

Business Plan 2020-2025

Resilience Action Plan



**South West
Water**



**Bournemouth
Water**

Contents

The Ofwat requirement	3
Executive summary	4
Supporting narrative	7
Conclusion	12
Appendices	
Detailed Action Plan	13

The Ofwat requirement

The company should provide a commitment that it will, by 22 August 2019, prepare and provide an action plan to develop and implement a systems-based approach to resilience in the round and ensure that the company can demonstrate in the future an integrated resilience framework that underpins the company's operations and future plans showing a line of sight between risks to resilience, planned mitigations, package of outcomes and corporate governance framework.

Executive summary

At South West Water we have a robust and well-articulated approach to resilience. Ofwat's initial assessment of our PR19 business plan noted our approach to resilience as setting the standard for the sector.



“The company demonstrates a high-quality approach. It considers a wide range of options to mitigate resilience risk, including its initiatives on Upstream Thinking and Downstream Thinking. It engages with a wide range of stakeholders and customers. It targets financial ratios consistent with an investment grade credit rating and proposes to maintain its gearing at around 63%¹.”

It is this approach, and our focus on continuous improvement that gives us confidence in our ability to continue our strong track record in providing a resilient service.

We recognise the value in using a systems-based approach to resilience as part of our continuous improvement, which provides:

- Our management and people with the ability to make decisions based on a detailed understanding of the interrelationships between performance, outcomes and risks
- Our customers with efficient solutions, having considered a wider range of options and their delivery of long-term value.

We are already fully committed to adopting a systems-based approach as the next significant step in our continual journey to improve our resilience. Although there are many successful examples of systems thinking in our business, we recognise that we are on a journey to applying these in a consistent and structured way, to improve our resilience in the round.

Indeed, Ofwat noted that despite our overall resilience that we did not:

“...sufficiently demonstrate an integrated and systems-based approach to resilience.”

We recognise the need to embed our systems-based approach as the next step in our journey to becoming more resilient. We have already established a definition for ‘systems-based approach’ which will help give clarity and structure to the ongoing programmes of work.

We define a systems-based approach to resilience in the round as:

The targeted and systematic adoption of systems thinking in identifying, assessing and managing the full range of risks to resilience. This approach spans across Corporate, Financial and Operational resilience in both the short and long term.

Our plan is to expand our current systems thinking activities across all areas of resilience, enhancing our ability to:

- Understand the internal / external **causes of risks** to resilience across our systems
- Manage internal / external **impacts of risks** to resilience across our systems through well governed frameworks
- Develop and select the **options** to best serve our customers
- Communicate with customers about the risks to resilience and make our customers and stakeholders **part of the solution**.

Our action plan for a systems-based approach will take South West Water from a business that understands and manages resilience well, to a business that applies a consistent and sustainable systems-based approach to resilience in the round. Our action plan is part of our wider plan to continuously improve our business. The plan will evolve as our understanding develops and we apply lessons learned, both from our own successes (and failures) and those of others, inside and outside of the UK water sector. We will use our systems-based approach as part of the next two annual investment planning cycles. We will use a sprint methodology to embed our new processes in an agile manner. After each investment cycle, we will incorporate lessons learned and improve our process.

The action plan has been reviewed by the WaterFuture Customer Panel and the progress against the plan will be monitored through the WaterShare+ governance framework.

¹ PR19 initial assessment of plans: South West Water company categorisation, January 2019

The Key Stages of our Action Plan			
Today	End of 2020	End of 2022/23	End of 2029/30
<p>We have a vision, desire and action plan to improve our resilience in the round.</p> <p>We understand and apply the principles of the 4R's and resilience investment schemes are prioritised.</p> <p>Business risks to resilience are being managed through our risk management process, aligned with ISO31000.</p> <p>Stakeholders are engaged in the solutions we develop.</p>	<p>A systems thinking based culture is adopted.</p> <p>Performance improvements are being realised across our four core resilience measures.</p> <p>Community engagement is consistent and effective.</p> <p>We understand how to positively influence customer behaviours.</p>	<p>All resilience options are developed through broad systems thinking processes.</p> <p>Our stretching performance commitments are achieved.</p> <p>We manage business risks to resilience through systems thinking.</p> <p>Wider Nexus engagement and collaboration is the norm.</p>	<p>A culture of systems thinking is embedded across all aspects of our organisation.</p> <p>Our decision makers are experts in systems thinking.</p> <p>We can evidence that we're making the right decisions for resilience.</p> <p>We consistently influence customer behaviours to improve resilience.</p>

Our ambition to embed a systems-based approach to resilience in the round is a long-term goal that will be in place from 2020. In order to ensure our customers see value throughout our journey in our action plan, we have outlined our expectations for when certain benefits will be realised. We have described the early realisation of benefits and the value they bring as Transition States on the journey to achieving our desired End State. As we move through each transition state, we will ensure we have the culture to sustain the improvements we've made before we begin moving toward the next state.

