SA Water

Key investment areas

2020-21

Government of South Australia

Key investment areas, 2020-21

Water Network reliability

Service outcome for customers:

- Reliable water supply with minimal unplanned water service interruptions

Activities	Total spend allowed 2020-24 ($ millions, including inflation)	Spend progress 2020-21 ($ millions, including inflation)
Water network renewals	$318.4	$41.0
Sustain water networks	$212.5	$43.9
Sustaining dams and weir networks	$3.4	$0.5

How this is measured	Target	Achieved in 2020-21
Number of customers experiencing three or more temporary service interruptions a year by 2024	<1,750 by 2024	2,073
Number of properties a year experiencing an unplanned temporary service interruption	<153 per 1,000 properties	169.4

Water network renewals

Through our water main management program, in 2020-21 we installed approximately 60 kilometres of new water mains with 17.6 kilometres laid in metropolitan Adelaide and 42.4 kilometres in country areas of the state (totalling $15.3 million). Additionally, $4.2 million was spent on water mains in Leigh Creek (about 5 kilometres of the total 23 kilometres was delivered), $4 million was spent on water mains at the Goodwood, Springbank, Daws Roads intersection and $2.3 million on the North Terrace trunk main.

Sustaining water networks

This program of works includes the renewals of water storages (water tanks and earth banks) with a focus on structural integrity and reliable operations. In 2020-21, $20.3 million was spent on tank renewals and $4.3 million on major pipeline switchboards to increase reliability of our major pipelines. A critical 10 megalitre bulk water storage on the Eyre Peninsula ($7.3 million) was constructed to help ensure a reliable water supply for Eyre Peninsula customers.

Temporary service interruptions

The number of customers experiencing three or more temporary service interruptions has a target of 1,750 by 2024.

We will achieve 1,750 by 2024 by setting incremental targets each year: 2,400 by 2021; 2,184 by 2022; 1,968 by 2023; 1,750 by 2024. In the first 12 months, we have reduced the number of three or more unplanned interruptions to 2,073. This is favourable to the 2021 and 2022 targets.

In 2020-21, key projects have included:

- A valve installation program to reduce the number of customers connected to large shut off blocks. A shut off block is a group of water mains that are connected to the same isolation area. The size of the shut off block is measured by the number of customer connections attached to it.
- Changes to our extension and connection policy to monitor infill sub-division growth, which can increase the number of connections linked to shut off blocks.
- Changing to a risk-based approach to isolate water mains, which decreased the frequency of water main breaks that require the main to be isolated from 63 per cent to 51 per cent.
- Pressure reductions in key parts of the network by changing the location of lock stop valves. A lock stop valve is a valve that is permanently closed to separate two different pressure zones.
- Monitoring and refining our pressure modulation zones in Athelstone and Kadina.

The number of properties experiencing a temporary service interruption has not achieved target due to an increase in the number of valve breakdowns which caused temporary unplanned interruptions for customers in early 2020-21. This number is trending back down due to the installation of additional valving equipment and working with the development industry to change engineering standards on new customer connections so that it does not shutdown the entire street.

Key investment areas, 2020-21

Water Quality Improvements

Service outcome for customers:

- Supply of safe, quality drinking water

Activities	Total spend allowed 2020-24 ($ millions, including inflation)	Spend progress 2020-21 ($ millions, including inflation)
Manage source water quality	$3.2	$0.9
Sustain water treatment plants	$167.5	$33.2
Sustain water quality through the water network	$4.6	$2.4
Regional non-drinking water quality improvement**	$40.4	$0.4

**Investment as directed by the South Australian Government under the *Public Corporations Act 1993* and the *South Australian Water Corporations Act 1994*.

2020-21 spend to date included the installation of UV disinfection at the Happy Valley Water Treatment Plant ($11.5 million in 2020-21).

Other key projects include the Fleurieu Water Quality Improvement program which saw construction of a UV system, chlorine contact tank and ammonia dosing system at Myponga Water Treatment Plant, a chloramination station at Nettle Hill ($4.4 million), mechanical and electrical upgrades in the southern metropolitan area to enable reliability and water quality benefits ($5.3 million) and $5 million of water treatment upgrades at Happy Valley Water Treatment Plant.

How this is measured	Target	Achieved in 2020-21
Compliance by 2024 with the *Safe Drinking Water Act 2011*	100% (by 2024)	100%
Customer perception of overall quality of water	80% (by 2028)	84%

The increase in customer perception of water quality has been achieved through the delivery of capital projects to improve water quality and also increased customer engagement. Continued rollout of chloramination for customers across the Fleurieu Peninsula and upgrades to the Wirrina water supply have directly improved water quality. In addition, we have continued to focus on optimising disinfection residuals and removing algal metabolites across many drinking water systems.

