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An Introduction to PAS 55 – Optimal Management of Physical Assets

by James Reyes-Picknell

Asset Management goes well beyond the separate disciplines of engineering and maintenance. It is a discipline that deals with the entire life cycle of our physical assets and until recently there was no widely accepted guideline or standard on what Asset Management was and was not. PAS 55 is a Publicly Available Specification (PAS) published by the British Standards Institution in 2004 now satisfies that demand. Since publication, PAS 55 has continuously increased in popularity both in the UK and around the world. It is now used as a framework outlining good management practices for many asset intensive industries around the world.

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It entails the integration of business processes and practices, not to mention supporting documentation and records' systems across multiple departments and even divisions depending on the level to which the spec is applied.

Work on PAS 55 began in 1995 when a committee of asset managers, members of the Institute of Asset Management first met to set the direction PAS 55 would later take. Writing, reviewing and publishing through the British Standards Institute took 9 years. It first gained recognition in 2006 in the UK utilities sector as a result of a strong recommendation from the Office of Gas and Electric Markets (regulator). In their letter to network utilities, OFGEM indicated that independently verified compliance to PAS 55 would give them confidence in the funding requests that formed the basis for gas and electric rates. Within 2 years the gas and electric utilities of the UK were compliant or nearly so. It has also spread to transport, facilities management, food,

pharmaceuticals, chemicals and natural resources and overseas. Several companies appearing on most continents are now certified. And of course the supporting expertise to help companies get certified and audited that developed in the UK is now working around the world.

It is nearing approval by ISO for development into an international standard. When approved its form will change but its intent will remain the same. It could become, like ISO 9001, 14001 and 18001, another major standard to which industry is expected to comply.

PAS 55 gives guidance and an auditable 28-point requirements checklist of good practices in physical asset management. Successfully passing a PAS 55 audit doesn't just mean you are doing something to watch how well you do, as it does in the quality standards, it means that you are doing things well. The good practices that are included comprise a comprehensive framework that any company would be wise to follow - regulated or not. Those practices can help you save money, operate more safely and deliver your services or desired productive capacity with greater confidence and in a sustainable manner.

PAS 55 leads to sustainable business practices - not just green, not just marketing hype, but businesses that truly serve the needs and interests of all their stakeholders: owners, employees, customers and the society in which it operates. Based on the Deming Cycle of Plan, Do, Check and Act, PAS 55 provides a framework for creating sustainable physical asset management practices tailored to your industry and business environment. It is industry "agnostic". You will see a framework for linking asset management practices with company strategy dealing with business risks, targeting asset investment and operational plans, definition of accountabilities and competencies, continuous improvement and change. All of those are unique in any industry or company so PAS 55 can be thought of as a tailoring guide or a framework.

In accounting, every company tracks information and keeps records in a way that suits their business, while still complying to accounting standards such as IFRS. PAS 55 works in much the same way. You comply to its requirements by doing things your own way.

It applies to your entire physical asset portfolio and deals with the important interfaces with other corporate assets such as IT, HR, financial and even goodwill. The asset portfolio may include just a few pieces of equipment, systems, plants, linear systems, divisions or an entire global portfolio. Risks to the company as a result of failures or incidents involving its physical assets are taken into account and managed. The AM System you develop deals with all phases of an asset's life cycle from initial conceptualization through to disposal and site remediation. The time frames are long to match the life cycle of the assets themselves - typically much longer than conventional financial forecasting horizons. How often have companies today been blind-sided by responsibilities they have resultant from decisions made years ago?

One company, an electric utility in Canada, had a \$20m clean up bill for dumping used lubricants at a long ago abandoned operating site in a national

park. Arguably those \$20m were worth next to zero had today's life cycle costing techniques been applied back in the 1940's when the site was built, but it was a substantial "hit" to that company just last year. Was that foreseeable in the 1940's - yes. Did they? No. Why? Nothing prompted them to even ask the question about possible future regulations and sensitivities to environmental concerns. And, even if they had, would they have set up some sort of decommissioning fund? Not many companies have anything like that even today when we can argue that we are much better at watching for risks than we were in the past.

We will show, in our presentation how the AM System framework of PAS 55 works. It fits together in a way that just makes sense, yet so few use anything even like it. Compliance to a spec like PAS 55 is not required anywhere (except the UK) yet. It may never be required, even in regulated industries elsewhere. But why not follow a framework that is now well proven and combines the successful practices of a myriad of companies that all participated in the spec's creation? Why not learn from some of the best?

What PAS 55 is NOT, is a framework for a software system - as many still mistakenly think. Yet that doesn't mean that software is excluded. Extensive use of a variety of software tools is the norm in business today. Using them effectively and with shared data and processes that cross functional boundaries is still a major business challenge. PAS 55 helps identify the necessary processes and data requirements to make more effective use of today's IT systems.

There are a couple of areas where PAS 55 is pointing at requirements that in practice demands an IT system to support the specification. The organization shall:

- Ensure that information is consistent across all information systems
- Provide information access to all employees and stake holders including contract services providers
- Identify asset management information considering all parts of the life cycle

With this as a foundation it is in practice more or less impossible to handle the processes, documentation and information sharing without the support of a modern IT system.

The Asset Lifecycle Management perspective is defined to handle the fact that most information around a plant is developed in the engineering phase or the design or rebuilding of a plant. If we are able to handle this information and make sure that we cover the complete lifecycle (prepare and design, implement and plan maintenance, operate and maintain, evaluate and improve) then we will get continuous improvement gathered and supported by the system as well as the specification.

With modern IT systems PAS 55 implementation should be supported in many different aspects. An asset lifecycle management application should be able to support areas such as:

- The business process mapping and the documentation of that. If this is integrated with the asset lifecycle management software this can later be used as a platform not only for the work processes but also for the usage of the IT system to support it.
- The handling of plant data. This is core in PAS 55 to provide information access to all stakeholders. An integrated document management system would provide a simplified view as well as ability to handle the different versions and lifecycle status of plant related information and objects.
- Traditional EAM support for spare parts, inventory, purchasing, supply chain, asset management, work orders, preventive and predictive maintenance, workforce management, etc is making it much easier to implement PAS 55. In this area it is also important that the system is supporting a true lifecycle perspective so that you are able to control the design and implementation as well as the operation and maintenance in an integrated environment.
- Performance analysis is a key to any kind of follow up and ROI calculus around the investment in implementing PAS 55. RCM, OEE, Business Analytics, etc are all important tools to support this area.
- Finally different kind of decision support tools are important to analyze the complex information that is gathered and developed as we get more structured in the work directed by PAS 55.

At the end it is important to highlight that PAS 55 is not a framework for a software system - but software systems are almost a necessity to a successful implementation of the specification of PAS 55.

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