

Quantitative Maintenance Analyses

The Reliability Centered Maintenance (RCM) approach and the 'failure' analysis are generally known. In our terminology, these are indicated as qualitative maintenance analyses. On the base of partially known data, which are derived from the Maintenance Management Systems and insights from the experts, systematic maintenance analyses are being made for a certain kind of assets.

The result: A better maintenance-program according to good and proven techniques.

Quantitative Maintenance Analyses

The quantitative Maintenance analysis is a new development. With this analysis, the maintenance data from, for example, an Maintenance Management package, are being analysed in a quantitative way. There have been developed four kinds of analyses:

- The analysis over the past period. With this, the Maintenance data over the past period are being showed:
 - On the base of day- and year.
 - Per kind of asset and per attribute. (type, capacity, supplier, location).
 - Per type of maintenance and within that per attribute (cause and effect).
- The analysis over the life-time: On the base of the data over a few years, the Maintenance costs over the life-time are being determined.
- The prognosis of the future Maintenance: On the base of the life-time analysis, a very detailed prognosis over the future maintenance can be reproduced. The alternatives of various scenarios can be calculated. From this point, various investment plans will follow.

- The analysis over the effect of the Maintenance: The maintenance pattern for a certain preventative maintenance is examined, and so is the effect of this maintenance. In this way, the effective, preventative maintenance is being separated from the non-effective, preventative maintenance. Also, it is found out which preventative maintenance is leading to more or less failures.

The analyses are being reproduced in so called 'graphic trees'. By the different reproductions, the data can be grouped in various ways. This leads to an unknown insight. In a run (a very fast process) all the graphics are being made per intersection. There are more than 40 graphics available.

Quantitative Maintenance analysis and RCM

The analyses which are mentioned above are also important for the effective realization of RCM and failure analyses. In a single view, the different manifestations of a failure are visible. Also, it can be seen which manifestations are and which aren't relevant in terms of money, number of times and life-time.



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With RCM analyses, much knowledge comes from the experts. This knowledge is indispensable, but an examination through analyses can lead to different views. With RCM analyses, one uses Mean Time Between Failures (MTBF).

With this concept, a difference in behaviour during the life-time is not taken into account. When a situation occurs in which there successively are starting problems, random failure and the becoming out of date, MBTF is not the right method to create useful maintenance concepts.

After all, with our software it is possible to see the effects of changed policy.

PPS-contracts

Quantitative maintenance analyses are very important when PPS-contracts have to be made. For both commissioner and construction company.

The commissioner wants the certainty that the assets are not neglected after the short commission-term of a few years and that there is no overdue maintenance. The commissioner also would like to know what is the realistic life-time of his assets.

The construction company has the need to get insight in the maintenance costs, which are higher when the assets are out of date, and lower when new technologies are being used. For the construction company, it is also useful to know in what way these maintenance costs influence an eventual penalty in the contracts.

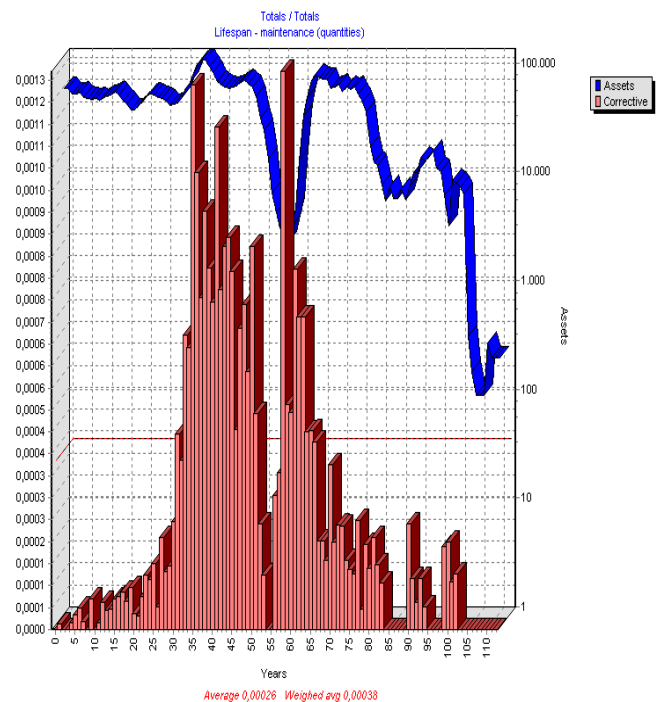
The approach of S&G and partners

S&G and partners is very aware of the fact that she has developed a powerful tool for the appliance of maintenance analyses. She also realises that this concept is new to many of her relations.

After an extended intake, S&G will apply a test analysis with the help of a database with source data.

This database can be made without considerable IT-effort.

After showing this test analysis, we can determine whether or not using the services of S&G and partners is profitable for the client. If this is the case, there can be made commercial deals.



S&G en Partners
Bijsterhuizen 11 60 B
6546 AS Nijmegen, The Netherlands
Tel: +31 24-6450006 Fax: +31 24-6424151
info@sg-partners.nl; www.sg-partners.nl