Increased customer engagement activities have also helped improve customer perceptions. These activities have included a water quality educational video series, working with SA Health to continue messaging about the safety of tap water, and improvements to our website where customers can more easily access water quality information.

The non-drinking supplies to the townships of Oodnadatta, Maree, Marla, Terowie, Yunta and Manna Hill will be upgraded to a drinking water standard by June 2024. This will be delivered across two programs of work, with the investigations phases complete for the for the first program (Oodnadatta, Maree and Marla).

Key investment areas, 2020-21

Reducing wastewater overflows

Service outcome for customers:

- Improved environmental protection from reduced number of wastewater overflows to the environment
- Reliable wastewater services for customers

Activities	Total spend allowed 2020-24 ($ millions, including inflation)	Spend progress 2020-21 ($ millions, including inflation)
Sustain the wastewater network	$94.5	$16.4
Reducing wastewater overflows to the environment	$2.2	$0.3

Sustain the wastewater network

Sustaining the wastewater network includes trunk main renewals, gravity trunk main renewals and pump station improvements.

One key project is the Finger Point pipeline upgrade. This $11 million project was completed in early 2021 with the installation of about 7 kilometres of new sewer main near Finger Point ($1.9 million spent in 2020-21). This replaced a section of the 30-kilometre pipe responsible for delivering the wastewater from around 26,000 Mount Gambier residents and businesses to the region's wastewater treatment facility.

Reducing wastewater overflows to the environment

Capital expenditure includes investment to improve reliability of wastewater pump stations to ensure adequate storage capacity or back up power in the event of outages. This work will continue with increased investment across the remaining years of this regulatory period.

In addition to the capital expenditure above, in 2020-21 we have implemented an enhanced wastewater mains cleaning regime ($1.36 million of operating expenditure). In the first year of the program we cleaned and inspected 177 kilometres of wastewater mains in 13 suburbs. Mains are first cleaned, and then inspected using CCTV to identify any structural issues that may cause further tree root intrusion or breaks. Proactive CCTV inspections help us address issues before they impact our customers and/or the environment. Close to 50 issues have been proactively identified and repairs scheduled.

How this is measured	Target	Achieved in 2020-21
Number of customers experiencing more than one wastewater internal overflow in five years	<36 in 2021 <21 by 2024	34
Number of Type 1 and Type 2* environmental overflow events reported to the Environment Protection Authority (five year annual average)	<135	120.4
Number of customers that have had an internal overflow in the last 12 months	<191	214

*Type 1 event is an overflow >100kL, Type 2 event is an overflow to a watercourse or stormwater >5kL.

The number of customers experiencing more than one wastewater internal overflow in five years had a positive result for the year, while the number of customers who had an internal overflow in the past 12 months was slightly over the target. This was impacted by wetter than average weather experienced during La Niña and the change in customer behaviour witnessed during the COVID-19 pandemic which saw items like wet wipes being flushed into our sewer system causing blockages. In response we undertook additional main cleaning in hotspot areas.

Key investment areas, 2020-21

External responsibilities

Service outcome for customers:

- Our environmental responsibilities are met
- Security of future water supply
- Odour is well managed with minimal customer impact

Activities	Total spend allowed 2020-24 ($ millions, including inflation)	Spend progress 2020-21 ($ millions, including inflation)
Environmental responsibilities and performance, including odour management and improving environmental performance	$256.4	$47.3

In 2020-21, $17.7 million was spent at Bolivar Wastewater Treatment Plant and $11.4 million at Glenelg Wastewater Treatment Plant to improve reliability, ensure continuity of supply and enable the safe treatment of wastewater. In addition, $1.8 million was spent on odour management and $3.6 million was spent on Northern Adelaide Irrigation Scheme infrastructure to enable growth in recycled water.

We are investing $11 million in this regulatory period to improve the environmental performance at Hahndorf, Millicent, Port Augusta East, Bolivar and Glenelg wastewater treatment plants.

How this is measured	Target	Achieved in 2020-21
Compliance with environmental protection obligations by 2024	98%	99%
Number of odour complaints received	<450 by 2024	556

99 per cent compliance with environmental protection obligations was achieved in 2020-21. While the number of odour complaints is above target, investment through operating and capital expenditure will address root causes of odour in hotspots and complaint clusters in the coming years. This investment includes chemical dosing in the network, investment in odour control units at pump stations and managing treatment plant processes to ensure low odour.