We are pleased with the significant progress we have already made on the journey so far, outlined in Transition State One below.

Transition State One – Our current position

- We have developed an action plan, including accountabilities and delivery dates, that we need to undertake to realise our vision for embedding a systems-based approach across our organisation
- We have reviewed our corporate governance structures to determine whether they support a systems-based approach
- We understand our position as a company against the four 'Rs' – redundancy, resistance, response and reliability
- We continue to identify and invest in schemes to improve our resilience in the round using our understanding of asset risks in the context of our drinking water and wastewater systems
- We understand our business risks to resilience and manage these risks in line with our ISO31000 aligned risk management process
- We have enhanced our central control and operation of our assets to provide additional resilience outside of core operational hours
- We are leading a pioneering research project (SIM4NEXUS) that strives to understand the resilience of the South West across Water, Land, Food and Energy sectors in the region

- We are actively working with external stakeholders (including various Local Resilience Fora) to engage them in some of the solutions that more cost effectively manage resilience
- We have implemented a pioneering sustainable financing framework
- Partnering with the University of Exeter we are establishing a UK centre for Resilience and Innovation for the water sector.

Transition State Two – End of 2020

By the end of 2020 we will:

- Place all significant business risks to resilience on our corporate risk register and manage these in line with current process (ISO31000 aligned)
- Ensure all owners of risks to resilience understand the systems-based approach and the need to apply this to the risks they manage
- Adopt a consistent systems thinking approach across our drinking water and wastewater systems to understand asset risks in the context of the wider systems
- Consistently adopt systems thinking used in developing solutions for all asset investments above £100k value
- Upgrade investment decision making tools to align to PR19 outcomes and enable more advanced system analysis of drinking water and wastewater systems
- Further train our asset investment teams in systems-based approach
- Enhance the data we get from our infrastructure and our ability to analyse it, to enable better business decisions
- Complete value stream mapping for four identified priority resilience performance commitments (PCs)
- Complete development of associated metrics to monitor performance and align our teams.

Transition State Three – End of 2022/23

By April 2023 we will:

- Enhance our risk management process to better understand causes and impacts across both internal and external systems. We will then use this insight in how these risks are controlled and mitigated
- Train all resilience risk owners in the process of using systems thinking to manage their risks, and do so
- Understand which additional data (including external) better inform asset risks and include these in our asset risks scoring to inform a systems-based approach
- Develop contingency plans for all significant asset risks that have not been addressed through investment
- Use systems thinking and predictive analytics to further enhance operational responses
- Ensure all resilience-linked PCs have undergone value stream mapping and associated metrics have been identified to monitor performance and align our teams
- Understand external performance related interdependencies within the value streams of our latest resilience related PCs
- Ensure teams working within four identified priority resilience PC value streams understand their role in the process and interdependencies with other teams to achieve performance targets
- Use our WaterShare+ governance framework to ensure communities are more consistently engaged in solutions.

End State – End of 2029/30

Our objectives for the End State will continue to evolve over time, but aspects of our vision currently include:

- Further enhancing our risks management process to identify all significant interdependencies and interrelationships with the risks, and use this insight systematically for controlling / mitigating risks
- Upgrading our risk management system to enhance capability to use a systems-based approach to risks to resilience
- Using systems thinking for all investment decisions
- Further upgrade our investment decision making tools to enable systems thinking for all investment decisions through increased automation
- Giving all our people an understanding of a systems-based approach
- Understanding external performance related interdependencies within the value streams of our latest resilience related PCs
- Teams working within all PC value streams understand their role in the process and interdependencies with other teams to achieve performance targets.

We are focusing on ensuring our objectives outlined in our End State deliver what we need – a systems-based approach that provides customers with better value and better outcomes.

Our action plan identifies the remaining key activities to get us to each of our Transition States and our End State vision. These will be achieved through an ongoing culture change in our people. Both the action plan and our End State vision will continue to be refreshed as insights are developed internally from lessons learned and externally through growth in best practice understanding.

We recognise the need to ensure a coordinated approach across the business and are in the process of appointing a project manager who will deliver our action plan from 1 September 2019. The first report back to Ofwat on our progress will be during 2020.

Supporting narrative

Our current approach to resilience in the round

As outlined in our PR19 business plan submission ‘Securing Long-Term Resilience’ supporting document, we already have a mature approach to resilience management that is embedded within our culture. Ofwat’s initial assessment of our resilience approach was that:



“The company demonstrates a high-quality approach. It considers a wide range of options to mitigate resilience risk, including its initiatives on Upstream Thinking and Downstream Thinking. It engages with a wide range of stakeholders and customers. It targets financial ratios consistent with an investment grade credit rating and proposes to maintain its gearing at around 63%².”

