

# Neil Murdock–Davis Hydro and Independent Projects

February 28, 2010

## Sample Recent Projects

**Blackstone Hydro:** re-design and re-installation of old hydraulic inlet gate system valving, piping and accumulators to allow inlet gates to power down and operate at any position between full up and full down.. Site has 2 fixed geometry turbines that have been operated for 25 years in on/off mode. New gate system allows turbines to operate at reduced flow rates.

**Quinebaug Hydro:** Removal repair and replacement of seal system on 1600 kw Neyrpic semi-kaplan turbine.

**Walkill Hydro:** Removal, repair and replacement of babbited guide bearing on 350 kw Hydrolec turbine

**Blackstone Hydro:** Build work platform in draft tube, pull runner and rebuild Chesterton seal on 1.3m Allis Chalmers tube turbine. Cut out section of inlet guide vane and replace corroded piping to lower bearing lube system and seal cooling/lube system.. Replace inlet gate guide rails.

**Moomaws Hydro:** Remove runner , gear box and generator from 1.4m ESAC siphon turbine. Re-build runner with new seals, bushings and moderate re-design. Re-assemble all.

**Groveton Hydro:** Remove, repair, and replace bearings and seals on Hydrolec turbine. Remove old generator and replace with new larger generator.

**Derby Dam:** Rebuild seals on 3m Allis Chalmers tube turbine. Sponge jet blast turbine shaft to inspect for cracks. General inspection and re-coating of runner/wicket gates.

**Kaw Dam:** Contract supervisor and hands on work rehabilitating 48” carbon seal on 40mW IMPSA turbine

**Sandy Hollow:** Remove submersible turbine and repair in field (literally) Chesterton seals in 1.3m Niagara turbine.

**School Street:** Supervision of removal, repair and replacement of Kingsbury babbited thrust bearing and re-allignment of 1930’s S.Morgan Smith 30mW Francis turbine.

**Sugar River II :** Re-build bushings, linkages and wooden thrust bearings on 1908 S. Morgan Smith Francis turbine, Remove generator, re-build bed, alignment of gen. and turbine.

**Avery Dam:** Remove and install new bearings and seals in Flygt 1.4m adjustable runner

**Confidential client:** Numerous pre-purchase inspections of hydro sites.