The Journey to PAS55 and Beyond

Dwr Cymru Welsh Water's approach to certification

by

Toby Harding CEng MIMechE BSc Hons, Andy Thomas BSc, and Tim Kay

he global utility business is moving away from conventional organisational structures, which focus on operations and maintenance, to ones that focus on optimising assets. In so doing, the emphasis is switching to achieving a deeper understanding of the assets; their criticality, individual maintenance requirements and the ability to optimally balance risk, performance and costs. Asset management is based upon the underlying core principle that the fundamental objective of all utility companies is to provide a high quality service to their customers by effectively and efficiently managing their assets. This means that it is essential that risk is balanced with cost and performance at all levels within the organisation.

The need for asset management

Given the age of most of the water and wastewater infrastructure in the UK, along with ever-increasing demand and quality requirements, and the size of the investment required to maintain service levels, ensuring that all expenditure associated with asset construction, operation and maintenance meets these core principles is of fundamental importance to modern utilities. Asset management is the art and science of making the right decisions and optimising these processes. A common objective is to minimise the whole life cost of assets but there may be other critical factors such as risk or business continuity to be considered objectively in this decision making.

It is a relatively new professional discipline that deals with the optimal management of physical asset systems and their life cycles. It represents a cross-disciplinary collaboration to achieve best net, sustained value-for-money in the selection, design / acquisition, operations, maintenance and renewal / disposal of physical infrastructure and equipment.

Why PAS55?

PAS55 is a Publicly Available Specification for the asset management of physical assets that was first released in the UK in 2004 by the Institute of Asset Management (IAM) and the British Standards Institution. PAS55 was developed with practical and operational input from over fifty utilities around the world.

At a company-wide level, PAS55 is now the internationally recognised standard for asset management, and provides a valuable means of benchmarking company performance in all of the major areas of strategic asset management. If a company can achieve certification to PAS55, it proves that the organisational structure, processes and systems are aligned with international best practice and will be both efficient and effective. An additional key benefit is the ability to link the strategic direction of the business to how the asset base is then actually managed. The benefits of certification come from the longer term adherence to the criteria, rather than the certificate, as this requires a cultural focus on sustainable asset management.

Although all water and sewerage companies were required to follow the relatively-similar Asset Management Planning and Performance (AMPAP) assessment process for the 2009 Price Review, PAS55 is generally regarded as being the most accessible and far-reaching of the available asset management frameworks, as well as being the defacto industry standard. For this reason, many are now seeking to build on their AMPAP work to achieve PAS55 certification in line with other international utility organisations. The UK Electricity Regulator OFGEM for example, required all UK distribution companies to have achieved accreditation by 2008 and to report ongoing performance against the standard on an annual basis.

Dwr Cymru Welsh Water's approach to certification

Dwr Cymru Welsh Water recognised the benefits of PAS55

certification during the PR09 cycle, but also acknowledged that attaining certification by March 2009 would support the AMP business plan submission. In order to establish the extent of the challenge, a gap analysis was commissioned. This identified 35 elements across the business that needed further development and would have to be addressed in time for the first PAS55 audit. The plan to implement Welsh Water's asset management approach was completed in March 2008, leaving 12 months to complete the work from, effectively, a standing start. Given the obvious benefits of certification, Welsh Water decided to take on the challenge despite the lack of time.

