

## **O & M Summary of a Ceramic Membrane Drinking Water Plant Installed in 2014**

**Where:** Caesars Forum, 3911 Koval Lane, Las Vegas, NV 89109

**Booth Location: #205**

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**Authors: Steve Schidler**

A rural area called Hilldale Water District (HWD) located outside Vicksburg MS was faced with declining aquifer, its sole source for water (Forest Hill Aquifer). HWD decided that the best option to ensure water resource sustainability was to drill a well into the much deeper Sparta Aquifer. This Sparta Aquifer, unlike the Forest Hill Aquifer, is both wide-spread and abundant. However, water from the Sparta Aquifer is very high in color (150 CU), contains large quantities of dissolved organic carbon (DOC) and is very warm due to the depth of the aquifer (103 degrees Fahrenheit). The high DOC creates TTHM issues

To address the challenge of treating the Sparta source water, HWD were pioneers and decided to install a ceramic membrane based drinking water process to remove color and DOC to remove TTHM precursors for DBP compliance. The installed continuous ceramic membrane process has been producing drinking water with Zero Liquid Discharge.

Over the operational life of the ceramic filtration process, O & M activities have been minimal. The system turns on and off on demand, about 5 times per day. The system boasts a 100% track record for DBP compliance due to robustness and automation. The ceramic membrane system operates at the same flux and TMP as it did when installed with no anticipated end of life.

This paper will provide actual OPEX data with a review of the NPV and system performance data over its operational history. Lesson learned will be detailed.

Plant Operation, Maintenance and Management

Authors Bradly Barn & Steve Schidler