We consider that we have consistently demonstrated our ability to anticipate risks, prepare for them and respond to disruptive impacts through our embedded Resilience Management Process³. Our risk management framework is well established and enables clear scoring and quantification of resilience risks in line with international best practice standards.

International best practice

South West Water follows a risk management policy and framework. The development of these has been informed by the ISO31000 (Risk Management Guidelines) family of standards, which relate to risk management⁴.

We are certified under ISO9001 (Quality Management System) and ISO14001 (Environment Management System) and the requirements of these standards are integrated into the Company’s overall risk management framework.

Bottom up environmental impact assessments are also carried out in line with ISO14001, and these inform environmental risks in our risk register.

A consistent 4x4 methodology is applied in the assessment of our risks, which considers both the likelihood of the risk occurring and the potential impact. Impact is assessed across a range of categories including financial, safety, environmental and customer impact. Likelihood is defined under four categories (probable, possible, unlikely or rare) with defined probability thresholds.

We are confident we have the correct governance in place to effectively manage our resilience in the round risks. We consider interdependencies between risks when they are discussed as part of our regular review process: specific Risk Fora are held within Directorates – Drinking Water, Wastewater and Customer. In addition, our Risk and Assurance Forum reviews the principal and business risk assessments, the controls and mitigations in place and the associated assurance activities.

Our 4x4 methodology to risk

Likelihood (over 5 years)	Probable (>70%)	4				
	Possible (30-70%)	3				
	Unlikely (10-30%)	2				
	Rare (<10%)	1				
			1	2	3	4
			Minor	Moderate	Major	Severe

Our established Integrated Assurance Framework, was used as the basis of our assurance approach for PR19. The application of the framework for PR19 was designed to ensure that the Board can be satisfied that there had been sufficient challenge to ensure that the plan delivers operational, financial and corporate resilience over the 2020-25 period and beyond⁵.

The Board is directly embedded into the company’s risk assessment framework and was therefore at the heart of the comprehensive independent assessments of the company’s resilience as part of the PR19 process. This gives us confidence that the PR19 plan effectively considers all relevant risk scenarios and options for managing risk⁶.

We also established the Resilient Service Improvement (RSI) project, which is led by our Director of Resilience. The purpose of this project (when it was created) was to:

- Address the findings from the independent resilience assessments completed as part of the PR19 process⁷
- Consolidate our approach to resilience in the round for PR19.

2 PR19 initial assessment of plans: South West Water company categorisation, January 2019

3 Securing Long-Term Resilience, September 2018, page 17

4 These standards were not developed with the intention for certification but our policies are in line with the suggested standards.

5 Securing Trust, Confidence & Assurance, September 2018, page 3 (sic)

6 Securing Trust, Confidence & Assurance, September 2018, page 6 (sic)

7 Securing Long-Term Resilience, September 2018, page 14

Supporting narrative continued

Having made significant progress in these areas, its ongoing purpose is to action the key resilience interventions we outlined in our Securing Long-Term Resilience document⁸. Our mix of interventions were analysed using our investment optimisation tool and built as a package to ensure we improved our position as a company against the four 'Rs' – Redundancy, Resistance, Response and Reliability.

Our risk management, corporate governance and assurance processes provide frameworks for us to ensure we are correctly identifying and mitigating risks to resilience in the round. It is our robust and evidence-based approach, combined with our ongoing and future business initiatives such as the Resilience Service Improvement (RSI) project, and our focus on continuous improvement that gives us confidence in our ability to continue our strong track record in providing a resilient service⁹.

The next big step for resilience in the round – our systems-based approach

We recognise the value in using a systems-based approach to provide:

- Our people with the ability to make decisions easily using holistic information based on a detailed recording of the interrelationships between performance, outcomes and risks
- Our customers with efficient solutions, having considered a wider range of options and their delivery of long-term value
- Engaging stakeholders and involving them in solutions by helping them understand the wider context of resilience.

We have shared some of our thinking on the application of a systems-based approach with our customers through the business planning process.

WaterFuture – the South West Water Customer Challenge Group – provided robust challenge on how we balance both customer and shareholder expectations to achieve financial resilience. They also commented that:

“The Panel recognised the innovative approaches adopted by South West Water in its customer engagement to understand customer views and priorities...”

In addition, the Panel is confident that South West Water has the capabilities to be resilient in difficult situations as shown during the freeze and thaw (event).”

