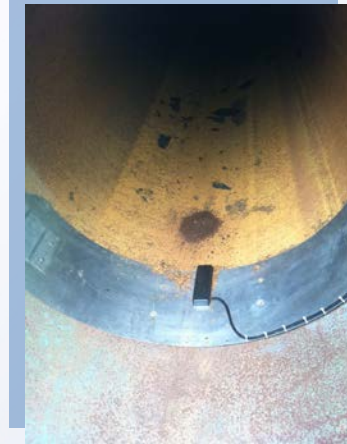
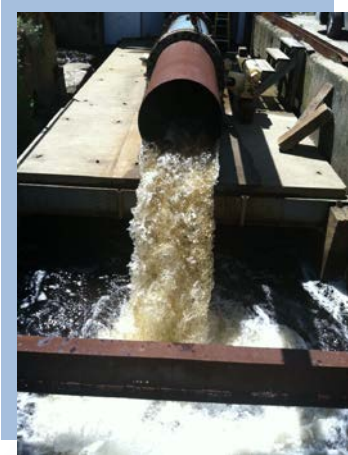


FloWav Completes Testing at Alden Labs



The FloWav, PSA AV Sensor was tested by Alden Research Laboratory, Inc., at their hydraulics testing facility in Worcester, Massachusetts. Alden's standard test procedure, QMSM-01 Revision 4, was used for all aspects of the testing. The sensor under test was installed in Test Line 3 in the Hooper Low Reynolds Number Facility. The Hooper Facility water is provided through a 40" penstock from the main Laboratory pond resulting in a gross gravity head of approximately 28 feet at a maximum flow of 35,000 gpm. A calibrated Venturi was used to measure flow for Test Line 3.

Procedure

Prior to each test run, the control valve was set to deliver the desired flow rate. The flow was recorded from the Alden Venturi and simultaneously recorded in the FloWav PSA-AV sensor under test. At the end of the run, the control valve was adjusted to the next flow and the procedure repeated.

Flow was measured using Alden's 36" by 21" Master Venturi in the 40" penstock. This meter is periodically calibrated using the gravimetric method (45,000 lb weigh tank) and a transfer standard venturi. Analysis indicates that the flow measurement uncertainty is within 0.50% of the true value for each test run. Calibrations of the test instrumentation (temperature, time, weight, and length measurements) are traceable to the National Institute of Standards and Technology and Alden's Quality Assurance program is designed to meet ANSI/NCSL Z540-1-1994 "Calibration Laboratories and Test Equipment-General Requirements" (supercedes MIL-STD-45662A).

Results

The average error in the Flow was $\pm 2.40\%$ of the actual reading.
The average error in the Depth was $\pm 1.94\%$ of the actual reading.

