Veolia Muni.Z* reduces SDI and improves membrane performance for municipalities

CASE STUDY | Municipal

| Challenge

Municipal water treatment in Florida, United States, typically treats brackish water by employing the use of cartridge filtration with reverse osmosis (RO) membranes. The municipal water treatment plant managers are challenged to operate their plants within a limited budget. The managers are continually looking for ways to save operating costs. In a membrane plant, improving the feedwater quality by reducing the Silt Density Index (SDI) is critical to optimizing the overall performance of the system. This leads to decreased cleaning frequency of the RO membranes.

Cartridge filters in any water treatment system are items that must be replaced regularly. The particulate holding capacity and related pressure drop of the filter determine the replacement frequency.

| Solution

Veolia's Muni.Z (Figure 1) depth cartridge filters use patented Z. Plex* technology (Figure 2) that has been proven to hold up to 100% more particulate with up to 50% lower pressure drop. Either 5 microns or 1 micron rating is available depending on the water source and the fouling potential on the RO membranes. This solution reduces the frequency of filter changes while improving the performance of the RO membranes by reducing the SDI.

Z. Plex filters have a melt bonded exterior and core that ensure there is no media migration to the RO system. These filters are also NSF 61 certified and are FDA compliant, making them an ideal solution for municipal water treatment plants.

Figure 1: Muni.Z Depth Cartridge Filters

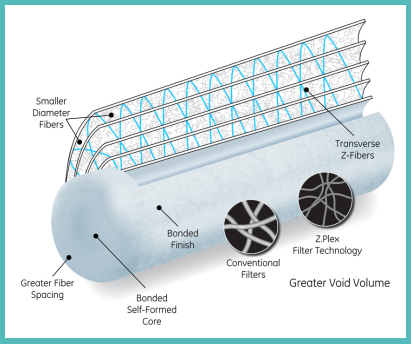

Figure 2: Patented Z. Plex filter technology

| Results

Over twenty municipal water treatment plants in Florida have worked with Tri-Dim Filter Corporation, Veolia's channel partner for that region, to convert their plants to the Muni.Z depth filter. Both

Tri-Dim Filter Corporation and Veolia have invested in pilot trials at many of these sites to first prove the technology based on SDI results and differential pressure. Upon positive results from the municipality's perspective, Tri-Dim Filter Corporation installed the Muni.Z filters with no disruption to the plant's operation because the filters were easily retrofitted into the customers' existing filter housing.

The Muni.Z filters have continued to meet all performance requirements while allowing the operators to optimize the change out frequency and thus minimize operating costs.

Tri-Dim Filter Corporation had confidence in this solution for these municipal water treatment plants because Veolia utilizes state of the art melt blown manufacturing processes. This process eliminates the threat of resins or material passing onto to the RO system. Veolia is also one of the few companies that manufacture both the upstream cartridge filters and the RO membranes. This allows Veolia to manufacture the best filtration products to protect the RO membranes and reduce overall lifecycle costs of the water treatment plant.

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When you use Veolia filters as pre-treatment to your Veolia membranes, you reduce membrane fouling and increase the cost efficiency of your water treatment solution. If you would like more information about how Veolia filters with membranes can provide you with the same, please contact your Veolia account representative or visit www.veoliawatertechnologies.com.

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