

Pure Aqua, Inc.

2007 Case Study

Industrial BWRO MS-USA



INTRODUCTION

In 2006, Pure Aqua successfully supplied Caterpillar Inc. in Mississippi, USA, a water treatment package consisting of a Brackish Water Reverse Osmosis System (BWRO) to produce 80gpm of product from 113gpm feed, twin MLF-48A-F multimedia filters, twin ACF-48A-F activated carbon filters, antiscalant chemical dosing, and dechlorination dosing system.

SYSTEMS & PROCESS

Feed water to the system is processed water with raw water TDS of about 4,610 PPM. The system design was based on high rejection TFC spiral wound membranes.

The Brackish Water Reverse Osmosis system was selected from our RO-400 Series, model number BW-130K-3680-5. It produces 80gpm of drinking water with TDS less than 100 mg/L.

Pre-treatment of processed water includes filtration using twin multimedia filter to reduce suspended solids (SS) to 10-micron size. Filtration using twin activated carbon filters are used for taste, odor and color removal. Antiscalant dosing prevents scaling on the membranes

The Brackish Water Reverse Osmosis (BWRO) unit consists 5-micron cartridge filters to reduce feed water Silt Density Index (SDI) and to limit the SS to 5-micron size. TFC spiral wound membranes have a recovery rate of 75% with an Operator Interface Panel with Programmable Logic Control (PLC) based control panel.

PERFORMANCE

From a feed TDS of about 4,610 mg/L at temperature range of 15°C to 35°C, the brackish water plant produces 80gpm of drinking water with a TDS less than 100mg/L. Since the time of its start-up in October 2006, the plant has been running smoothly with minimal trouble-shooting.



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