

MARKET: Power Generation
APPLICATION: Turbine seal protection for hydroelectric plant

How Spiral Water® Made the Difference in Reducing Power Plant Downtime

CHALLENGE: Putting a stop to daily downtime

A hydroelectric power plant in Snohomish County, Washington was experiencing daily plant stoppages due to clogged bag filters. The 200 micron bags were filtering the water used to cool mechanical seals on the plant's two system turbines, and they were fouling daily due to the high turbidity (heavy particulate matter) of the Snohomish River, the plant's water source. Employees had to clean or replace filters on a daily basis, requiring operational stoppages. Not only was this time-consuming, it required expensive, 24-hour on-call maintenance.

SOLUTION: Spiral Water's 50 micron filter

Spiral Water's filtration experts installed a 50 micron Spiral Water filter inline prior to the mechanical seal water delivery. The filter is an automatic, self-cleaning water filter for ultra-high and variable Total Suspended Solids (TSS) of up to 25,000 mg/L. Its revolutionary helical action filters up to 100 times dirtier water and provides continuous, 10 to 100 micron filtration with 90% less energy usage than traditional filtration systems.

APPLICATION FLOW CHART



Model 810
automatic
self-cleaning
water filter

"Work stoppages were cutting into our plant performance on a daily basis. The Spiral Water automatic self-cleaning filter lets us keep the operation flowing, without the need for constant filter maintenance."

Facilities Manager

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RESULTS: An automatic improvement in workflow

After installation of the Spiral Water filter, the hydroelectric plant was able to run continuously without the high cost of daily downtime.



1: The hydroelectric turbine at the hydroelectric plant



3: The filter bag used to protect the cooling water system



2: Woods Creek



4: The bag-clogging debris filtered from the river water



5: The 50-micron Spiral Water filter after installation

BOTTOM LINE: Smart investment

The power plant operators have determined that the Spiral Water filter will pay for itself in a single season.

Contact a Spiral Water application engineer:

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ABOUT SPIRAL WATER

Founded in response to the growing need for more efficient and affordable clean water solutions, Spiral Water Technologies is using its proprietary technology to deliver breakthrough performance and innovative practices to companies across multiple industries. With proven capabilities in filtering highly turbid and difficult-to-treat water, Spiral Water has been developing solutions specially tailored for small and micro hydropower installations, where filtration issues can threaten plant performance.



Spiral Water®

A quantum leap in water filtration

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