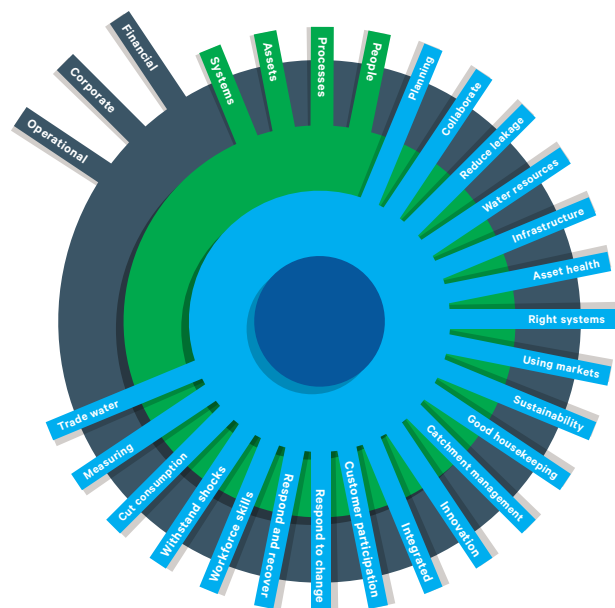
This was supported by Professor Ian Bateman from the University of Exeter who commented on our 'Freeze and Thaw - lessons learned and action plan'¹⁰ report:

“The list of solutions is impressive and well-tailored to the problems caused, even down to the level of individual re-training of staff.”

Our vision for a systems-based approach to resilience in the round

As outlined, we currently manage resilience in the round – understanding the financial, corporate, environmental and operational risks we face as a business, and the consequences of those risks being realised. This places obligations on us to ensure the right skills, leadership, systems, processes and infrastructure are in place to support delivery of a robust, affordable and reliable service to our customers.

Resilience in the round



We understand that a systems-based approach will be required for us to deliver our resilience in the round vision. Once adopted, this approach will enhance our ability to:

- Understand the internal and external causes of risks to resilience across systems
- Understand the internal and external impacts of risks to resilience across systems
- Develop and select the options to best serve our customers
- Communicate with customers about the risks to resilience and the options available.

8 Securing Long-Term Resilience, September 2018, page 26

9 Securing Long-Term Resilience, September 2018, page 6 (sic)

10 Freeze and thaw - lessons learned and action plan, page 19

Progress we have made in adopting a systems-based approach

Definitions
Systems thinking
We define systems thinking as a holistic approach that recognises the interrelated nature across everything we do, accounting for how making a change in one discrete area can have significant impacts elsewhere.
Systems-based approach
We define a systems-based approach to resilience in the round as the targeted and systematic adoption of systems thinking in identifying, assessing and managing the full range of risks to resilience. This approach spans across corporate, financial and operational resilience in both the short and long term.

As a business, we have begun to apply systems thinking and have several examples of how we have mapped our impact across interrelated internal systems to wider macro systems such as the natural environment and local economy. As we understand these interdependencies in ever growing detail, it enables a greater understanding of challenges we face and the best approaches in facing them.

As outlined within the ‘Securing Long-Term Resilience’ supporting document of our PR19 business plan, we recognise the need for a systematic and integrated understanding of service and system risk across the entire business when considering resilience in the round¹¹.

Our customers have already benefited from our use of systems thinking to resilience as demonstrated in:

- Our multi-award-winning Upstream Thinking catchment management programme, now on its third cycle of intervention
- Similarly, our equivalent wastewater flood prevention initiative, known as Downstream Thinking, involves multiple stakeholders and partners in the development of sustainable drainage solutions
- Our successful long term water resource planning (Water Resource Management Plan) ensuring the supply of water without water restrictions for over two decades.

We also have examples of the application of a systems-based approach for the management of key resilience and other performance indicators. Specifically, our distribution studies framework analyses our supply network to determine cost effective interventions in each supply area depending on the key performance issues experienced.

Our ‘Maintenance and Operation of Sewerage Strategy’ (MOSS), also stems from systems thinking. It considers all key performance indicators in a catchment when determining appropriate inspection and rehabilitation programmes.

However, although there are many successful examples in our business, we recognise that we are on a journey to applying these in a consistent and structured way to improve our overall resilience.

Ofwat’s additional comment on our securing long-term resilience document was that:

“...it does not sufficiently demonstrate an integrated and systems-based approach to resilience.”

We understand the need to systematically apply an integrated approach to our planning, design and maintenance of a resilient infrastructure. And we need to embed a culture of systems thinking more broadly to ensure that, as well as operational resilience (where, as demonstrated above, we already have many examples of systems thinking in action) we see the benefit across corporate and financial resilience.

Developing and implementing a systems-based approach to resilience in the round

Our action plan provides us with a plan to take South West Water from a business that understands and manages resilience well, to a business that applies a consistent and sustainable systems-based approach to resilience in the round.

