

Meeting Drinking Water Standards in Revamped Water Treatment Plant with Membranes



THE CHALLENGE

In 1996, city officials in Cottage Grove, OR were tasked with renovating and developing added water production capacity at its Row River Water Treatment Plant. City officials were not only tasked with finding a treatment method capable of meeting drinking water standards, but one that was also able to handle Cottage Grove's unique capacity requirements where water use frequently triples during the summer months. Additionally, facility operators needed to find a treatment method that they could trust as 24/7 monitoring of the water supply and treatment were paramount.

THE SOLUTION

Prior to the retrofit, Row River Water Treatment Plant had previously employed processional granular media filtration, a more conventional treatment method. Facility operators invested in the Aria™ FLEX membrane system utilizing the advanced pressurized filtration membranes to successfully meet drinking water standards. This system was selected in large part due to its ability to fit a wide range of capacities, meeting the new treatment and flow rate demands.

THE RESULTS

Following the implementation of Aria FLEX, Row River Water Treatment Plant's new gravity feed intake system was able to meet feed demand as it transitioned from its previous capacity of 2 million gallons per day (MGD) to its current capacity at 4 MGD. Ultimately it will produce 8 MGD at full build out. This was critical for the plant as Cottage Grove's water demand soars during the summer months reaching a capacity of nearly 3 MGD from 900,000 gallons per day during the remainder of the year. The flexibility

“While there was some initial reluctance from operators when we transitioned from our traditional, manually operated water treatment plant to the SCADA controlled Aria FLEX system, this quickly changed. After having some experience with the system, you couldn't get the operators to change back for anything; they love it. They especially like that they do not have to repair any broken fibers, ever!”

Ray Pardee, Water Production Superintendent

of this system allows Row River Water Treatment Plant to operate at increased capacity during peak demand.

Beyond the added water capacity, the operator-friendly nature of the system was a colossal benefit. The previous method required an operator on-site at all times to monitor the water levels while others were on call 24/7. With the Aria FLEX platform's operating system, facility operators can now manage, monitor and adjust water levels with ease as needed. In the last eight years of operation, the Aria FLEX has not experienced any fiber breakage.

The fully integrated Aria FLEX membrane system removes Giardia from 8 to 30 microns, Cryptosporidium cells from 3 to 8 microns and other bacteria from 0.2 to 50 microns. Furthermore, the sophisticated system enables clean in place (CIP) to occur every 60 days versus a 30 day cleaning cycle. This efficiency has led to annual savings of \$5,500.00 for the facility as its need for chlorine and other water chemicals has decreased.

THE BENEFITS

The flexible membrane unit was able to fulfill the water quality needs of the facility allowing it to meet drinking water requirements while delivering on Row River Water Treatment Plant's increased water capacity needs. Overall, the Aria FLEX operation was able to meet the following requirements:

- Meeting increased capacity needs
- Reliable, safe source of drinking water
- Ability to readjust levels and monitor sensors with ease
- Financial savings due to CIP efficiency



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