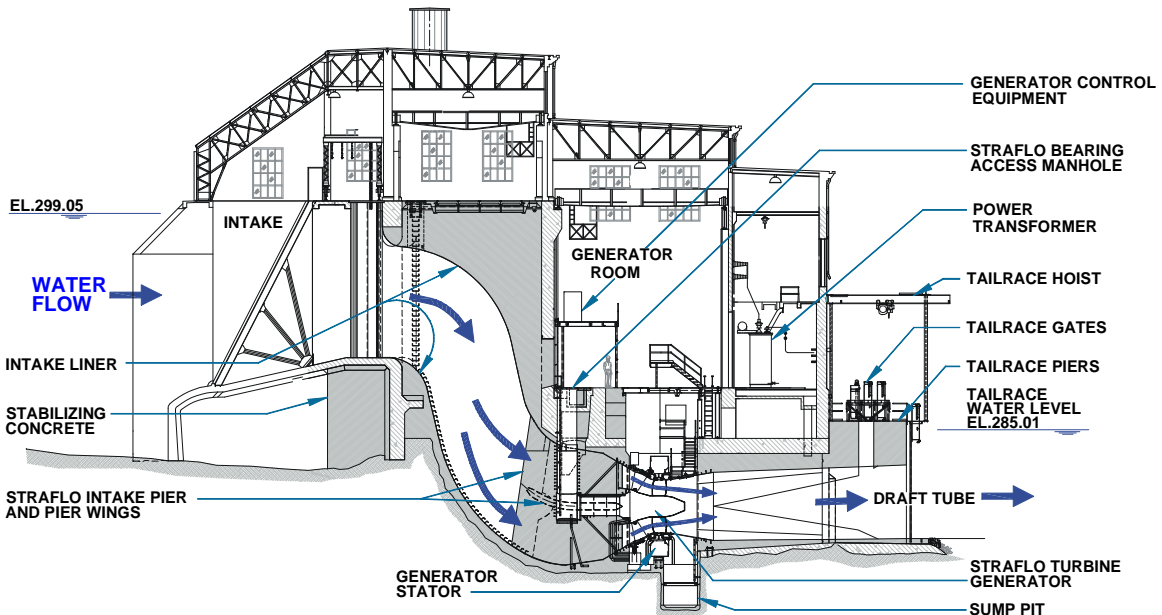


POINTE DU BOIS GENERATING STATION (TURBINE/RETROFIT)

Winnipeg Hydro

Pointe du Bois, Manitoba



Project Description

KGS Group performed a preliminary investigation of the 90-year-old powerhouse structure and the existing generating equipment, and recommended new generating equipment of a type, size and arrangement to best utilize additional available flow. The preliminary design included definition of requirements to increase the plant capacity from 72 MW to 130 MW, and methods to stabilize the powerhouse structure. The optimal life extension scheme proved to be the rehabilitation of the powerhouse and spillway structures and the supply and installation of 16 STRAFLO turbine generator units with excitation, governing, controls, head gates and hoists. Total estimated costs are in the order of \$250 Million.

KGS Group completed the detailed design and contract administration required for the first unit replacement, which was completed in November 1999 with the Unit 1 turbine replacement demonstration project. The new STRAFLO turbine performance exceeded the guaranteed expectations. Project highlights include:

- Unprecedented application of STRAFLO turbine technology in North America
- Replacement of a 3.5 MW horizontal Francis turbine with a new 8.5 MW STRAFLO turbine
- 500 m³ of concrete removed
- 1,200 m³ of new concrete placed
- 96,000 kg of steel installed to form the intake liner
- Straflo installation accommodates long-term growth due to concrete Alkali Aggregate Reactivity (AAR)

The project was awarded the Award of Merit in the Resource Development category at the 2000 Consulting Engineers of Manitoba Awards of Excellence.