

# The Critical Plant Manager

*'We understand your need to effectively manage your assets'*

**JAHCon**  
Physical Asset Management Pty. Ltd.

**Newsletter**

March 2008

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 formal FMEA/FMECA of water treatment plant assets was carried out to assist the asset owner to develop appropriate risk management strategies and maintenance routines. This work was undertaken as part of a maintenance modernisation project, undertaken by the client, to position them to meet the growing demands on water infrastructure over the coming decades.

The FMEA/FMECA was carried out in accordance with established standards and practices to ensure that any future work could build on the foundations laid by this project.

## The Importance of Sound Foundations

It is vital that sound foundations are established for any project regardless of whether it is a physical asset such as a machine, or a virtual asset such as a system or procedure. When conducting audits of Asset Management systems it is not uncommon to find that the failure to establish adequate foundations at the outset, will lead to the problems encountered later in implementing or sustaining the project.

Foundations can be technical or non-technical depending on the project and some combination is usually to be found in projects common to industry. Technical foundations include performance standards and procedures used to develop the project as well as standards for work quality, material quality, build quality etc. It is disturbing to encounter some senior managers who believe there is no role for engineering standards in their organisation. In this view, standards would place a 'floor' under the minimum cost of a project and for them, at least, the desire to achieve the lowest cost overrides everything else. This may be an appropriate policy for an organisation not expecting to be in existence in the near future or for a manager that does not intend to be around to deal with the consequences of their decision.

Non-technical foundations are required when we need to 'sell' a project to our workforce, to our customers or to the wider community. Failure to deal adequately with these issues can undermine the long term viability of a project just as lack of adequate technical foundations can undermine the 'through-life' performance of a machine. It is vital that the project identifies these foundations right from the outset, as many can only be put in place at specific project milestones and once this point has been passed, cannot be implemented later.

## Training News

A new 'Root Cause Analysis' course is now available from JAHCon for those interested in improving the effectiveness of this technique in their organisations. While there are many fine RCA courses available which meet the needs of those new to the technique, experienced practitioners soon learn that the skills provided by these basic courses are usually not sufficient to solve the more intractable problems experienced in modern industry.

The established courses usually focus on training participants in the use of the 'tree' methodology or variants thereof, and, where this is the appropriate technique, is adequate at least initially. More complex problems can require several different tools for complete analysis especially where physical asset failures are combined with human failures and, in some cases, procedural failures. It would be unreasonable to assume that one tool would be adequate for all applications and experience indicates that this is indeed the case.

Traditionally, the focus of RCA has been on analysing failed components after the event, however this course takes a more proactive approach, monitoring the precursors of failures which are consistent with established practice in other areas of industry.

# Handbook - 'Root Cause Analysis' (RCA)

JAHCon will soon have available a new Root Cause Analysis handbook designed to meet the needs of two specific end-user groups. The first are those new to the concepts of RCA and this handbook provides a sound grounding in these basic concepts. The tools available for RCA are discussed and several examples are provided to illustrate the main points.

The second group of 'end-users' are those who have completed one of the commercially available courses, but who have experienced difficulty in implementing this useful tool in their organisation. JAHCon has extensive experience implementing Root Cause Analysis across a range of industries and has identified a number of issues that regularly arise, and work against, the successful implementation of this useful tool. This handbook helps the user to extend the basic RCA concepts thereby improving the likelihood of effective use of RCA in your organisation. Contact JAHCon for pricing and to order a copy of this useful handbook.

## Effective Asset Registers

The asset register contains the 'stationary' information for the asset (i.e. the information that does not change, or rarely change, over the life of the asset). The contents of the asset register can vary significantly from one organisation to another, however some basics are common to all and include equipment identifier, description, location, type, size etc.

All assets in the company asset register should have an appropriate maintenance plan assigned to them. That plan clearly states how the risks associated with that asset are to be managed. This does not necessarily mean that maintenance activities should be carried out on all assets, rather that all assets should be assessed and appropriate actions put in place as required.

Fundamental to the management of these risks is our ability to know what equipment exists in our area of responsibility and to be able to uniquely identify each piece of equipment from one another. Failure to develop and maintain a comprehensive asset register means that we can never know with confidence that all important equipment has been identified and included in the register, which can lead to critical equipment being left out of our risk management strategies. Operations and maintenance procedures, practices and tasks are fundamentally risk management strategies, therefore unless we know the asset exists, we can hardly claim we are managing it appropriately.

The assumption that equipment would be noticed by staff is overly-optimistic and only likely to be true for equipment

regularly visited by, and visible to, operations and maintenance staff. Support services equipment such as pit pumps, fire booster pumps etc. are often forgotten until they fail and non-hardware assets such as PLC programs, procedures etc. are not visible to the casual observer despite their sometimes critical functions.

The asset register defines the 'Spatial Scope' of the maintenance 'domain' in as much as it identifies which assets are regularly monitored and serviced and those not in the register are either not known about or are believed to fall into the area of responsibility of some other group. Clearly if some assets are not known about, they are unlikely to be adequately managed and this takes on serious dimensions if they are critical equipment.

A comprehensive, detailed and up-to-date asset register must be in place before any confidence can be placed in current risk management strategies, including operator and maintenance tasks. At the very least a periodic assessment of the assets in the area of responsibility should be undertaken to ensure that new equipment is added to the register and redundant equipment is removed. Projects are one of the main ways in which assets are introduced and removed from a site and therefore it is vital that a formal process is in place to advise the wider organisation of changes to the asset base of the plant - especially operations and maintenance. Failure to control the changes to the asset base means the asset register will quickly become out-of-date and the risk to the organisation increases along with the lack of knowledge of the asset base.

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