It defines a clear approach on how to consistently adopt systems thinking:

- It outlines how we will develop our understanding of the internal and external causes and impacts of risks across relevant systems
- It describes how we will develop and select the options to best serve our customers
- It provides detail not only on the people who will deliver this change as part of the RSI project, but our expectation for how we will embed this approach in our future business operations.

¹¹ Securing Long-Term Resilience, September 2018, page 19

Our action plan

The action plan outlines the key outcomes we want to achieve as we develop and implement our systems-based approach to resilience in the round. We have set out the key stages of our action plan in a series of vision statements.

The Key Stages of our Action Plan			
Today	End of 2020	End of 2022/23	End of 2029/30
<p>We have a vision, desire and action plan to improve our resilience in the round.</p> <p>We understand and apply the principles of the 4R's and resilience investment schemes are prioritised.</p> <p>Business risks to resilience are being managed through our risk management process, aligned with ISO31000.</p> <p>Stakeholders are engaged in the solutions we develop.</p>	<p>A systems thinking based culture is adopted.</p> <p>Performance improvements are being realised across our four core resilience measures.</p> <p>Community engagement is consistent and effective.</p> <p>We understand how to positively influence customer behaviours.</p>	<p>All resilience options are developed through broad systems thinking processes.</p> <p>Our stretching performance commitments are achieved.</p> <p>We manage business risks to resilience through systems thinking.</p> <p>Wider Nexus engagement and collaboration is the norm.</p>	<p>A culture of systems thinking is embedded across all aspects of our organisation.</p> <p>Our decision makers are experts in systems thinking.</p> <p>We can evidence that we're making the right decisions for resilience.</p> <p>We consistently influence customer behaviours to improve resilience.</p>

Our action plan is a translation of these vision statements into tangible outcomes, and details steps currently planned to achieve these outcomes (we have not referenced work we have already completed in these areas but this can be provided on request). Our Executive Management Team will oversee the delivery of this action plan, coordinated by a project manager currently being appointed and who will be in place from 1 September 2019.

The first section of the action plan focuses on the development of the approach with later actions focused on implementation of a systems-based approach.

What will this look like?

This action plan is part of our intended continuous improvement plan in relation to resilience. Our plan will evolve as our understanding develops and we apply lessons learned to improve our approach.

Our ambition to embed a systems-based approach to resilience in the round is a long-term goal. In order to ensure our customers start to see value before this, we have outlined our expectations for when certain benefits will be realised. We have described the early realisation of benefits and the value they bring as Transition States on the journey to achieving our desired End State. The outcomes must be achieved to reach each Transition State and the action plan may evolve if it has not delivered the desired outcomes. We will not progress on to delivering subsequent states until we have sustainably achieved the outcomes of the previous state.

Transition State One – Our current position

- We have developed an action plan, including accountabilities and delivery dates, that we need to undertake to realise our vision for embedding a systems-based approach across our organisation
- We have reviewed our corporate governance structures to determine whether they support a systems-based approach
- We understand our position as a company against the four 'Rs' – redundancy, resistance, response and reliability
- We continue to identify and invest in schemes to improve our resilience in the round using our understanding of asset risks in the context of our drinking water and wastewater systems
- We understand our business risks to resilience and manage these risks in line with our ISO31000 aligned risk management process
- We have enhanced our central control and operation of our assets to provide additional resilience outside of core operational hours
- We are leading a pioneering research project (SIM4NEXUS) that strives to understand the resilience of the South West across Water, Land, Food and Energy sectors in the region
- We are actively working with external stakeholders (including various Local Resilience Fora) to engage them in some of the solutions that more cost effectively manage resilience
- We have implemented a pioneering sustainable financing framework
- Partnering with the University of Exeter we are establishing a UK centre for Resilience and Innovation for the water sector.

Transition State Two – End of 2020

By the end of 2020 we will:

- Place all significant business risks to resilience on our corporate risk register and manage these in line with current process (ISO31000 aligned)
- Ensure all owners of risks to resilience understand the systems-based approach and the need to apply this to the risks they manage
- Adopt a consistent systems thinking approach across our drinking water and wastewater systems to understand asset risks in the context of the wider systems
- Consistently adopt systems thinking used in developing solutions for all asset investments above £100k value
- Upgrade investment decision making tools to align to PR19 outcomes and enable more advanced system analysis of drinking water and wastewater systems
- Further train our asset investment teams in systems-based approach
- Enhance the data we get from our infrastructure and our ability to analyse it, to enable better business decisions
- Complete value stream mapping for four identified priority resilience performance commitments (PCs)
- Complete development of associated metrics to monitor performance and align our teams.

