

Challenge

Water and wastewater treatment plants have been trying to reduce their water usage to save operating costs as well for environmental considerations.

A wastewater treatment plant in New York wanted to reduce water consumption in their facility and eliminate the leakage and collateral damage to their pumps and surrounding equipment.

The pumps were sealed with compression packing and the abrasive solids in wastewater caused excessive sleeve wear, and in turn caused more leakage, equipment and housekeeping problems.

Solution

The treatment plant installed 3 in. (76 mm), Chesterton 442 RSC/RSC Split Seals in the influent pumps.

SpiralTrac F/S environmental controllers were installed in each pump to insure wastewater solids and other contaminants stay out of the stuffing box, enhancing seal life and system reliability.

Chesterton Flow Guardian SP 50 flowmeters were installed, to accurately measure the amount of flush water used. By using flowmeters, the plant could control and minimize the amount of flush water that entered the system.

Results

The Chesterton Sealing Solution reduced flush water demand by 90%. These reductions exceeded the plant and district management expectations.

Savings/Benefits

The plant saved \$6,500 per year just on the city water cost alone. Previously, this water would have to be treated as wastewater bringing additional savings.

Chesterton Split Seals do not wear the sleeve/shaft or leak as compression packing does in normal operation; eliminating both sleeve/shaft replacement and enhancing bearing and equipment reliability.



Influents Pumps Fitted with Chesterton 442 Split Seal Solution

What Did the Customer Say?

"The decision was made late summer 2009 to convert our packed pumps to Split Seals and SpiralTracs. The goal was to reduce seal flush water with a mechanical seal and the added benefit of reduced wear of the pumps. The results have far exceeded my expectations. We are saving more than \$6,500.00 per year on the water bill.

More importantly, we are saving more than 1,230,000 gallons of drinking water per year, compared to our former packing system. I would recommend this type of conversion to any applicable waste water facility because it is both an economically and environmentally responsible upgrade." –Plant Superintendent



Chesterton 442 Split Mechanical Seal