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**ENHANCEMENT OF BOILER FEED WATER QUALITY WITH MEMBRANE TECHNOLOGY FOR OIL SANDS AND POWER GENERATION APPLICATIONS**

Status: Accepted

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Two distinct case studies will be presented.

The first case discusses the conventional water treatment scheme for ground water at a major oil sands facility in western Canada that was augmented with Reverse Osmosis (RO) systems before the boilers. Due to the ineffectiveness of the conventional treatment system, the silt density index (SDI) on the RO feed exceeded 10. A pressurized mobile Microfiltration (MF) unit was delivered and installed to replace the existing pretreatment system. Within a short time, the SDI values on the feed to the RO unit dropped to less than 3. The oil sands customer has enjoyed trouble free operation for over two years and is currently using three mobile MF units for treating the feed water.

The second case study describes the problems at a major power plant in central USA. This was associated with the operation of a conventional treatment involving clarifier/sand bed/demineralizers used to generate boiler feed water. These problems were identified as high chemical costs for lime softening and frequent regeneration of the demineralizer beds. The plant used variable quality surface water as feed. An integrated membrane system (MF/RO) was installed to produce high quality permeate water and to maximize ion exchange run times at minimum chemical cost.

Bio

Ram Venkatadri is Global Marketing Manager in the Energy group of Pall USA. He holds a B.Tech in chemical engineering from the University of Madras and a Ph.D in chemical engineering from the University of Pittsburgh. He has been engaged in technical service, sales and marketing functions at Nalco, Exxon Chemical and Ciba over the last 18 years before joining Pall in 2008. Ram has global responsibility for developing new application areas for Pall's water treatment technology.