

TOTAL PRODUCTIVE MAINTENANCE

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Introduction

The total productive maintenance *TPM* is a concept for maintenance activities. In the structure, total productive maintenance resembles many aspects of Total Quality Management *TQM*, such as employee empowerment, management's commitment, long-term goal settings, etc.

In addition, changes in the staff mindset towards their assignments and responsibilities is one of the other similarities between the two.

Maintenance is one of the key aspects of any organization. When it comes to maintenance, it could represent many domains and areas within a business organization.

In order for an organization to function properly, every running process, activity and resource should be properly maintained for their quality, effectiveness and other productivity factors.

TPM is the process which brings the maintenance aspect of the organization under the spotlight. Although maintenance was regarded as a non-profit activity by the traditional management methodologies, TPM puts a brake on it.

With the emphasis on TPM, downtime for maintenance has become an integral part of the manufacturing or production process itself. Now, the maintenance events are properly scheduled and executed with organized plans.

Maintenance events are no longer squeezed in when there is low production requirements or low material flow in the production lines.

By practicing TPM, the organizations can avoid unexpected interrupts to the production and avoid unscheduled maintenance.

The History

The parent of TPM is TQM. TQM was evolved after the quality concerns the Japan had after the Second World War.

As a part of TQM, the plant maintenance was examined. Although TQM is one of the best quality methodologies for organizations, some of the TQM concepts did not fit or work properly in the area of maintenance.

Therefore, there was a need to develop a separate branch of practices in order to address unique conditions and issues related maintenance. This is how TPM was introduced as a child of TQM.

Although there is a story behind the origin on TPM, the origin itself is disputed by many parties.

Some believe that the concepts of TPM were introduced by American manufacturers about forty years ago and other believe TPM been introduced by the Japanese manufacturers of automotive electrical devices. Regardless of the origin, TPM can now be used across the globe.

The Implementation

Before start implementing TPM concepts for the organization, the employees of the organization should be convinced about the upper management's commitment towards TPM.

This is the first step towards establishing good TPM practices in the organization as shown below.





To emphasize the upper management's commitment, the organization can appoint a TPM coordinator. Then it is coordinator's responsibility to educate the staff on TPM concepts.

For this, the TPM coordinator can come up with an education program designed in-house or hired from outside of the organization. Usually, in order to establish TPM concepts in an organization, it takes a long time.

Once the coordinator is convinced about the staff readiness, 'study and action' team are performed. These action teams usually include the people, who directly interface with the maintenance problems.

Machine operators, shift supervisors, mechanics and representatives from the upper management can also be included in these teams. Usually, the coordinator should head each team until the team leads are chosen.

Then, the 'study and action' teams are given the responsibilities of the respective areas. The team are supposed to analyze the problem areas and come up with a set of suggestions and possible solutions.

When it comes to studying the problems at hand, there is a benchmarking process going on in parallel. In benchmarking, the organization identifies certain productivity thresholds defined for certain machinery and processes in the industry.

Once the suitable measure for rectifying the issues are identifies, it is time to apply them in practice. As a safety measure, these measures are only applied to one area or one machine in the production line.

This serves as a pilot program and the TPM team can measure the outcome without jeopardizing the productivity of the entire company. If the outcome is successful, then the same measures are applied to the next set of machines or areas. By following an incremental process, TPM minimizes any potential risks.

The Results

Majority of world's first class manufacturing companies follow TPM as an integrated practice in their organizations. Ford, Harley Davidson and Dana Corp. are just a few to mention.

All these first class corporate citizens have reported high rates of productivity enhancements after implementing TPM. As baseline, almost all the companies, who have adopted TPM have reported productivity enhancements close to 50% in many areas.

Conclusion

Today, with increasing competition and tough markets, TPM may decide the success or the failure of a company. TPM has been a proven program for many years and organizations, especially into manufacturing, can adopt this methodology without any risk.

Employees and the upper management should be educated in TPM by the time it is rolled out. The organization should have long-term objectives for TPM.

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