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Membrane desalination. See page 4.

(Photo courtesy of Tampa Bay Water.)

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RO for desal



Reverse osmosis (RO) has come a long way since its first successful salt rejection application in 1959. Critics of RO desalination have pegged the process as too costly or too energy intensive, but upfront prices continue to drop, technology is advancing and alternative energy sources are

more prevalent than ever. Additionally, as more facilities use RO to treat brackish water and seawater, the water industry is beginning to recognize some significant application benefits: a small footprint, high-quality finished water and long-term operation and maintenance cost savings, for example.

All the large-scale RO desalination facilities in the U.S. are newer, many having started up in just the past decade. More than 1,300 desalting plants are at work nationwide, producing 400 million-plus gal of (mostly potable) water per day, according to a 2007 report from the American Membrane Technology Assn. Some of these facilities use membranes to remove salt from water, and some employ thermal methods. It is vital to the future of RO desalination, especially here in the U.S., that we keep a close eye on the membrane operations and learn from their experiences. Important RO-desalination facilities to monitor include those operating in Tampa Bay, Fla.; El Paso, Texas; and Yuma, Ariz.

Several industry experts are predicting that the RO desalination market will grow significantly in the coming decade—both domestically and abroad—and I wholeheartedly agree. In the U.S., expect to hear more about RO on the coasts, in areas with saline groundwater and where population counts are closing in on or already exceeding water capacity. Rather than establish new water systems from scratch, utilities serving these areas may find that tapping into existing sources and applying RO for desalination proves to be a more cost-effective, environmentally friendly and publicly accepted decision.

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