

PUMP Test REPORT

PROVEN RESULTS FOR ENGINEERED UPGRADES

JUNE 2015



Certified Performance Test for New Rotor Assembly

Hydro's Test Lab partnered with Hydro's Madison facility to quantify the performance of a newly rebuilt rotor assembly for a nuclear power plant. The plant had been experiencing degradation in the pump's performance.

Upon disassembly, it was found that the vanes in some of the channel rings were broken. Due to similarly degraded performance from the sister pump, the rotor repair was completed on an emergency basis. A quick turn-around was achieved with the help of 3-D printing and specialized vane milling technologies. However, because only the rotor was repaired, an identical pump casing was procured and made test ready in parallel with the required rotor work.

Several Certified Performance Tests (CPT) were completed at the rated speed of the pump in order to verify and re-verify the pump's performance. In order to account for field specific gravity, the performance curve was corrected from the test specific gravity (water = ~1.00) to the field conditions. Using historical pump performance data, the CPT tests compared the real-time data with the expected performance of the pump.

A Net Positive Suction Head (NPSH) test also verified the theoretical NPSH curve for the pump at five flow points ranging from maximum flow (150% of BEP) to minimum flow (roughly 50% of BEP).



Testing doesn't interrupt our business. It is our business.

INDUSTRY	Nuclear Power Generation
APPLICATION	Auxiliary Feedwater
MANUFACTURER	Ingersoll Rand
TYPE	Multi-stage, Axially Split, Between Bearings Pump (BB3)
MODEL	HMTA
SIZE	3x4
STAGES	10
IMP. DIA. (IN.)	-



While OEM's traditionally focused on repairing their own equipment, Hydro has from the outset developed a knowledge base that includes experience across a broad spectrum of pump manufacturers and pump designs.

PTR1506