

PAS55

tapping into effective asset management best practices through PAS55

by Tim Kay and Chris Roxburgh

Physical assets dominate the balance sheets of most water utilities. Asset management broadly encompasses the provision of products, services and solutions that improve the capability of assets in terms of market strength and viability, customer service, financial performance, capacity, availability/reliability, flexibility, risk, efficiency and environmental performance. Within the water industry, it is more succinctly described as making the most of existing infrastructure while providing high-quality, reliable customer and environmental service. Optimisation of assets is the focus of the future, and PAS55 provides a way for utilities to fine-tune that focus.



PAS55 offers key strategies for internal auditing and continuous improvement that correlate closely with AMPAP

Courtesy of Black & Veatch

The case for PAS55

In England and Wales, water companies must convince Ofwat that policies, strategies and procedures necessary to ensure consistently effective asset performance are embedded in and applied throughout their business. Ofwat increasingly seeks confirmation that asset investment proposals are part of long-term plans and seeks confirmation that regulatory submissions both reflect and encourage an approach to monitoring, recording and managing asset condition and performance that is part of day-to-day business operations.

Assessment and certification through the British Standards Institute (BSI)'s Publicly Available Specification 55 (2008), commonly referred to as PAS55, is an excellent way for water companies to demonstrate adherence to best practices in asset management. PAS55 provides a structure to support the introduction and operation of asset management tools and systems that can help water companies achieve the levels of asset understanding that Ofwat deems increasingly important. PAS55 was developed by the Institute of Asset Management (IAM) to create a recognised benchmark for best practice in physical asset and infrastructure management.

To ensure the specification's suitability for supporting water companies' goals, Black & Veatch assessed the alignment of

PAS55 against the requirements of the Asset Management Planning Assessment Process (AMPAP) developed by UK Water Industry Research prior to PR09. The correlation between the two approaches is so strong that some of the water companies that engaged Black & Veatch to improve AMPAP scores have achieved external certification with PAS55 with relatively little additional work. PAS55 provides a sound basis for implementing sustainable business change because of its broad scope, and it offers key strategies for internal auditing and continuous improvement that are essential for driving organisational change because it is aligned with the principles of an ISO standard. The benefits of managing assets in line with PAS55 include improved customer satisfaction from strengthened performance and control of service delivery.

Black & Veatch was among the first companies to be selected as an IAM Endorsed Assessor for PAS55 and sits on a relatively exclusive bench of only 13 organisations. As an Endorsed Assessor, the company works with utilities to help them reach the PAS55 standard by identifying strengths and weaknesses through gap analysis and building on existing capabilities to develop sustainable improvement. Black & Veatch has worked closely with several clients assisting them in the development of approaches to asset management that are in line with the specification or, where the utility has deemed it of benefit, achieve PAS55 external certification.



Dŵr Cymru Welsh Water

As one example, Black & Veatch recently assisted Dŵr Cymru Welsh Water with the general requirements of PAS55 and interpreted sections of the Asset Management Process. The work enabled the utility to demonstrate the required outsourcing links by facilitating integration of Black & Veatch's ISO9001 system with Welsh Water's Contractor Procurement Process. Among other activities, the project team supported the development of new working processes for the Asset Strategy Department and its function within the asset management system, addressing risk identification and investment prioritisation.

Izmit

Another example can be found outside the UK. Turkey's desire to join the EU means that the environmental and water quality standards need to be in line with the rest of Europe, making a reasonable comparison relatively easy. Akifer Water Services, who are the O&M contractor for the Izmit Water Supply Project, are striving to meet best practices and have asked Black & Veatch to undertake an audit against "good utility practices." Although a formal PAS audit wasn't practical, the PAS55 framework was used as a basis for the review, and the format of the review followed PAS55 guidelines.

The audit provided food for thought, because tight restrictions placed on the operations by the local authorities, political sensitivities about private finance involvement in the water supply system, and lack of any legacy assets, systems or employees, (the whole operation from dam to distribution was new in 1999) made for an incredibly efficient and well-run operation. Primarily because the processes, procedures and systems were simultaneously developed, all are integrated and aligned in a way that many utilities would envy. The audit tracked maintenance histories on assets selected at random, and nothing was missing. The workforce (in-house and contracted out) understood the requirements of all the stakeholders, system complexities, and their role in ensuring that it all came together. Although the regulatory framework in the UK doesn't permit a wholesale replacement, the current AMP-by-AMP approach leads to a less uniform outcome than was possible at Izmit.

