



.....

Root Cause Analysis & AMP8



The role of **Root Cause Analysis** in addressing the increasing pressure upon the **UK Water Industry** throughout the AMP8 period (2025-2030)

Proud members of

BRITISH
WATER





The water industry in the UK is facing increasing pressure to meet higher regulatory standards and respond to evolving environmental, social, and governance (ESG) expectations. AMP8 (the 8th Asset Management Period, spanning 2025- 2030) represents a pivotal moment for the sector, as it focuses heavily on delivering improved environmental outcomes, operational efficiency, and resilience.

With the continued challenge of climate change, population growth, and ageing infrastructure, water companies are being asked to go beyond traditional methods and adopt more proactive, holistic approaches to their operations. The role of technology is likely to increase further, dominating areas such as risk management and problem solving.

This period of significant regulatory change demands that water companies not only comply with new rules but also deliver on ambitious long-term sustainability and efficiency goals. Root Cause Analysis (RCA) has emerged as one of the key methodologies that can help water companies navigate these challenges. By identifying the underlying causes of operational issues, RCA provides a structured approach to continuous improvement, helping organisations address the root causes of their most complex problems rather than merely treating their symptoms.



AMP8: A New Regulatory Paradigm

AMP8 will be defined by three key regulatory imperatives:

1 Environmental Responsibility

Water companies are required to reduce pollution incidents, improve water quality, and mitigate environmental impact. Given the sector's critical role in preserving natural ecosystems, improving resilience to climate events, and reducing carbon footprints, water companies are facing heightened scrutiny from both regulators and the public.

2 Customer Outcomes

As with the new Consumer Duty regulations in Financial Services, a focus on customer outcomes is central to the new regulatory focus. This includes ensuring water quality, improving service reliability, and reducing service disruptions. With rising expectations around customer satisfaction and accessibility, water companies are expected to keep customer complaints to a minimum and improve engagement through transparent and responsive service.

3 Cost Efficiency

AMP8 is underpinned by the need to achieve all of these outcomes while managing costs effectively. In a time of rising energy costs, economic uncertainty, and potential financial constraints, water companies must operate more efficiently than ever. This includes managing capital and operational budgets while still delivering on an ever expanding set of interrelated regulatory requirements.



RCA: A Strategic Enabler for Operational Excellence

Root Cause Analysis is a structured methodology for identifying the root causes of issues within complex systems, rather than simply addressing the immediate symptoms. Simple RCA (5 Whys Method, for example) supports simple, rapid analysis but for complex systems, aligned with strict regulation, the RCA tools will have to be more sophisticated, more intelligent and above all, easy to scale.

For water companies, adopting modern RCA also means adopting a mindset of proactive, rather than reactive, management. This approach enables organisations to:

Prevent recurring issues through systemic, very structured problem solving.

Enhance decision-making with data-driven insights.

Foster collaboration across departments to drive effective, integrated solutions.

Achieve sustainability goals by eliminating systemic inefficiencies and aligning operations with environmental targets.

As UK water companies strive to meet the demands of AMP8, intelligent RCA can serve as a tool for continuous improvement—ultimately helping organisations build operational resilience and not just meet but exceed regulatory expectations.



How a Modern RCA Platform Helps Water Companies Excel in AMP8

Intelligent RCA's value proposition lies in its ability to efficiently and quickly move beyond immediate short-term solutions applied to symptoms, and efficiently address the deeper, often systemic causes of recurring issues. This contributes to long-term operational improvements, better compliance, and enhanced sustainability.

Below are five specific ways RCA supports water companies in the context of AMP8:

1

Prevention of Recurring Issues

Traditional problem-solving approaches often focus on short-term fixes—such as repairing a faulty valve or addressing a temporary drop in water quality. However, without addressing the root cause, these issues can recur, leading to increased operational costs and potential regulatory penalties.

EXAMPLE

A water treatment plant may experience repeated pump failures. While a quick fix might replace the failed pumps, RCA could uncover deeper causes, such as an ineffective maintenance schedule, outdated technology, or poor supplier quality control. Addressing these root causes not only resolves the immediate issue but also reduces the likelihood of similar failures in the future, leading to greater reliability, cost savings, and compliance with AMP8. A companywide platform not only reveals systemic failings but enables us to forecast and track emergent trends. Solutions that work will be amplified and shared, those that fail will be addressed and improved or replaced.



2

Enhanced Data-Driven Decision-Making

RCA has always relied on systematic data collection and analysis, which aligns closely with AMP8's emphasis on evidence-based, transparent approaches. Leveraging the advanced RCA data analytics tools and machine learning with existing asset management or safety systems can provide water companies with real-time insights into system performance and asset health.

BENEFIT

By analysing trends and operational anomalies, water companies can make data-driven decisions that optimise asset management, reduce the frequency of failures, and prevent issues before they escalate. This approach not only improves operational efficiency but also supports long-term regulatory compliance by documenting and demonstrating proactive management of risk. The powerful outcomes engine in **What Caused This** sets the standard in RCA reporting.

