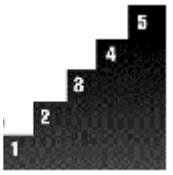
AMQ International

Strategic Asset Management

Issue 165, April 29, 2005

Taking Steps to enhance Asset Management Capability



(1) University accredited courses in Asset Management in Australia.

Whether you are interested in an engineering focussed degree in asset management or non-engineering, you can find out at the ACORN Inc. website at **www.acorninc.org** what universities are offering what, how long the courses last, how they are delivered (online, distance learning or campus only; weekly lectures or block modules) what accreditation is provided, what pre-requisites are required, and who to contact for further information. Other useful comment is also provided.

This compilation is the work of **Alvin Ho** in support of the Asset Management Capability Development Program of RailCorp in New South Wales.

See next page for a summary of what universities provide what.

(2) Learning from the job

Life teaches us lessons every day—but we don't always pay attention! **John Hunter,** Redlands Shire Council has developed a format for a "Lessons Learned" Report for Asset Managers that maximises information feedback from tasks undertaken. See pages 913-914

(3) Learning from the good work of others

If we have to learn all our lessons from only our own experience, we are going to be old and grey before knowing what we really need to know. That is why "Strategic Asset Management" is valuable reading for all who are intent on taking steps to increase their capability. In this issue, **Dave Openshaw** concludes his series on World Class Asset Management with a look at the fundamental task of ensuring long term value.. See pages 915-917

Enjoy!

Penny

Researched and written by Dr Penny Burns, AMQ International,. unless otherwise specified, Published fortnightly. Subscription, Comment, or Inquiries to

AMQ International
PO Box 75 Salisbury South Australia
Tel 618 8281 5795
Email: sam@amqi.com Website: www.amqi.com

Asset Management Accredited Courses at Australian Institutions

Details on all of these courses can be found at **www.acorninc.org**

ACORN Inc member, Alvin Ho, is maintaining this site. If you know of any other courses, do let the course convenors know that they can be included by filling in details on their courses on the coupon they will find on the website. This also applies to non-Australian courses.

University of New South Wales

Masters of Business and Technology
Graduate Diploma in Business and Technology
Graduate Certificate in Business and Technology
Master of Engineering Science in Infrastructure Management

Wollongong

Masters of Eng (Maintenance Management)
Masters of Engineering Practice (Eng management)
Masters of Engineering Practice (Maintenance Management)
Graduate Diploma in Maintenance Management
Graduate Certificate in Engineering
Graduate Certificate in Maintenance Management

University of Technology Sydney

Master of Engineering Studies (Major in Local Government Engineering

Monash University

Graduate Certificate of Infrastructure Engineering & Management
Postgraduate Diploma of Infrastructure Engineering and Management
Master of Infrastructure Engineering and Management
Graduate Certificate in Maintenance Management
Graduate Diploma in Maintenance Management
Master of Maintenance and Reliability Engineering
Graduate Certificate in Reliability Engineering

Melbourne University

Masters of Utilities Management

Central Queensland University

Graduate Certificate in Maintenance Management
Graduate Diploma of Maintenance Management
aster of Maintenance Management

Queensland University of Technology

Doctor of Philosophy (Built Environment, Engineering)
Master of Engineering Management
Graduate Certificate in Engineering Management

Flinders University

Asset Management: Graduate Certificate of Social Science (Housing Management and Policy)

University of South Australia

Master of Facilities and Asset Management IMFM
Graduate Diploma In Facilities and Asset Management IGFM
Graduate Certificate in Facilities and Asset Management ICFM

University of Adelaide

Master of Petroleum Management

Curtin Uni of Technology

Masters Engineering Science (Civil Engineering)

University of Western Australia

From School of Civil and Resource Engineering
(see website for details)

Learning From The Job

John Hunter, Redlands Shire Council

A project can be thought of as having three phases:

1. **Initiation** - The project defined in terms of scope, goals, deliverables, key staff, project sponsor, benefits and project duration
2. **Control** - Formal tracking and monitoring mechanisms such as MS Project and Gantt Charts
3. **Closure** - A formalised process including Customer acceptance - Open projects will consume valuable resources. Prior to closure, a formal Lessons Learned analysis prepared will unlock information that team members have in their heads.

During a project, there is a great deal of time and energy expended to meticulously plan the timelines and milestones. As a point of interest, how many projects Achieve their goals? Are completed on time? Are completed within their financial budget?

Are there lessons to be learned?

If yes, what steps do you take? Do you document the reasons why the project went well, and do you document the reasons why any of the above points were not met?

Documenting Lessons Learned

Where goals are not met, completed on time or within budget, documenting the reasons allows for

- Learning from mistakes & avoiding repeats
- Liaising with stakeholders on what went wrong and how to how to improve
- Building continuous improvement and making the improved processes systemic

Hint: Doesn't it take time to document Lessons Learned? Yes, it does, but jotting in a diary the steps you would have done differently after each milestone will assist you. Quantify the additional time or resources that could be saved, had the issues been approached from the preferred perspective.

