The purpose of this project is to address areas of safety, Work In Progress, ergonomics, and maintenance, for Commercial Metal Forming.

Commercial Metal Forming is a leading manufacturer of tank heads and tank accessories. The company recently introduced an initiative to only produce parts of sizes 60"+. Our goal is to help the company with adjusting to this change and address issues of safety, WIP, ergonomics, and machine maintenance.

**Define**

Goals: to satisfy all OSHA safety requirements, to reduce setup time by at least 15%, to increase ergonomic conditions, to establish regular maintenance schedules

**Measure**

- Service pit dimensions
- Set-up time ranges
- Facility Layout

**Analyze**

- Root Cause
- Cost Analysis
- Backwards Elimination

**Improve**

- Design scaffolding for flooring
- Propose Quikrete pothole filler
- Reduce variation between worker techniques

**Control**

- Develop inspection schedule
- Statistical Process Control for setup time
- Standardize Preventative Maintenance Program

**RESULTS**

**Improvements**

- Satisfy OSHA safety regulation for open service pits
- Reduced average Set-Up times by 23%
- Document 3 Year preventative maintenance plan
- Standardize Knuckle changing procedure
- Implement use of power tool instead of manual tools

Through analysis of the produced data, we are able to conclude that process times were reduced by 23%. Increased machine up-time is to be expected now that a set schedule is made for maintenance through a PMP. Also, through root cause analysis, we were able to design models to be built so that CMF can meet OSHA regulations for both Flangers.

**FUTURE WORK**

Extend facility zoning to entire shop floor.