



Questions and answers to the metrics/indicators



Introduction

The indicators and metrics have been used in the maintenance community in the SMRP countries as well as the EFNMS countries.

The indicators/metrics have been used as the platform for the Benchmarking workshops organised by the two organisations.

The Benchmarking workshops have been the forum for understanding and use of the indicators, and have generated a series of questions and comments for the application of the indicators/metrics in the given organisation. These questions and comments will be updated periodically on this website:

www.HarmonisedIndicators.org

1. Questions to EN 15341 indicator O18 and 5.4.2 Proactive Work

Indicator O18 is calculated by:
$$\frac{\text{Preventive maintenance man hours} * 100}{\text{Total maintenance man hours}}$$

Question

The question is related to man hours spent on follow up activities from preventive activities. The question is captured in the two cases below.

Case 1:

Mechanics John has to perform a preventive maintenance activity on equipment no. 117 – a compressor – today Monday.

The maintenance activity is described in a work order, and the instructions are:

1. Check “A”
2. Replace filter “B”
3. Check gauge “C”
4. Measure clearance “D”
5. Check for leakages

John performs the activities and during the job he detects a leaking pipe. A leaking pipe is not normal on the equipment. The leaking pipe is not critical. He estimates the job to replace the pipe to 1 hour and after a consultation with the production supervisor he replaces the pipe.

When John closes the work order, he has recorded 6 hours on the job in total, including 1 hour to replace the leaking pipe.

How to we consider the man hours spent on the work order in terms of indicator/ benchmarking?

1. All 6 hours spent on the job is preventive man hours

Conclusion: All the maintenance and reliability experts from EFNMS and SMRP contributing with an answer agrees that this is the right answer



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Case 2:

Mechanics John has to perform a preventive maintenance activity on equipment no. 118 – a compressor - on Tuesday.

The maintenance activity is described in a work order, and the instructions are:

1. Check “A”
2. Replace filter “B”
3. Check gauge “C”
4. Measure clearance “D”
5. Check for leakages

John performs the activities and during the job he detects a leaking pipe. A leaking pipe is not normal on the equipment. The leaking pipe is not critical. He estimates the job to replace the pipe to 1 hour and after a consultation with the production supervisor, who needs equipment no. 118 for production, John decides to postpone the pipe replacement for the next month when the equipment is idle.

When John closes the work order, he has recorded 5 hours on the job in total.

John opens a new corrective work order with the replacement of the pipe on 1 hour to be done in the next weeks when the equipment is idle, and available for failure correction of the leaking pipe.

How to we consider the man hours spent on the work order in terms of indicator/ benchmarking?

All 6 (5 +1) hours is preventive man hours.

1. All 6 (5 +1) hours is preventive man hours.
The majority of the maintenance and reliability experts from EFNMS and SMRP contributing with an answer agrees that this is could be the right answer
2. 5 hours is preventive man hours and the 1 hour on the new work order no is deferred corrective maintenance hours.
Some of the maintenance and reliability experts from EFNMS and SMRP contributing with an answer agree that this possibility could be the right answer under given conditions, and according to the company’s business rules.



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2. Questions to EN 15341 O23

During the workshop in Rome, September 2007 one of the participants pointed out that there was one mistake in the standard text. The mistake is in Indicator O23. Please note this is internal man hours for training as a ratio of internal man hours.

The ratio at page 13 is correct:

$$\text{O23} \quad \frac{\text{Number of maintenance internal personnel man hours for training}}{\text{Total internal maintenance man hours}} \times 100$$

In the chapter with the definitions – page 27,- the definition refers to O16, which is total maintenance man hours (internal and external).

O23	Number of maintenance internal personnel man-hours for training	Number of hours used in training for all personnel (direct and indirect: see E8) service.
	Total internal maintenance man-hours	(See O16)

Note: A red callout box with a pointer indicates a change from 'E8' to 'T19' in the first row's description.

To be a logic explanation, the right reference should be to indicator T19 as for indicator O21. The correction is approved by the CEN 319 Working Group 6.