

AME Plant Tour-October 29 & 31, 2007
MPD Outside Material Storage Areas

Compelling Reasons the Project was initiated:

1. **Capacity Expansion**-A new furnace line (increasing processing capability by 2,500 to 3,000 tons per month) was being built using most of MPD's existing inside material storage areas. This reduced inside storage space by 67%, while increasing overall storage requirements by 111%.
2. **Customer Storage Requirements**-Our existing customer base required the ability to ship in 3,000 tons of steel from a mill rolling in a week's time. They also required that we store the material for extended periods of time (6-8 months).
 - A. Safety concerns with material stacked high.
 - B. Digging out of bundles required considerable time.
 - C. Safety concerns due to increased vehicular traffic on site.
 - D. Need to efficiently locate customer material.
3. **Non-Valued Added Operations**-Material storage, loading/unloading, handling and moving are all non-value operations. These need to be eliminated and/or minimized to maintain reasonable profit margins.

Formation of Six Sigma Project Team to Address the Critical Issues:

1. Team members were selected due to their previous participation on a related inside storage and process flow project.
 - A. The 6 Original team members came from Operations, Human Resources, Quality Control and Accounting. Operations only had one member. In order to ensure a fresh look at problem solving, team selection wasn't based solely on knowledge of operations. It is also very important to involve personnel in all departments in the Six Sigma problem solving experience to increase buy-in and enthusiasm for Six Sigma and Lean manufacturing.
2. Project Team meetings were held on a regular weekly schedule to ensure continuing progress and follow-up on Team assignments. Meeting agendas were prepared to ensure focus on subjects that needed to be covered. They lasted an hour and a time keeper shut the meeting down if it

went over an hour. E-mail was used to distribute meeting minutes and to keep all team members informed of follow-up items and individual assignments.

3. In order to follow the Six Sigma DMAIC problem solving process, Team members had frequent communication with affected/knowledgeable parties. Communication with many involved parties assures buy-in of the eventual solution. The more people that are asked for their input the better the final solution will be and personnel will be more likely to change, if necessary. Personnel from sales, engineering, quality control/inspection, shipping/receiving, operations, and maintenance were invited to meetings to share their knowledge with the Team. Executive management was informed of the project progress with periodic meetings.

4. The Team regularly communicated with another project Team that was already formed and was working on outside vehicle traffic flow. We made sure they knew of our plans, as they developed, so there wasn't any conflict.

Unique Problems Encountered:

1. We never stored material outside before.
2. What type of material handling equipment is required?
3. Would the soil conditions on our available land support the equipment and material?
4. Our personnel were not used to working outside.
5. Developing an efficient outside material flow.
6. Develop an efficient system to locate stored material.
7. Identification of material that couldn't be stored outside.
8. Establish a remote shipping/receiving office electronically connected to operations.

Results Achieved by Material Flow and Outside Storage Team

1. 2006 MPD processing sales increased by 27.2% over 2005, considering the new line was in service for 45 days in 2006.
2. 2006 MPD net income before tax increased by 99% over 2005.