



Application Case Studies

Building/Hotels – Process Water Reuse

Issue/Challenge

A large resort in Mexico wanted to minimize the cost of their potable and process water used in their operations. The company had been using a single pass RO system from a well water source which provided permeate water to their water storage tank. This system was inefficient, producing only 50% of clean water production with the remaining 50% being sent to the municipal sewer drain. The resort paid fees to discharge its RO reject water to the municipal sewer system and wanted to reduce these operating costs and potentially use this water for other purposes in the resort.

Solution

Genesis Water Technologies technical staff evaluated under an engineering design agreement, the inlet well water analysis and engineered and designed an optimized configuration to meet their needs. This design included optimizing the pretreatment processes of the existing single pass RO system including the addition of GWT DLP nanofiber filtration technology. This new configuration allowed the client to increase system recovery and reduce system cleaning frequency.

The solution employed a secondary RO system to handle the reject water from the primary RO system. The additional product water capacity is able to be used for many applications throughout the resort according to its needs.

Results

Using the upgraded design configuration, the client was able to increase the water recovery rate from 50 percent to 87 percent, and reduced the plant’s water consumption by approximately 20 million gallons per year.