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MBR-RO System Operation in Quantitative and Qualitative Promotion of Waste Water Cleaning: Case Study of Shokohieyh Qoms' Waste Water Cleaning

Authors : A. A. Hassani, M. Nasri Nasrabadi

Abstract : According to population growth and increasing water needs of industrial and agricultural sections and lack of existing water sources, also increases of wastewater and new wastewater treatment plant construction's high costs, it is inevitable to reuse wastewater with the approach of increasing wastewater treatment capacity and output sewage quality. In this regard, the first sewage reuse plan in industrial uses was designed with the approach of qualitative and quantitative improvement due to the increased organic load of the output sewage of Qom Shokohieh city's' in wastewater treatment plant. This research investigated qualitative factors COD, BOD, TSS, TDS, and input and output heavy metal of MBR-RO system and ability of increase wastewater acceptance capacity by existing in wastewater treatment plant. For this purpose, experimental results of seven-month navigation system have been used from 07/01/2013 to 02/01/2014. Existing data analysis showed that MBR system is able to remove 93.2% COD, 94.4% BOD, 13.8% TDS, 98% heavy metals and RO system is able to remove 98.9% TDS. This study showed that MBR-RO integration system is able to increase the capacity of refinery by 30%.

Keywords : industrial wastewater, wastewater reuse, MBR, RO
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