

NEW SAVANNAH BLUFF LOCK AND DAM

HYDROELECTRIC PROGRAM

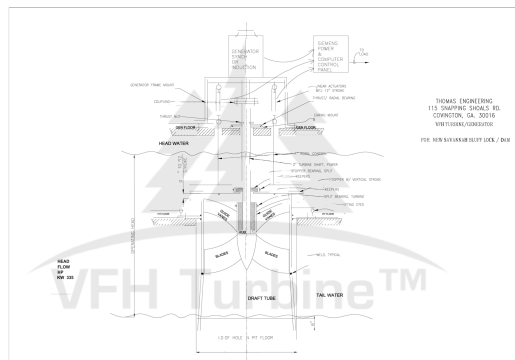
PROPOSED INSTALLATION OF 3 EACH VFH TURBINES IN EXISTING BAYS

The NSB L&D was authorized and constructed for the sole purpose of supporting commercial navigation between the upper end of the Savannah Harbor to the upstream limits of the Savannah River below Augusta (SRBA) navigation project just above the 13th Street Bridge in Augusta, Georgia.

When this project was constructed, it was equipped with three identical turbine structures for potential future installation of hydroelectric turbines. Private entities have expressed interest in developing the hydroelectric potential at this project. Presently, those bays can be fitted with 3 VFH hydro turbines, horizontally driving three 335 kW synchronous or induction generators. A combined power generation is approximately 1MW.

The combined 3 VFH hydro units could produce nearly 8 million kWh's per year. Power revenues could exceed \$400,000 annually. VFH systems incorporate a series of proprietary components. The mechanically and hydraulically variable turbine, when coupled with computerized software, permits the automatic or remote computer control to fully manage systems in real time.

Proprietary processes within the VFH Turbine™ have been designed to dramatically increase DO (dissolved oxygen) into all discharge water flowing through the turbine. This increases water quality and enhances the receiving waters. Aerobic bacteria and aquatic life such as fish must have DO to survive. The impacts of low dissolved oxygen levels include an effect on the survival of fish by increasing their susceptibility to diseases, retardation in growth, hampered swimming ability, alteration in feeding and migration, and, when extreme, lead to rapid death. Long-term reductions in dissolved oxygen concentrations can result in changes in species composition. The increased DO can further promote survival of the sturgeon.



Draft VFH Turbine™ drawing for NSB L&D



Thomas Brothers Brochure QR