Transition State Three – End of 2022/23

By April 2023 we will:

- Enhance our risk management process to better understand causes and impacts across both internal and external systems. We will then use this insight in how these risks are controlled and mitigated
- Train all resilience risk owners in the process of using systems thinking to manage their risks, and do so
- Understand which additional data (including external) better inform asset risks and include these in our asset risks scoring to inform a systems-based approach
- Develop contingency plans for all significant asset risks that have not been addressed through investment
- Use systems thinking and predictive analytics to further enhance operational responses
- Ensure all resilience-linked PCs have undergone value stream mapping and associated metrics have been identified to monitor performance and align our teams
- Understand external performance related interdependencies within the value streams of our latest resilience related PCs
- Ensure teams working within four identified priority resilience PC value streams understand their role in the process and interdependencies with other teams to achieve performance targets
- Use our WaterShare+ governance framework to ensure communities are more consistently engaged in solutions.

End State – End of 2029/30

Our objectives for the End State will continue to evolve over time, but aspects of our vision currently include:

- Further enhancing our risks management process to identify all significant interdependencies and interrelationships with the risks, and use this insight systematically for controlling / mitigating risks
- Upgrading our risk management system to enhance capability to use a systems-based approach to risks to resilience
- Using systems thinking for all investment decisions
- Further upgrade our investment decision making tools to enable systems thinking for all investment decisions through increased automation
- Giving all our people an understanding of a systems-based approach
- Understanding external performance related interdependencies within the value streams of our latest resilience related PCs
- Teams working within all PC value streams understand their role in the process and interdependencies with other teams to achieve performance targets.

We are focusing on ensuring our objectives outlined in our End State deliver what we need – a systems-based approach that provides customers with better value and better outcomes.

Our action plan identifies the remaining key activities to get us to each of our Transition States and our End State vision. These will be achieved through an ongoing culture change in our people. Both the action plan and our End State vision will continue to be refreshed as insights are developed internally from lessons learned and externally through growth in best practice understanding.

We recognise the need to ensure a coordinated approach across the business and are in the process of appointing a project manager who will deliver our action plan from 1 September 2019. The first report back to Ofwat on our progress will be during 2020.

Conclusion

We are focusing on ensuring our objective outlined in our End State, delivers what we need – a systems-based approach that provides customers with better value and better outcomes.

This long-term vision is aligned with our resilience in the round vision for 2050 and will be driven by our Executive Management Team. It will require new and innovative ways of working, accompanied by investment where appropriate to embed this way of thinking in our business. Our action plan defines the outstanding actions to get us to each of these transition states and our end vision will continue to be refreshed as insights are developed both internally from lessons learned and externally through growth in best practice understanding.

