



S2.5.1 - Membrane Technologies for Point-of-Entry Applications

Peter Cartwright¹

¹Cartwright Consulting

The crossflow, pressure-driven membrane separations technologies of microfiltration, ultrafiltration, nanofiltration and reverse osmosis are among today's most widely used water purification processes. In applications ranging from residential drinking water to boiler makeup water to ultra-high purity rinse water, as well as any number of industrial wastewater treatments, these technologies are often key components of the total system design. Membranes offer any number of technical advantages, including continuous operation, a discrete barrier and effective removal of all of the classes of contaminants (suspended solids, dissolved organics and salts, and microorganisms). Continuous improvements in membrane chemistry, module innovation, and equipment design have enabled these technologies to meet new and more stringent water quality demands. The burgeoning population resulting in increasing water contamination, the identification of new, dangerous contaminants and the ageing infrastructure have increased consumer concerns about the quality of our drinking water. This presentation covers relatively small-flow applications known as "Point-of-

Entry." It discusses the four membrane technologies, addresses system design details, and describes a specific water purification application.

Peter Cartwright

Peter has been in the water/wastewater treatment field for 47 years and has had his consulting engineering company since 1980. He is a Chemical Engineer and a registered Professional Engineer in the state of Minnesota. He has presented lectures in over 300 venues and has authored more than 300 papers and articles.

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