Drawing on the experience of many agencies, John has prepared a format for

"Lessons Learned" Report

If you would like to consider doing the same, here is the format he recommends:

Page 1: Project Name, Date, Author's name. A relevant photograph of the project on the cover-page gives the report a focus and an identity.

Page 2: A list of all Stakeholders to whom the Lessons Learned report is being forwarded together with a bit of background on the project and an executive summary of what went well and what can be improved.

Page 3. onwards lists the recommendations. Each one is numbered with an explanation of the issue and action. Scanned in relevant photographs often helps. Each issue is discussed and concludes with

- The recommendation
- The financial cost for implementing
- The assignee of the issue
- The due date if not completed

Follow up

The Lessons Learned are forwarded to all stakeholders who are asked for their comments.

Which projects could benefit from a Lessons Learned approach?

- Annual stocktaking – The timeframe to conduct stock takes should reduce annually. If this is not occurring and if 100% coverage is not achieved, a Lessons Learned document is essential
- Revaluations – The time taken should reduce each revaluation
- Regular transfers from work in progress to the asset registers
- The development of asset management plans

Finally
The Asset Manager follows up with all stake holders for their replies and file them in the corporate documentation system such as Data Works to make Lessons Learned available to all. This is an important completion document for project closure and a must read document prior to initiating the following year's (say) stock take or revaluation.

Some of John's "Lessons Learned" with a variety of agencies

FIXED ASSETS

Fully scope a project – particularly if you are required to complete it at short notice. These projects are prime candidates for resource and cost over runs. Otherwise, it is not until you have committed to the project that the risks become all too apparent.

Projects at short notice may place a heavy burden on staff otherwise fully employed. The short term gains may exact a heavy price through staff turnover if it becomes the norm.

Stock takes and valuations should not be performed together. This is critical if regular stock takes have not been conducted. One downside may be that 75% to 90% of your time is occupied following up anomalies.

If written procedures or Lessons Learned are not present and a project similar to the previous is performed, there is a possibility that mistakes will be repeated. This reinforces the need to fully scope a project.

Confusing descriptions in asset registers or where conventions are not in place may indicate deeper problems may exist in data integrity.

Where several asset registers exist, check for data duplication or omission. This could occur due to the blurring of the boundaries over responsibilities.

Complacency occurs if stock takes are performed by the same staff year on year. Allow other competent staff to take over one year with a mandate to initiate process improvement. Give the replaced staff a mandate with another project. Observe the recommendations they will make. You will be pleasantly surprised.

Stock takes are **not desk top exercises** as they are prone to mistakes. Always sight the assets or verify (e.g. underground pipes) by an appropriate integrity check.

INVENTORIES

Formally stock take finished goods regularly, especially fast moving items. Where possible, incorporate the date of stock take on screen. Download and ascertain the % stock taked store by store within predetermined time intervals and benchmark against each other with predetermined acceptance levels.

Charge all inventory upon purchase to a catalogue number and not directly to a project or job. All good intentions to use precisely that inventory so charged rarely works. Non control of inventory can become an expensive mistake.

Implement liquidation strategies for slow moving stock. Beware of holding inventory "just in case". This inventory has expensive holding costs.

Determine appropriate safety levels for stocks to avoid over-holding and to minimise expensive stock outs.

Determine appropriate stock turns for all stocks.

Capital spares should be recorded in inventory. There may be a requirement to transfer these from the asset if they were originally purchased via capital. Check all capital spares for possible obsolescence.

In this issue, Dave Openshaw completes his six-part series on World Class Asset Management.

Understanding the Business Environment

By Dave Openshaw, Head of Strategic Network Development, EDF Energy

Part 6: Recognising Long-Term Asset Value & Conclusions

The Challenge of Long Term Value

This is perhaps the greatest challenge currently facing asset owners, asset managers, and indeed 'thinking' governments. When previously nationalised utility and infrastructure companies were privatised in the UK, one of the concerns was the effect this would have on customer service and costs (or prices). Hence the focus of regulation has been 'economic' regulation, ensuring that customers are 'protected' from privatised monopoly businesses.

Asset owners have sought ways of increasing the value of their businesses by seeking operating efficiency improvements, and also capital investment efficiencies. Asset managers have, of course, been instrumental in both areas; developing new diagnostic and maintenance techniques to reduce cost, and employing techniques such as automation to reduce the customer impact of faults. Electricity asset managers have also been able to reduce investment by using better condition monitoring and thermal modelling techniques to safely extend life and 'sweat' the assets.

The Dangers of Under Investing—for both agency and its customers

- **Sharp increases in investment levels**

  From the government (and Regulator's) point of view, the long-term asset value should ideally be linked to the sustainability of the network for future customers. The danger is that if investment is constrained due to (perhaps unintentional) 'short-term' incentives, the result can be a need for a steep increase in investment in future years.

- **Prices rise with Disruptions to Service**

  Not only will this sharply 'reverse' the trend in falling prices that customers will have become used to, it may also result in disruption to services due to the scale of rebuilding that is then required.

