Assignment 7 - TPM-OEE-Std Work

Question 1:

Describe the concept of TPM. What wastes (TRIMWOOD) can TPM reduce or eliminate? Please Explain.

TPM maintains and improves production through machines, equipment, etc. this is commonly done through tasks like cleaning, testing, replacement, and checking. The goal of TPM is to maximize overall equipment efficiency while providing preventive maintenance.

Some of the wastes TPM can reduce are:

* Defects
* Motion
* Waiting
* Over-production

Question 2:

* What are the quality, performance and availability rates?

Q = ((6280-1790) / 6280) \* 100 = 71.5%

P = ((2 \* 6280) / (15 \* 1440)) \* 100 = 58.1%

A = (((15 \* 1440) – (3960 + 187)) / (15 \* 1440)) \* 100 = 80.8%

* What is the Overall Equipment Efficiency (OEE)?

71.5 \* 58.1 \* 80.8 = 33.5%

* What is the MTBF?

(21600 - 3960) / 7 = 2520 min

* What is the MTTR?

(3960 + 187) / 7 = about 592 min

* What might you consider first (quality, performance or availability) to improve OEE?

Performance should be considered first since it’s the lowest among the 3.

Question 3:

* How has the OEE changed before vs. after?

Before:

Q = ((773-45) / 773) \* 100 = 94.2%

P = ((16\*773) / 14400) \* 100 = 85.8%

A = (((14400 - (15+12) \* 60) / 14400) \*100) = 88.75%

94.2 \* 85.8 \* 88.75 = 71.7%

After:

Q = ((755-42) / 755) \* 100 = 94.4%

P = ((16\*755) / 14400) \* 100= 83.8%

A = (((14400 - (6+12) \* 60) / 14400) \*100) = 92.5%

94.4 \* 83.8 \* 92.5 = 73.2%

* Was the project worthwhile? Why or why not?

Yes, the OEE has increased 1.5% due to a drop in performance but an increase in availability and quality. Availability was the main metric that had the largest change.