Testing Facility
- FPL Lake City Team