The Critical Plant Manager

'We understand your need to effectively manage your assets'

JAHCon
Physical Asset Management Pty. Ltd.

Newsletter
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A newsletter from JAHCon Physical Asset Management Pty. Ltd. to keep our current and potential clients informed of our ongoing activities and to raise awareness of how JAHCon may be able to help your organisation meet its Asset Management needs.
This newsletter also provides a forum for sharing Asset Management ideas and experiences.

Projects

A project was undertaken for an Australian-based client to assess current maintenance practices at their quarrying operations. The project began by reviewing existing practice and assessing the potential financial gains from any improvement.

The equipment and systems at selected sites were then assessed in detail and restorative and ongoing maintenance tasks developed. The restorative tasks were used to restore the equipment to 'good' condition and the ongoing maintenance tasks were implemented to keep the equipment in 'good' condition. The need for systems improvements are as important in this type of project as the equipment improvements.

To date, the program has been rolled out across most of the sites and improvements have met or exceeded expectations.

Maintenance as a Risk Management Strategy

Those of us working in Asset Management and, in particular maintenance, sometimes lose sight of the fact that maintenance is fundamentally a risk management tool used to prevent, minimise or manage the consequences of asset failures experienced during normal operation. Performing a detailed risk study of the organisations commercial, safety, environmental and other considerations, allows the major risk factors to be identified and appropriate risk management strategies to be developed and put in place.

While many of the maintenance tasks carried out each day in the modern organisation are driven by commercial concerns, safety, environmental and other factors play a large part in the maintenance schedule. Most operations staff are acutely aware of those tasks being undertaken by maintenance on assets that directly, and immediately, impact on operational performance, however many times they have only a poor appreciation of the importance of tasks carried out on other assets, not directly impacting on operations. Statutory inspections on pressure vessels are one example where operators can be reluctant to make the equipment available when required, despite the critical nature of the equipment and its programmed inspection regime.

One of the most effective ways to increase this awareness is to ensure both maintenance and operations staff are intimately involved in the risk identification process from the outset, that they are well trained in the methodology being used and that they understand the decision logic used throughout the process. In addition, when we make effective use of our understanding of risk in routine Planning & Scheduling of operations and maintenance activities we reinforce its importance and give it 'value' in the eyes of those responsible for its implementation.

Training News

Two new Planning & Scheduling (P&S) courses are now available - 'An Introduction to Planning & Scheduling' and 'Advanced Planning & Scheduling'. These courses provide both trades staff and engineering and operations graduates, with a solid grounding in the theory and practices of P&S as applied in modern manufacturing and process plants. The introduction course covers the underlying concepts of P&S and helps participants begin implementing these concepts in their organisations immediately.

The courses build on the current experience of participants, extending their skills and reinforcing good practices and methodologies. Significant use is made of worked examples to reinforce the theory and gives participants the opportunity for supervised practice.

JAHCon presented both of these courses in Kuala Lumpur in May on behalf of IQPC Worldwide Pte. Ltd. based in Singapore. If you would like additional information on these courses please contact IQPC directly on ***www.iqpc.com/my/mpstraining*** or contact JAHCon and we will provide whatever information you need.

Specialist Vs. Generic tools

There are advantages and disadvantages in relying on specialised software tools for AM data handling and analysis. Specialised software tools are usually tailored to process a specific data set or type and generate pre-defined outcomes based on that data. Specialised tools can extend the capability of individuals without they needing to be experts by automating the calculation process and providing guidance and error trapping throughout. Specialised AM software includes tools for failure analysis, vibration analysis, expert systems, etc. Generic software tools include spread sheets, data bases, word processors etc. that, while providing some specific utility are less restrictive than specialised software. The complexity of the data processing and calculation involved will usually dictate the appropriate software tools (if any) but generally it can be said that specialised software tends to mask the process from the user, while generic tools improve the process visibility and hence the level of understanding on the part of the user.

The Role of 'Unique Identifiers'

In the March 2008 newsletter, we discussed the importance of the 'asset register' in the overall Asset Management function. In this issue, we will discuss the role of 'unique identifiers' within the asset register. These identifiers are applied at agreed, logical subdivisions of the assets and identify assets and equipment at various levels in the organisation. The use of unique identifiers is not an end in itself, but the consequences of a perceived need of the organisation. The use of these identifiers becomes unavoidable when we need to be able to refer to a specific asset or group of assets quickly, clearly and unambiguously.

A modern manufacturing plant will typically have 1,000 - 10,000 physical assets which should be recorded in the plant register. The plant register is a list of all plant, equipment and structures owned by the organisation. When a significant number of assets are to be managed it is important to be able to identify each asset uniquely. The method of identification needs to be simple, clear and reliable. Verbal or text based identifiers may be appropriate when dealing with small numbers of assets (e.g. < 25) but this is completely inadequate when large numbers of asset are involved (e.g. > 100). For this reason a '*Unique Identifier*' code is assigned to each asset to facilitate identification without ambiguity in all documentation, reports, licenses, permits etc. The identifier code is usually displayed on, or adjacent to, the asset (often found on the field isolator switch) on site which enables the asset to be identified in its physical setting.

The structure of the unique identifier is a matter of vigorous debate amongst asset managers as well as other stake holders such as accounting who try to solve their specific needs for asset identification in ways that do not always suit other stakeholders. An identifier that suits the needs of accounting rarely suits the needs of operations and maintenance staff, especially as the level of equipment 'breakdown' required by these groups differs so markedly.

Whatever identifier structure is chosen it should be appropriate for the assets and the organisation and should be designed after careful consideration of the plant layout, size, equipment criticality and other needs of the organisation. The most common approach to numbering the assets in industrial settings is to create what is effectively a hierarchical numbering system based on the so-called '*parent*', '*child*' structure. This structure allows for 'nested' assets - i.e. assets that are part of a larger asset, to be linked and individual asset data to be aggregated or subdivided as necessary. In practical applications of these numbering systems the highest level of the structure is at the site level. How this effective hierarchy is achieved nowadays, can differ from earlier years in which the hierarchy was built into the number structure with sub-assets carrying the identifier of 'parent' assets within their individual asset number. In modern CMMS the hierarchy is established by the relationshaips between the database tables used to store and manage the data. This is a more flexible approach than having the hierarchy 'frozen' into the equipment or asset code, as changes in relationships either 'vertically' or 'horizontally' through the asset register data set, requires only the software links be changed and not the individual equipment nameplates mounted on the assets across the site.

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