

# Advanced RO system reuses wastewater to maximize efficiency



## MPW'S REVERSE OSMOSIS SYSTEM LEADS TO DUAL COST SAVINGS AT OIL REFINERY

Not satisfied with the variable cost of city water and the additional sewer charge associated with disposal of wastewater, managers at a Michigan oil refinery sought to restructure its water system by incorporating reverse osmosis (RO) technology. Plant personnel determined that reusing process wastewater would maximize efficiency and minimize expenses.

### SOLUTION

MPW's comprehensive approach involved original system technical design, engineering and Field Services installation and support. Before implementing the water-reuse solution, MPW collected feedback from multiple client sources, including the corporate office and plant services. MPW personnel stayed in contact with the customer throughout the process, quickly responding to all questions and concerns.

MPW provided two pump skids, one frac tank and one mobile RO unit to process the plant's membrane bioreactor (MBR)-treated wastewater into supplemental boiler feed water. Just as MPW predicted, this system was the optimum solution for treating the plant's wastewater. MPW's advanced equipment, which includes remote monitoring, is a key to the system's efficiency.

### RESULTS

MPW was awarded an initial contract of six months in which to execute this project, during which approximately 545 million gallons of water were treated using the MPW system. Based on attained results, MPW was invited back to perform this service annually. Since the outset of the relationship, MPW and the customer have been involved in multiple site-specific training events. To date, neither the plant nor MPW has recorded a single safety incident.

The MPW system reduced the amount of wastewater sent to the city sewer, decreasing disposal costs. Further, MPW's system produced water that was purer than city water, allowing the plant to recycle the water into boiler feed thereby reducing its water bill. MPW's water-reuse capabilities have far exceeded the customer's expectations, producing savings significant enough for the plant to implement a permanent system, pending winterization of its equipment.

### COMMITMENT TO SAFETY

**MPW  
recorded  
zero safety  
violations  
during this  
project**

