Water Solutions

DUPONT™

Municipal Drinking Water

DuPont™ Ultrafiltration Helps Deliver Sustainable Potable Water for Brazilian Community

Challenge

The community of Cristo Rei, the most populous district of Várzea Grande in central-west Brazil, has been suffering the impact of water shortages for decades. Many residents and business owners cannot recall a time in their lives when they had access to a reliable source of high-quality water.

In 2019 and 2020, there were severe water shortages, leaving the city reliant on water trucks. There were occasions when water was unavailable for 30 days at a time. The low volume of available tap water was extremely low pressure and appeared muddy with a strong smell of chlorine.

With domestic consumption growing at 3-4 times the average national rate, the Várzea Grande Water & Sewerage Department recognized that a new solution was needed to provide a sustainable source of high-quality water.

Solution

In 2022, a new water treatment plant equipped with DuPont™ IntegraPac™ iPD-77XP* Ultrafiltration technology was constructed in just 10 months. The plant pumps water from the Cuiabá River, which passes through 1000 and 300 micron mesh filters each, before ultrafiltration membrane treatment, offering a supply of 300 liters per second of high-quality water.

Benefits

The technology behind DuPont™ Ultrafiltration was specifically selected to help the Várzea Grande Water & Sewerage Department overcome the challenge of the high turbidity of the raw water sourced from the river. The plant needed to consistently provide high-quality water despite the Cuiabá River having exceptionally high levels of turbidity for a third of each year, with peaks surpassing 400-600 NTUs.

Water treated by the plant has turbidity of 0.09NTU, achieving the regulation standard regardless of changes to the feedwater quality. The modular nature of the solution also means that the system can be expanded in the future to account for further increases in demand. The Várzea Grande Water & Sewerage Department has identified that there is scope to double the treatment volume within the footprint of the existing site.

Carlos Alberto de Arruda, Head of the Várzea Grande Water & Sewerage Department, said, "We have to continue investing in technologies like this. The relationship with TecWater and DuPont have resulted in a great volume of high-quality water."

Fast Facts

Location: Várzea Grande – MT / Brazil

Commissioning: 2022

Application: Drinking Water, Solids Removal

Water type: Surface water (river)

End User: DAE Várzea Grande

Technology: Ultrafiltration

Plant capacity: 1,080 m^3/h = 26 MLD [6.8 MGD]

Product: DuPont™ IntegraPac™ iPD-77XP*

Quantity: 324 modules

*now under IntegraTec™ brand

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Have a question? Contact us at:
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