South East Water

Black & Veatch began work with South East Water (SEW) on PAS55 in 2009 with gap analysis and then supported the utility's asset management team in addressing identified gaps through a combination of quick wins and longer-term initiatives. With successful external certification audits in August 2009, South East Water became the first water-only company in the UK to achieve external certification for PAS55 compliance.

Bringing the story up to date, in 2010 South East Water engaged

Black & Veatch to assist in addressing the cited minor non-conformities, opportunities for improvement, and other long-term benefits that improvements to its asset management framework could provide. Black & Veatch supplemented the PAS55 specification and the PAS55 Assessment Methodology (PAM) with real-world experience in the utility industry from the UK and worldwide, providing insight about what can work well and what may not provide a good return on invested time and energy. The team focused on the integration of initiatives, drawing on the good work in some areas to support minor weaknesses elsewhere. The PAS55 specification is primarily about making sure that the entire system works effectively, and the evidence-based audit approach means that one good answer is not sufficient; good practice must be demonstrated in all areas to achieve full compliance. SEW's Asset Information Manager and others within the business have worked hard and made tremendous strides in this respect, and are starting to see the benefits.

The principal benefits of optimised life-cycle asset management as applied to SEW business strategy and operations include:

- Enhanced customer satisfaction from improved performance and control of product or service delivery to the required standards.
- Improved health, safety and environmental performance;
- Optimised return on investment and/or growth.
- Long-term planning, confidence and performance sustainability.
- The ability to demonstrate best value-for-money within a constrained funding regime.
- Evidence, in the form of controlled and systematic processes, to demonstrate legal, regulatory and statutory compliance.
- Improved risk management and corporate governance and a clear audit trail for the appropriateness of decisions taken and their associated risks.
- Improved corporate reputation, the benefits of which may include enhanced shareholder value, improved marketability of product/service, greater staff satisfaction and more efficient and effective procurement from the supply chain.
- The ability to demonstrate that sustainable development is actively considered within the management of the assets over their life cycles.

Between August and October 2010, Black & Veatch conducted a series of detailed interviews and workshops using the PAM tool, supplemented by visits to operational depots and treatment works to see systems in practice and meet with a diverse cross-section of employees. It is crucial to look beyond the people who

put the system in place to those who must optimize the assets to successfully achieve PAS55 standards. The Asset Management Department in SEW has put substantial effort into roadshows and communications to ensure that the field teams understand not just what they're being asked to do differently, but also why. This extends to the subcontractors and all outsourced work; audits included evaluation of the alignment between SEW's in-house processes and subcontractors' systems. Reviewing the processes in the confines of a meeting room is all well and good, but being able to track individual tasks and activities on site, and determine how tasks are triggered, carried out and closed off – and more importantly how they affect future work – is invaluable. Carrying out the right tasks at the right time not only extends the life of the assets and increases uptime, but also reduces unplanned interventions and overtime and allows organisation to better manage people. In addition, improved risk management allows companies to reduce their risk margins with confidence, which enables them to reduce expenditure in a managed, controlled way without storing up problems for the future.

"A key stage in developing an asset management system was application of the IAM PAS55 Assessment Methodology," said David Bradley, SEW Asset Information Manager. "This tool, along with Black & Veatch's knowledge and expertise, provided us with the mechanism to benchmark where we are as an organisation in terms of our asset management capability."

Looking ahead to further efficiencies

Operational efficiency will be increasingly important in future AMPs, as overall asset creation drops and utilities focus more on existing assets, and an integrated approach to asset management may offer the greatest potential to realise efficiencies into the next price review process. In preparation for PR14, the direction of asset management within the water industry is moving in line with PAS55 standards and Ofwat's desire for continued improvement



An evidence-based audit approach helped SEW ensure the entire system works effectively - Courtesy of Black & Veatch

in appropriate statistical techniques as the foundation for asset planning; common understanding of risk and application across asset groups; understanding of the spatial and temporal variability of the consequences of failure alongside operational responses; and applying and understanding optimisation toolkits and frameworks within asset planning in order to target the optimum platform.

PAS55 delivers sustainable efficiencies for managing assets because it looks at capital and operating expenses through an approach that considers the whole-life cost of assets – including social and environmental costs. Companies that have adopted such an integrated approach will be able to clearly show Ofwat that they are squeezing efficiencies from their systems and making the most of their physical assets without compromising service or taking unreasonable risks.

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