Appendices

Detailed Action Plan

Workstream: Develop our systems-based approach to managing business risks to resilience								
Transition State One		Transition State Two		Transition State Three		End State		
Processes	<p>We have developed an action plan, including accountabilities and delivery dates, that we need to undertake to realise our vision for embedding a systems-based approach across our organisation.</p> <p>We have implemented a pioneering sustainable financing framework.</p> <p>We understand our business risks to resilience and manage these risks in line with our ISO31000 aligned risk management process.</p>		<p>Place all significant business risks to resilience on the corporate risk register and manage these in line with current risk processes (ISO31000 aligned).</p>		<p>Enhance our risk management process to better understand causes and impacts across both internal and external systems.</p> <p>Then use this insight in how these risks are controlled / mitigated.</p>		<p>Further enhancing our risks management process to identify all significant interdependencies and interrelationships with the risks, and use this insight systematically for controlling / mitigating risks.</p>	
			<p>Action(s)</p> <ol style="list-style-type: none"> Review all risks to resilience and ensure these are captured on the current risk register. Identify interdependencies between resilience risks (to enable systems thinking as part of mitigation). Develop process for enhancing approach to risk management (to incorporate SBA) and begin to implement. Review other water company IAP responses when these are made available to ensure incorporation of best practice approach(es). 	<p>Additional notes</p> <p>Action 1</p> <p>We need to enhance our process for applying a systems based approach (SBA) that we can use in a consistent manner.</p> <p>Examples of approach to completing this activity include:</p> <ul style="list-style-type: none"> Utilise the three existing risk groups of business experts (Water, Waste, Customer) and review risks to resilience. <p>NB the current risk management process does not support 'tagging' of risks as resilience specific, nor does it allow tagging of risks to outcomes / PCs - but this could be achieved through PowerPoint.</p> <p>Action 2</p> <p>By 'identify interdependencies' we mean understand the linkages across the business directorates for Resilience PCs (demonstrated by cross mapping exercise).</p>	<p>Action(s)</p> <ol style="list-style-type: none"> Identify cause and impact for risks to resilience (captured on the current risk register). Enhance risk mitigations based on additional insight from cause and impact thinking. Continue to progress implementation of process for enhancing approach to risk management which incorporates SBA. 	<p>Additional notes</p> <p>Action 1</p> <p>We need to enhance our process for applying a systems based approach that we can use in a consistent manner.</p> <p>Examples of approach to completing this activity include:</p> <ul style="list-style-type: none"> Appoint an individual to apply 'Enhancing Management of Risks to Resilience' process (the "bow tie" process we have set out in our other document could be used for this). <p>NB the key difference between these actions and those above is the use of a standardised approach to consistently identify causes and impacts in a robust manner.</p> <p>NB Consider frequency of updating your risks to resilience (6 months, 12 months etc).</p>	<p>Action(s)</p> <p>Actions to be determined following completion of Transition State Two and Transition State Three.</p>	<p>Additional notes</p> <p>Consider possibility of automating resilience risk management process.</p>
People			<p>Ensure all owners of risks to resilience understand systems-based approach and the need to apply this to the risks they manage .</p>		<p>Train all resilience risk owners in the process of using systems thinking to manage their risks, and do so.</p>			
			<p>Action(s)</p> <ol style="list-style-type: none"> Develop and agree (with the Executive Management Team) definition for 'systems-based approach' that we will use and document this. Articulate definition to senior managers and identified resilience risk owners. Brief senior managers and identified resilience risk owners on approach to risk management (which incorporates SBA). Ensure owners are actively using SBA by tracking confirmation of their understanding. 	<p>Additional notes</p> <p>Action 4</p> <p>Examples of approach to completing this activity include:</p> <ul style="list-style-type: none"> Produce a guidance document to describe SBA to resilience risk managers. Maintain a register of staff that have confirmed via email that they have read and understood document. Conduct survey of identified staff to incorporate their views on adopting the approach in the business. Repeat the same survey over time in order to measure the change in approach. 	<p>Action(s)</p> <ol style="list-style-type: none"> Ensure compliance with risk process by performing spot checks on documentation. 	<p>Additional notes</p>	<p>Action(s)</p>	<p>Additional notes</p>
Systems							<p>Upgrading our risk management system to enhance capability to use a systems-based approach to risks to resilience.</p>	
	<p>We are leading a pioneering research project (SIM4NEXUS) that strives to understand the resilience of the South West across Water, Land, Food and Energy sectors in the region.</p>		<p>Action(s)</p>	<p>Additional notes</p>	<p>Action(s)</p>	<p>Additional notes</p>	<p>Action(s)</p> <p>Actions to be determined following completion of Transition State Two and Transition State Three.</p>	<p>Additional notes</p> <p>Consider whether risk management process and the supporting system needs to be updated to incorporate categories / criteria for systems based approach requirements.</p>

Workstream: Review our corporate governance structures						
Transition State One		Transition State Two		Transition State Three		End State
Processes	Review our corporate governance structures to determine whether they support a systems-based approach. We need to ensure appropriate oversight of systems based approach to ensure an integrated resilience governance framework.		Use our Watershare+ governance framework to ensure communities are more consistently engaged in solutions.			
			Action(s)	Additional notes	Action(s)	Additional notes

Workstream: Enhancing our systems-based approach to managing asset risks to resilience							
Transition State One		Transition State Two		Transition State Three		End State	
Assets	We understand our position as a company against the four 'Rs' – redundancy, resistance, response and reliability. We continue to identify and invest in schemes to improve our resilience in the round using our understanding of asset risks in the context of our drinking water and wastewater systems.		Adopt a consistent system thinking approach across our drinking water and wastewater systems (in line with DWMP and WRMP) to understand asset risks in the context of the wider systems.		Understand which additional data (including external) could better inform asset risks and include these in our asset risks scoring to inform a systems-based approach.		
	Action(s)	Additional notes	Action(s)	Additional notes	Action(s)	Additional notes	
	1. Align systems thinking approaches across drinking water and wastewater directorates (including approaches set out within DWMP and WRMP to ensure alignment across asset investment strategy and planning). 2. Assign appropriate performance metrics and targets to teams contributing to the resilience PC.		1. Incorporate outputs from strategic consultants and SIM4NEXUS projects to asset register. 2. Use partnership with University of Exeter to identify best practice external data to incorporate within our asset register.				
Processes	Consistently adopt systems thinking used in developing solutions for all asset investments above £100k value.		Develop contingency plans for all significant* asset risks that have not been addressed through investment.		Using systems thinking for all investment decisions.		
	Action(s)	Additional notes	Action(s)	Additional notes	Action(s)	Additional notes	
	1. Ensure compliance with systems thinking by performing spot checks on investment decision documentation.		1. Identify business owners to write contingency plans for all significant asset risks.		Actions to be determined following completion of Transition State Two and Transition State Three.		
Systems	Upgrade investment decision making tools to align with PR19 outcomes and enable more advanced system analysis of drinking water and wastewater systems.				Further upgrade our investment decision making tools to enable systems thinking for all investment decision through increased automation.		
	Action(s)	Additional notes	Action(s)	Additional notes	Action(s)	Additional notes	
	1. Complete ongoing work within asset management – strategic consultants and SIM4NEXUS projects. 2. Define process to adopt systems thinking within asset investment decision making.				Actions to be determined following completion of Transition State Two and Transition State Three.		
People	Further train our asset investment teams in systems-based approach.				Giving all our people an understanding of a systems-based approach.		
	Action(s)	Additional notes	Action(s)	Additional notes	Action(s)	Additional notes	
	1. Determine best approach to train teams. 2. Provide training on SBA. 3. Track completed training across the business to ensure staff understand SBA.	Action 3 Examples of approach to completing this activity include: • Produce a guidance document to describe SBA to resilience risk managers. Maintain a register of staff that have confirmed via email that they have read and understood document. • Conduct survey of identified staff to incorporate their views on adopting the approach in the business. Repeat the same survey over time in order to measure the change in approach.			Actions to be determined following completion of Transition State Two and Transition State Three.		

