HYDROLOX SCREEN TECHNOLOGY: STILL DELIVERING AFTER 6+ YEARS

CUSTOMER OBJECTIVES

Headquartered in Perth, Scotland, SSE is the United Kingdom's second-largest energy supplier and also a leading supplier of energy to Ireland. Its portfolio of offerings includes electricity through hydropower, thermal, and wind generation.

To divert fish and debris at its power generation facility at Beannachran Dam (on the compensation water generation set), SSE had been using a traditional band screen that caused many problems. The screen required frequent repairs and maintenance due to the volatility of the screen panels, motor/gearbox assembly, and drive chain system, as well as the ineffectual screen wash system.

Repair procedures were complicated and often required some combination of cranes, divers, planned outages, permit coordination, and additional manpower. This caused SSE to incur not only hefty expenses, but also lose revenues, since no power could be generated when these procedures were taking place.

HYDROLOX EXECUTION

In December 2012, SSE replaced the band screen with a Hydrolox™ Series 6000 Flush Grid screen. The screen, equipped with 4-in (100-mm) debris flights, measured 7.5 ft x 32.8 ft (2.3 m x 10 m) and had mesh openings of 0.28 in x 0.24 in (7 mm x 6 mm). SSE chose the Hydrolox solution because of the benefits—including enhanced fish protection and exclusion, reduced maintenance, and reduced downtime—promised by its design.

0
unexpected maintenance
or downtime

RESULTS

In the more than six years since installation, the Hydrolox traveling water screen has delivered on its promise. The maintenance, repairs, and ensuing complications that the Beannachran plant previously experienced are now things of the past. SSE has experienced no downtime, unexpected maintenance, or other issues with the technology, and has been able to operate its hydro turbine 24/7, ensuring a secure electrical supply.

The Hydrolox screen's increased filter area has improved fish protection and exclusion and has also helped reduce the approach velocity of water entering the screen by one third (from 0.3 m/sec to 0.2 m/sec). The screen's cleaning system has also improved cleaning and debris removal operations, including from the fish lift, by providing more flexibility. SSE engineers continue to work with the Hydrolox team on projects at other SSE sites.

Stephen Crooks, SSE Project Engineer, has been very pleased: "The Hydrolox screen has been a real asset for us for many years now. It continues to protect the fish, and has eliminated the many cleaning and maintenance difficulties we had before. I would recommend Hydrolox screen technology to any power generation facility seeking to make their operations easier and more reliable."