- **Upset to Market Dynamics**

  Moreover, if the investment has to ramp up quickly, there may well be a change in the dynamics surrounding market forces. For example, prices of plant, materials, and contracted services may rise sharply because demand rapidly begins to exceed supply. So, for example, earlier DCF studies that may have shown a financial benefit in deferring investment may prove to have been 'misinformed' through a failure to understand the impact of cumulative deferment on real price levels.

- **Wrong Investment Decisions Made**

  And worse still, if re-investment is not properly planned and co-ordinated, it may become 'rushed' because of condition concerns over aged plant with steep historic age profiles. A consequence of this is that we may 'expediently' do the simple thing and replace like-with-like and recreate a network or infrastructure that was actually designed to meet the needs of a previous century! Such a

"What is at stake is our future standard of living; what is needed is for governments, Regulators, and most of all asset managers, to start thinking 'long-term'."

scenario can have several serious impacts. Not only will it impact on the network efficiency and therefore ongoing cost-efficiency of the asset owner, it may impact on the level of service that customers enjoy.

A Long-Term Strategy is Essential for International Competitiveness

Moreover, as a nation, it may well impact on our international competitiveness. Countries that have a more informed long-term view, and indeed countries like China who are rapidly growing and installing new networks, will gain the benefits of a cheaper, more efficient, and better performing infrastructure. And as China has demonstrated, globalisation is real. Not only are service industries looking at opportunities for relocating, so are manufacturing companies.

Current Practice

Asset managers, driven by strong financial and regulatory signals have excelled in learning how to 'sweat' and extend the lives of their assets, and at the same time introduce new technologies to improve quality of service.

Learning Points

- Sweating and extending the lives of assets is not indefinitely sustainable, and careful consideration needs to be given to the re-investment profile that we may be creating.
- Extending the life of an infrastructure that was designed to meet 20th century performance criteria is not necessarily consistent with ensuring that those assets will be able to meet the sometimes rapidly changing performance needs of the 21st century.
- Valuation studies, renewal projections, and increased understanding of the future business environment, should provide a good basis for understanding the issues concerning the long-term functional performance needs of the assets.
- This work will be important in demonstrating that the asset owners are taking the needs of future customers seriously, something that the government and the Regulators should be seeking to ensure.
- Regulatory incentives need to be recast so that long-term asset management and investment makes good business sense.
- The lesson for Regulators would appear to be that asset owners need to have opportunities to earn appropriate rates of return (i.e. consistent with raising new capital to finance an increasing network replacement profile). This will encourage asset owners to invest in networks that will meet 21st century needs, rather than simply perpetuating the pursuit of asset management policies aimed at deferring investment in order to contain (relatively small) price increases in the short-term.

Earlier parts to Dave's series can be found in Issues 159-162 and Issue 164

SERIES CONCLUSIONS

There are three key conclusions from this work:

1. A need for greater **transparency** and understanding of risk is common across all areas. With this transparency it will be easier to balance diverse risks and find the optimum position for the asset owner.
2. A greater need for **proactive** involvement with other stakeholders in the industry is required, including politicians and Regulators. Proactive involvement underpinned by a clear well thought out strategy can build trust and prevent problems at a later date.
3. At present much of the **understanding** of the issues may be compartmentalised within the company and/or within different groups of stakeholders. Greater inclusiveness in decision making and developing a common understanding of the issues would support the development of appropriate incentives.

Examples of improvement actions include:

- making greater use of scenario planning – recognising external as well as internal influences;
- better quantification of risk, and the cost / risk trade-off, to inform choices;
- adopting new and continuously improving methodologies for prioritising investment;
- creating a more informed environment that understands and 'buys into' the importance of the continuous asset management process;
- developing better relationships with development agencies and local authorities to ensure co-ordination of new-build / regeneration projects with the requirements for infrastructure;
- encouraging proactive involvement with politicians so that they in turn have a better understanding of the issues, and can influence government accordingly;
- forming better relationships with government departments and regulatory authorities in order to form a common view on the sustainable performance requirements of infrastructure assets and their importance to national prosperity;
- challenging convention and embracing innovation – a 'natural' skill that asset managers with their engineering background should be well-placed to exploit;
- asset managers recognising and demonstrating their role as champions of corporate responsibility;
- recognising the wider role of the asset manager as an informer and enabler of government policy and therefore building our reputation as an informed and respected source of reference;
- projecting our thinking into the longer-term and ensuring that the functional specifications of the assets we install today will meet the performance demands on the infrastructure over the natural life of those assets.

New for 2005, from IWA Publishing

Water Asset Management International

This is an international newsletter on asset management in water and wastewater utilities. The focus of the newsletter is on the strategic aspects of this developing field, providing utilities with international perspectives on infrastructure planning and maintenance as they seek to deliver cost-effective services to their customers.

Editors are Steve Albee, EPA (USA); Andrew Foley, WSAA (Aust); Andrew Smith, Yorkshire Water (UK)

Each issue of Water Asset Management International contains submitted papers from around the world, along with news, details of events and publications, and perspectives form water utility CEOs on the importance of asset management. Submission of papers of likely interest to an international audience and presented so as to be accessible to the general asset management community is welcomed.

Free!

You can download the first issue in its entirety at

www.iwapublishing.com/template.cfm?name=iwapwami

Contents