Workstream: Adopting a systems-based approach to delivering resilience related performance commitments						
Transition State One		Transition State Two		Transition State Three		End State
Assets	Enhance the data we receive from our infrastructure and our ability to analyse it, to enable better business decisions.		Use system thinking and predictive analytics to further enhance operational responses.			
	<p>Action(s)</p> <ol style="list-style-type: none"> 1. Include enhanced telemetry data as part of our investment decision making and risk management process. 2. Use enhanced analytical capability to provide greater insight into asset criticality and condition. Ensure this forms part of business decision making. 	<p>Additional notes</p>	<p>Action(s)</p> <ol style="list-style-type: none"> 1. Use enhanced internal analytical capability to share information with key external partners. 2. Utilise insight from external data sets e.g. Met Office, local authorities and other available external data, to inform our decision making. 	<p>Additional notes</p>	<p>Action(s)</p>	<p>Additional notes</p>
Processes	Complete value stream mapping for four identified priority resilience PCs.		Ensure all resilience-linked PCs have undergone value stream mapping and associated metrics have been identified to monitor performance and align our teams.		Understanding external performance related interdependencies within all the value streams for resilience PCs.	
	<p>Action(s)</p> <ol style="list-style-type: none"> 1. Map internal interdependencies for four identified priority resilience PCs across performance, risks, mitigations and corporate governance. 2. Complete development of associated metrics to monitor performance and align our teams. 	<p>Additional notes</p> <p>This is completed for leakage, supply interruptions and pollutions but needs to be extended to all resilience PCs.</p>	<p>Action(s)</p> <ol style="list-style-type: none"> 1. Map internal interdependencies for remaining identified resilience PCs across performance, risks, mitigations and corporate governance. 2. Develop associated metrics to monitor performance and align teams. 	<p>Additional notes</p> <p>This is completed for leakage, supply interruptions and pollutions but needs to be extended to all resilience PCs.</p>	<p>Action(s)</p> <p>Actions to be determined following completion of Transition State Two and Transition State Three.</p>	<p>Additional notes</p> <p>Assess whether additional relevant external partners need to be considered and map interdependencies for remaining resilience PCs across key external partners.</p>
			<p>Understand external performance related interdependencies within the value streams of four identified priority resilience PCs.</p>			
		<p>Action(s)</p> <ol style="list-style-type: none"> 1. Identify key external partners e.g. suppliers, contractors, Local Authorities, government, road, rail, DNOs etc. 2. Map external interdependencies for identified resilience PCs across key partners. 	<p>Additional notes</p>			
People	We are actively working with external stakeholders (including various Local Resilience Fora) to engage them in some of the solutions that more cost effectively manage resilience.		Ensure teams working within 4 identified priority resilience PC value streams understand their role in the process and interdependencies with other teams to achieve performance targets		Teams working within all PC value streams understand their role in the process and interdependencies with other teams to achieve performance targets	
		<p>Action(s)</p>	<p>Additional notes</p>	<p>Action(s)</p> <ol style="list-style-type: none"> 1. Provide briefings on external dependencies and hold more partner days to encourage collaboration. 2. Develop stakeholder list of groups and individuals to engage with on a regular basis. 	<p>Additional notes</p> <p>Consider use of automated dashboards to support 'one version of the truth' performance reporting.</p>	<p>Action(s)</p> <p>Actions to be determined following completion of Transition State Two and Transition State Three.</p>
Systems	Partnering with the University of Exeter we are establishing a UK centre for Resilience and Innovation for the water sector.					
	<p>Action(s)</p>	<p>Additional notes</p>	<p>Action(s)</p>	<p>Additional notes</p>	<p>Action(s)</p>	<p>Additional notes</p>