Key investment areas, 2020-21

Dam Safety

Service outcome for customers:

- Dam structures are safe

Activities	Total spend allowed 2020-24 ($ millions, including inflation)	Spend progress 2020-21 ($ millions, including inflation)
Mount Bold dam safety upgrade	$94.2	$2.8
Maintenance of other dams	$3.8	$2.2

How this is measured	Target	Achieved in 2020-21
Meet guidelines set by the Australian National Committee on Large Dams (ANCOLD) by July 2028**	15 of 17 dams compliant by 2028	14 of 17 dams compliant

We proactively manage 17 large dams across South Australia to help us deliver trusted water services to our customers. Currently all 17 of our dams are operated safely and efficiently, however three dams (Baroota, Warren and Mount Bold) are being assessed and require upgrades to ensure compliance with updated guidelines set by the Australian National Committee on Large Dams with focus on flood and earthquake resilience. Mount Bold requires the largest investment and will be complete by 2028. In 2020-21 works began on Baroota ($0.75 million) and Mount Bold ($2.8 million).

For the safety upgrade at Baroota, 2020-21 saw the completion of geological and geotechnical investigations and detailed engineering reports. In 2021-22, options will be further developed to a concept design, with the upgrade to be complete by 2024.

The safety upgrade at Mount Bold started with a concept design. Detailed design will be developed in 2022 and construction will start in late 2022.

Key investment areas, 2020-21

Enabling growth

Service outcome for customers:

- Increased demand for water and wastewater services are met

Activities	Total spend allowed 2020-24 ($ millions, including inflation)	Spend progress 2020-21 ($ millions, including inflation)
Water and wastewater network and system growth	$173.8	$38.1
Tea Tree Gully Sustainable Sewers program**	$64.0	$1.3
New seawater desalination plant for Kangaroo Island**	$47.8	$3.3
Eyre Peninsula Desalination Plant	$88.9	$6.0

**Investment as directed by the South Australian Government under the *Public Corporations Act 1993* and the *South Australian Water Corporations Act 1994*.

Tea Tree Gully Sustainable Sewers

- Work was completed at the first pilot site on Glenere Drive in Modbury, with 17 residents connected to our wastewater network.
- The project involves the transition of more than 4,000 properties currently connected to the City of Tea Tree Gully's Community Wastewater Management System to our modern sewer system.

Kangaroo Island Desalination

- The installation of about 50 kilometres of large underground pipeline on Kangaroo Island has begun, to be followed by construction of a new desalination plant. This project will improve drinking water security and support the Island's tourism and agriculture industries.
- The two megalitre a day capacity plant at Penneshaw will supplement the smaller existing facility and Middle River Reservoir. Through a series of pipes it will also provide capacity to service four Island communities and other properties along the pipeline route, not currently connected to our network.
- The plant will deliver an additional climate-independent supply of drinking water, providing benefits to local residents, boosting economic activity and increasing the Island's bushfire resilience.
- Subject to required development and environmental approvals, the new desalination plant is expected to deliver first water by the end of 2022.

How this is measured	Forecast	Achieved in 2020-21
Number of new water customers	7,573	8,554
Number of new wastewater customers	6,086	6,902

Eyre Peninsula Desalination

- Investigations are continuing to determine if a new location for a proposed desalination plant on Eyre Peninsula could enable a more effective delivery than the previously preferred position near Sleaford Bay.
- This site review process has considered more than 20 locations around the Port Lincoln area to ensure the new facility is close to existing infrastructure.
- Local communities and industries continue to actively be involved in project planning and plant design and operations.
- The new desalination plant will be designed, built and operated so it maintains the existing quality and conditions of the marine environment.

Number of new water and sewer customers

- The number of new customers exceeded forecast expectations in 2021 mainly due to increased building activity following the federal government's Home Builder initiative.

Key investment areas, 2020-21

Operating our business

Service outcome for customers:

- Safe and secure operation of our business

Activities	Total spend allowed 2020-24 ($ millions, including inflation)	Spend progress 2020-21 ($ millions, including inflation)
Supporting infrastructure, including safety, accommodation and security	$136.9	$19.4

How this is measured	Forecast	Achieved in 2020-21
All incident frequency rate (number of injuries per 1 million hours worked)	20 by 2024	20

The majority of our investment for this category in 2020-21 included costs relating to the transition of our metropolitan service contract ($6 million), work health safety improvements including safe access to tanks, electrical equipment and workshops ($4 million), purchasing major plant and equipment ($2.5 million) and SCADA upgrades ($1.3 million).