Effective sewerage services

Maintaining sewerage services is an important, often overlooked part of the delivery of essential services. Power and Water plans to provide effective sewerage services and meet growing demands while minimising the financial cost and environmental impact of our operations.

**Effectively removing sewage from households**

Safe drinking water is provided to each house through one set of pipes. Another set of pipes takes away the wastewater collected through the drains such as kitchen and bathroom sinks and the toilet.

In most communities, the wastewater drains into a network of underground pipes and flows to the treatment ponds. Power and Water staff and Essential Services Officers (ESOs) make sure these pipes don’t become damaged or blocked.

Where communities don’t have sewerage ponds, the wastewater from the house goes into privately owned and managed septic tanks.

**Maximising operational efficiencies**

The selection of sewerage infrastructure is a key aspect of the approach to maximise operational efficiencies and ensure delivery of effective sewerage services.

Sewage services are provided by taking wastewater off site through pipes and pump stations to centralised waste stabilisation ponds for treatment and appropriate disposal.

In the majority of communities with sewerage services, wastewater is collected from households using the force of gravity, which minimises operational costs. Sewage pump stations are only used in low areas of the network to raise the wastewater and effectively transport it to the wastewater treatment system.

While in many other parts of Australia, wastewater is treated using complex mechanical, chemical and biological systems, our waste stabilisation ponds are simple, efficient and very effective in treating wastewater. These pond systems require very little maintenance as they use the sun and warm temperatures to create an ideal environment for algae and bacteria to naturally treat the wastewater.

Power and Water is continuing to place telemetry systems on critical parts of sewerage infrastructure to provide real-time information about performance until Supervisory Control and Data Acquisition (SCADA) systems are installed.

As with the water distribution system, the management of wastewater reticulation is challenging with the majority of pipes underground. In high priority systems, Closed Circuit Television (CCTV) is used to monitor and identify the need for replacement or repairs.

Power and Water continues to investigate and trial inspection and maintenance methods to further improve operational efficiencies.

**Minimising impact on the environment**

Wastewater is collected in treatment ponds. Sunlight, algae and bacteria break down the organic matter, nutrients and disease-causing organisms in the wastewater. Treated wastewater evaporates, is released into a river or the ocean or used for irrigation in the pond area. Some low levels of pollutants remain and are taken into consideration with existing disposal methods, reuse or recycling. Historically, this has included at least two ponds at each site holding water for at least one month to achieve the appropriate quality required for release.
Power and Water will continue working with the Department of Land Resource Management towards licensing remote area wastewater discharges. Licensing will allow better collection of data on wastewater systems and the environments they discharge to as well as meeting regulatory requirements.

STATUS OF WASTEWATER SYSTEMS

Over half the wastewater system infrastructure in the Northern Territory was constructed prior to self government and since then investment in these systems has been largely focused on operational performance.

As a result, at some locations there are growing concerns about infrastructure condition and services which includes collapsing of wastewater reticulation networks, undersized sewerage pump stations and wastewater treatment ponds that are operating significantly over their original design capacity.

A new funding program is required in wastewater assets to replace infrastructure and increase system capacities, including wastewater reticulation networks, sewerage pump stations, wastewater ponds and discharge systems.

In 2012-13, Power and Water has started to implement a wastewater quality monitoring program in four communities to study pond performance and discharge quality.

Refurbishing a sewerage pump station.