Desalination and Water Treatment
www.deswater.com
6 (2009) 227–233
June
1944-3994 / 1944-3986
doi: 10.5004/dwt.2009.648

Market and design considerations of the 37 larger MBR plants in Europe

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Received 15 September 2008; Accepted 16 April 2009

ABSTRACT

By the end of 2007, 10 years after the commissioning of the first full-scale municipal MBR plant in Europe, 37 large MBR plants with a nominal capacity greater than 5,000 m^3/d were in operation in the region, demonstrating the maturity of the technology. This article presents a review of these large MBR plants, not only in terms of market expectation, but also with regards to specific design considerations such as filtration flux, filtration layout, plant 'retrofit' and the inclusion of primary clarification. Due to the low operation costs (energy demand) as compared to side-stream membranes, submerged low-pressure filtration technologies will remain the standard for large MBR applications in the near future. At the time of the study, all the plants within this size segment in Europe were equipped by the two MBR filtration leaders GE/Zenon and Kubota, but other technologies should penetrate this market segment in the coming years.

Keywords: Membrane bioreactor (MBR); Zenon; Kubota; Large plants; References; Market; Design; Wastewater; Europe

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Presented at the conference on Membranes in Drinking Water Production and Wastewater Treatment, 20–22 October 2008, Toulouse, France.