

# TEN FRAMING QUESTIONS for TPM Implementation

August 23rd - 4pm-5pm Discussion Session

When undertaking TPM, there's much to consider ... here are 10 Framing Questions to get the TPM Week discussion started!

## **1 How are we going to organize teams to restore our equipment and remove accelerated deterioration?**

The key difference in the TPM approach to maintenance is the concept of Accelerated Deterioration—equipment deteriorates, but it deteriorates faster when not maintained adequately. The steps of Autonomous Maintenance provide a process for restoring, improving and maintaining equipment, but implementers need to decide how to organize teams to carry out this activity, based on their organizational structure and equipment requirements.

## **2 How are we going to measure and visually display OEE?**

OEE is the main output focus of TPM—we are interested in the effectiveness of our equipment. Valid OEE measurement is the best known way to baseline and track equipment performance. TPM implementers need to develop simple, robust and visual systems for measuring and communicating OEE performance.

## **3 How are we going to categorize and analyze losses?**

Many companies find that the conventional 6, 7 or 8 losses in the TPM textbooks do not fit their production, but in order to manage focused improvement, TPM implementers need to develop a loss model appropriate to their particular circumstances and collect and monitor data relating to their model. We can ultimately assign costs to each category of loss so that we can gauge a proper return on our investment in TPM.

## **4 How are we going to rank and prioritize our equipment?**

While TPM is most concerned with equipment effectiveness, we are also concerned with optimizing our maintenance activities. One key element of Maintenance Decision Logic (the process used to assess optimum maintenance activity) is to rank equipment according to its importance in the production process. TPM implementers need to define ranking criteria and categories appropriate to their circumstances.

## **5 How are we going to apply Maintenance Decision Logic?**

In the Maintenance Decision Logic (MDL) process implementers also need to define the categories of maintenance activity appropriate to their situation and rank them in terms of cost and complexity.

## **6 How are we going to communicate our TPM vision?**

Some would say this should be the first question, but using the process of answering the first five helps to develop the understanding of TPM which we need to share with others. The more that TPM has been customized to the plant, the more compelling the vision will be. TPM implementation will only be effective if there is both a shared vision and shared understanding of the TPM process. Implementers need to develop a communication plan to share that vision and understanding.

## 7 How do we envision the role of managers (especially the front line leaders), engineering, maintenance, and the operators changing as we implement TPM?

The role of managers will change the most as TPM implementation progresses. The front line supervisor will become that of a coach and mentor. The technical department will be viewed as a resource to the well trained and empowered production process owners; while the Maintenance role will transition from “fire fighter” to “maintainer.” Implementers will need a plan for transitioning the day-to-day work environment to one where leaders provide the “what” and “why”, leaving the “how” to come from the Production and Maintenance “process owners.”

## 8 How will TPM align with/complement existing or future activities (i.e. Lean, 6-sigma, etc.)?

Often TPM is mistakenly looked at as a maintenance program. In reality, TPM is a systematic approach to ensuring equipment and process reliability. At 30k feet you can view TPM as a process that fosters continuous and rapid improvement through employee engagement, employee empowerment, and a closed loop measurement of results. To ensure the biggest benefit from your TPM efforts, implementers need to work to position TPM as the bedrock of all continuous improvement activities and not as a separate improvement program/initiative.

## 9 How will we integrate new equipment acquisitions into the effort?

It's important that the lessons learned on existing equipment are applied to new equipment acquisitions. This will ensure the new equipment is operator and maintainer friendly right from the start. TPM Implementers will want to apply the methods of Early Equipment Management-Maintenance Prevention Design to all new (and acquired) equipment so it is introduced to the production process as a reliable, easy to operate and maintain piece of equipment from the onset.

## 10 How are we going to define our roll-out plan?

TPM activities move from pilots to encompass priority equipment and then the whole plant. It is almost impossible to predict the resources required for this roll-out and the way people will respond to TPM before completing pilot projects. Implementers will, however, need an outline plan for this roll-out in order to manage company expectations, together with a process for reviewing the roll-out program as part of a Plan, Do, Check, Act cycle.

### Conclusion:

These 10 questions look at technical and managerial elements instrumental in TPM, having considered answers to all of them will provide a firm foundation for your implementation.

### What will you gain?

When implementing TPM as part of a continuous improvement effort not only will equipment uptime improve, but here is a sampling of what else you can expect...

- Increased production capacity of over 50%
- Reduced material costs of 15-20%
- Safety improvement—a reduction in recordables of at least 50%
- Unplanned maintenance cost reduction of 65%
- Reduction in line slowdowns and unplanned stoppages of 90-95%
- Improved communication between production, maintenance and engineering

