

Water plant upgrade quenches Wiluna's thirst

August 17 2015, by Samille Mitchell



The upgrades will enable the Wiluna water treatment plant to process around 265,000L of water each day, which will cater for growth and ensure water supply needs can be met during peak demand periods.

Wiluna residents will have tastier and healthier drinking water thanks to a \$1.7 million water treatment plant upgrade.

Key to the plant improvements is the installation of an Electro Dialysis

Reversal (EDR) component that will reduce the naturally high levels of total dissolved solids (TDS) that occur in Wiluna's water.

Wiluna's TDS levels are about 700mg a litre, compared with 300-500mg a litre in Perth.

Wiluna water nitrate levels are above maximum recommended levels for use in bottle-fed infants, who currently receive [bottled water](#) in the Mid West town.

But the use of the EDR plant means infants in the town will no longer need to rely on bottled water.

Water Corporation Water Quality Branch treatment manager Matthew Bowman says the EDR plant will also reduce levels of sodium, chloride, calcium and magnesium—and therefore make for tastier water.

"It will also improve the water's aesthetic component—hard water has high levels of calcium and magnesium that can stain items like shower screens, cars and showerheads," he says.

The EDR plant works like a form of [desalination plant](#). But, unlike the metropolitan-based desalination [plants](#) which use reverse osmosis to remove minerals, the Wiluna plant will use the EDR process.

"Basically it works by inducing ion movement using electrical currents," Mr Bowman says.



The Wiluna water plant is to undergo a \$1.7 million upgrade. Credit: Water Corporation

Electro Dialysis causes ions to travel across membranes, which effectively filters the water leaving more purified water behind.

The use of Electro Dialysis Reversal operates on the same principal, but also reverses the system polarity to stop the build-up of concentrated solutions on the membrane, effectively 'self-cleaning' the unit and preventing the need for chemical cleans.

Mr Bowman says the EDR process is better suited to the Wiluna water supply than the reverse osmosis used in the city, because of the differing types and concentration of minerals in the water.

The upgrades will enable the Wiluna [water treatment plant](#) to process

around 265,000L of water each day, which will cater for growth and ensure water supply needs can be met during peak demand periods.

The increased treatment capacity will enable all three of the 47,000L tanks at the plant to be used, increasing the town's [water](#) storage capacity.

The specialised EDR plant will be constructed and assembled in Perth and then transported to Wiluna. It will be remotely operated and monitored.

Work will start at the end of July and take about four months to complete.

Provided by Science Network WA

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