3

Improved Collaboration Across Teams

Traditional RCA encourages cross-functional collaboration by involving teams from operations, engineering, compliance, and management. Modern RCA removes collaboration barriers by breaking down silos and bringing together different areas of expertise. RCA creates a Just Culture of shared responsibility and accountability, driving innovation and ensuring that all perspectives are considered when addressing problems.



OUTCOME

Teams that adopt a modern RCA culture are better equipped to solve complex issues together, ensuring that solutions are comprehensive and aligned with broader AMP8 objectives. Collaboration fosters a continuous improvement culture, where each department contributes to overall operational excellence.

4

Sustainability and Environmental Gains

Environmental outcomes are central to AMP8, with water companies tasked with improving water quality, reducing pollution, and ensuring the sustainability of water resources. RCA helps companies identify systemic issues that contribute to environmental harm—whether due to operational inefficiencies, design flaws, or inadequate preventive measures.

EXAMPLE

RCA could uncover the reasons behind recurrent pollution incidents, such as the specific reason for a wastewater treatment failure or sewer system overflows during particular and unique weather conditions. By addressing the hidden root causes—whether through infrastructure upgrades, operational changes, skills development or better risk management strategies—companies can reduce their environmental impact and ensure compliance with AMP8's sustainability objectives.

Successful implementation of RCA, particularly when supported by advanced analytics and high-quality software, enables water companies to monitor trends and forecast potential system failures before they occur. By pooling expertise, data, and historical RCA insights, companies can predict where future problems may arise and take pre-emptive action to mitigate risks.

EXAMPLE

By using platforms like **What Caused This**, companies can track recurring issues, identify patterns, and forecast potential failures in asset performance, enabling them to proactively manage maintenance and reduce risk. By continuously updating and reviewing RCA data, organisations can create predictive maintenance schedules that save time, money, and resources.



Implementing RCA: Practical Steps for Success

To embed RCA effectively within their operations, water companies should consider the following steps:

1 Invest in Training

Equip staff across all levels with the knowledge and tools to effectively perform RCA. This includes training on a specific RCA methodology and technique, as well as familiarising staff with the relevant software platforms. Only by standardising and streamlining the RCA process will the necessary efficiencies be generated to meet the demands of AMP8.

2 Leverage Technology

Water Companies will have to incorporate digital tools and technologies into their RCA process to enable effective data collection, analysis and solution measuring. This could include sensors, AI-driven predictive maintenance tools, and digital dashboards that provide immediate insights into system performance and potential risks. Modern RCA platforms will have to allow integration into these existing and emergent technologies.

3 Foster a Pro-active Problem Solving Culture

Cultivate a culture of continuous improvement, where RCA is viewed as an ongoing, iterative process of performance rather than a one-off fault-finding activity. 21st century RCA should support and reward open communication, knowledge-sharing, and cross-departmental collaboration to ensure that every lesson learned contributes to long-term operational excellence. Our RCA heroes should be at the centre of our CI activity, solving problems, reducing risk and encouraging a just and fair culture.

4 Measure Outcomes

Track and evaluate the success of RCA initiatives by measuring key performance indicators (KPIs) such as reductions in incident frequency, cost savings, improved compliance scores, and environmental impact reductions. This will help quantify the enormous value of RCA and ensure its alignment with AMP8 goals.



The Business Case for RCA under AMP8

The business case for adopting RCA is strong, particularly when considering the long-term benefits. These include:

Cost Savings: By preventing recurring issues, optimising resource allocation, and improving operational efficiency, water companies can realise significant cost savings.

Enhanced Reputation: By demonstrating a commitment to sustainable practices and compliance with environmental regulations, companies can strengthen their reputation and customer trust.

Regulatory Confidence: RCA enables water companies to proactively address issues and demonstrate compliance, building trust with regulators and helping to avoid costly penalties.

Improved Workplace Culture: By embedding a culture of proactive problem solving, under which ever greater resource flows from cure to prevention, we can encourage and reward our strategic systems thinkers. We must adopt a holistic approach to AMP8, where RCA contributes to a companywide culture of improvement.

Conclusion: RCA as a Strategic Enabler for AMP8 Success

Root Cause Analysis is not just a problem-solving tool—it's a strategic enabler that can help water companies navigate the complexities of AMP8 and beyond. By addressing underlying causes rather than just symptoms, RCA helps organisations optimise performance, enhance compliance, and meet the ambitious sustainability and operational goals set by regulators. For water companies ready to embrace the culture and modern benefits of RCA technology, the rewards are clear: not just compliance with AMP8, but a more resilient, efficient, and sustainable future.

What Caused This is committed to providing UK water companies with the RCA platform and skills required to meet the highest standards in compliance, quality and safety.

Meeting the requirements of AMP8, Ofwat, The Environment Agency as well as wider market demands is made easier with **What Caused This**.





Contributors:

For over a decade, Both Jonathan Batchelor and Ed Wells have worked closely with UK Water Companies to facilitate the implementation of RCA skills and technology within the water and wastewater network.

Jonathan Batchelor
CEO

What Caused This

Ed Wells
CSO

What Caused This