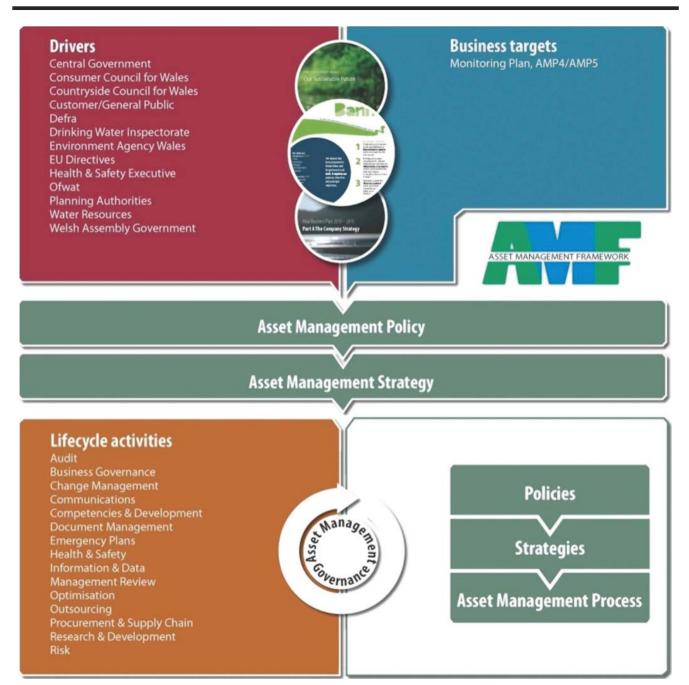
To deliver Welsh Water's asset management approach and achieve PAS certification, it was initially felt that external help would be required from consultancies with experience of asset management through PAS55. Competitive tenders were sought, but the leadership teams recognised the relevant expertise was already within Welsh Water itself and its alliance partners. Welsh Water therefore turned to their partners in the Asset Management Alliance that had been formed to deliver AMP4, and under Welsh Water leadership they assembled a team from the two asset operation partners (United Utilities Operating Services and Kelda Water Services) and the two process-based Asset Investment Partners (Black & Veatch Ltd and Imtech Process). This had the benefit of developing a key asset management system for the business with significant cost savings.

This team was charged with identifying all the key asset management elements that was considered in place already in the business. These covered all processes, systems, procedures, data / system support tools, decision making tools, strategic documentation and document control mechanisms. Once identified, they were physically linked to an asset management tool called the Asset Management Framework (AMF) which was made available for the whole organisation to access. The AMF is fundamentally Welsh Water's overall approach to managing its assets and enables clear 'line of sight' from the strategic direction set within the business plans down to the operation, maintenance and investment of the entire asset base. Once assembled and collated in the AMF, all linkages had to be checked and tested to ensure that they filled the gaps identified by the gap analysis. Following this, any remaining gaps were addressed - either by creating a suitable procedure or by developing a plan showing how the gap would ultimately be filled.

The final PAS55 audit was carried out over four days in March 2009, and certification was attained on 29 March. For their efforts the PAS55 team were awarded AMA team of the Year for 2009/10.

From PAS55 to the Asset Management Framework

It was always recognised that development of Welsh Water's Asset Management Framework (AMF) would be an evolutionary process where continual improvement would drive change. A major example of this change is where the current version of the AMF (see diagram)



has been developed which enhances yet simplifies the representation of Asset Management in DCWW. The same principles still exist in that it is accessible and visible to Welsh Water and its partners, via an intranet, and allows complete visibility from board to asset with each section having drop down menus when highlighted. Governance mechanisms and ownership of this governance are also critical in enabling the Framework to continually function and to enable any business change to be reflected within the Framework.

The above diagram (AMF) shows the front page of the system, which is split into four key areas:

- Drivers this covers all of Welsh Water's external business drivers, particularly customer-related and regulatory;
- Business targets this sets out the performance metrics that Welsh Water has to meet or beat;
- Lifecycle activities represents key enablers to drive / support delivery of asset management;
- Policies / strategies/AM PROCESS— the fundamental part of the AMF, in which Welsh Water's policies are, should be visible and linked to supporting strategies and processes to deliver strategic objectives.

Also linked directly from this page are Welsh Water's Strategic

Direction Statement, AMP5 Business Plan and banner. Finally, the governance for the AMF itself can be accessed from this page.

All of Welsh Water's activities are now directed through the AMF, and all service providers are contractually required to use and comply with the AMF.

What next?

The entire asset management approach is driven by the need to continually improve and to ensure it is subsequently embedded within the business. Ongoing development of the AMF and, just as important, it's utilisation within the business, is continually being fine tuned from yearly review of all policies and strategies to linkage to the operational, maintenance and capital delivery plans. A main aim is to ensure every policy, strategy and plan is linked to the business targets set out in Welsh Water's strategic business plans along with visibility of all key external stakeholder requirements and objectives.

Note: The Editor & Publishers thank Toby Harding, Framework Manager with Black & Veatch Ltd, Andy Thomas, Asset Management Framework Manager with Dwr Cymru Welsh Water, and Tim Kay, Senior Asset Management Consultant with Black & Veatch Ltd, for preparing the above article for publication.