Notice of Opportunity to Qualify Magnetic Flow Meters
for Participation in IDWR's Water Measurement Program

Water measurement in the State of Idaho is a requirement for water users that divert water in regulated areas from both ground and surface water sources. Data collected in these areas are reviewed and used by the Idaho Department of Water Resources (IDWR) for water management and distribution of water to senior water right holders. Recently IDWR has issued a blanket order in Water District 140 (known as the Oakley Valley water district) for all groundwater use that is greater than five acres of irrigation and or rates of flow on the water rights that are 0.24 cfs or greater (approximately 108 gpm). The order specifically requires Magnetic type flow meters as the standard meter that must be installed to measure water use in closed conduit applications. See the following link for a copy of the order:
http://www.idwr.idaho.gov/WaterManagement/WaterDistricts/PDF/Oak/PDF/20062609_Final_Order_Requiring_Measuring_Devices_for_GW_Diversion_WD140.pdf

IDWR maintains water measurement requirements throughout the Eastern Snake Plain Aquifer and various water districts in the state. IDWR often issues orders in these areas that require flow meters to be installed for specific ground water wells or closed conduit water diversions.
All vendors of magnetic type flow meters, who desire to have their meters identified on the list of IDWR approved meters under the water measurement program throughout the State, shall:

A. Meet or exceed IDWR's minimum acceptable standards for closed conduit measurement identified at the following link
http://www.idwr.idaho.gov/WaterManagement/WaterMeasurement/PDFs/MinAccepStand.pdf
B. Meet the following testing requirements at the NIST traceable lab of IDWR's choosing and follow the testing criteria outlined below:

    1. All meters will be tested at the Utah State University, Utah Water Research Laboratory (hereinafter referred to as USU) USU in Logan, Utah using NIST traceable weight tanks to measure actual flows. Flow measurement uncertainty is approximately 0.25%.
    2. The tests will be performed in standard wall carbon steel 10-inch pipe, which has an inside diameter of 10.02 inches.
    3. Two tests will be conducted for each meter that is sent to the laboratory. These include a straight pipe test and a test with the meter installed 3 diameters downstream of a short-radius 90 degree elbow.
        a. Straight pipe test: This test will be performed to establish the meter's baseline accuracy under ideal conditions. A minimum of 40 diameters of straight 10-inch pipe will be installed upstream of the meter for these tests.
            i. 5 data points will be tested at 1fps, 4fps, 8fps, 12fps, and 16fps.
        b. Elbow test: The meter will be installed with the upstream flange located 3 diameters downstream of the 90 degree elbow.
            i. 14 data points will be tested from 0.5 to 16fps with an additional point performed at 20fps. (15 points total)
            ii. The meter will be shut down, rezeroed if necessary, and then 5 data points will be repeated at 1fps, 4fps, 8fps, 12fps, and 16fps.
            iii. Repeat 3-b-ii
    4. Both the 4-20mA signal and the meter's local display will be read for each run.
    5. Meters submitted to USU for testing shall be a representative sample of the model manufactured and sold to end users and shall not be calibrated beyond normal factory default calibration and will be stated as such in a signed document by the vendor.

6. Each meter tested must have a standard factory calibration curve submitted to IDWR and USU prior the time of testing.
7. Vendors agree to allow USU to issue a pass or fail statement to IDWR upon completion of meter testing. This pass or fail statement will be in accordance with IDWR's Minimum Acceptable Standards identified in item A of the testing criteria above. Link to this release form can be downloaded at http://www.idwr.idaho.gov/WaterManagement/WaterMeasurement/PDFs/MagForm_Final.pdf

Please note that testing outlined above will be required of all makes and/or models of meters including both AC and DC powered meter options in a 10-inch diameter size. Vendors will ship their meters directly to the Utah Water Research Laboratory in Logan, Utah and will be required to pay the costs associated with the required testing. Vendors will need to establish a contract/Purchase order with the USU to have their meters submitted for testing. **Meters submitted for testing at USU should be shipped to UWRL 1600 Canyon Rd, Logan UT 84321. A separate mailing address is used for billing purposes at 8200 Old Main Hill, Logan UT 84322-8200.** The cost quoted to IDWR with multiple meters in the lab at the same time is currently set at $3200.00 per meter but could change in the future. The cost for individual meters in the lab has been estimated at $4700.00. The additional cost is associated with lab set up in the event that multiple meters are not tested at the same time and set up costs are not spread across multiple meters. Results of the testing must meet the minimum acceptable standards established by IDWR to be considered an acceptable meter. The USU will report a pass/fail for each laboratory data point based on the IDWR acceptable standard.

Vendors will be allowed to submit meters in the future as technology changes and new products are added to the market. Testing of new meter products will be required prior to meters being approved as standard meters by IDWR.

Vendors will be allowed to observe lab testing setup and procedures for their meter(s) but are not allowed to physically alter or manipulate meters while in the lab. However, USU personnel will be able to ask vendors for suggestions regarding meter setup. Vendors who choose to observe lab testing must notify USU a minimum of two business days prior to scheduled meter testing date.

Testing of magnetic flow meters will begin on February 22, 2011 and will be conducted until all flow meters are tested in the initial round of testing. Testing schedule will be completed and vendors will be notified of their test time. Time required to complete each meter tested has been estimated at 8 hours per meter.

Questions and or inquires related to the USU testing for Magnetic type flow meters should be routed to IDWR at Corbin.knowles@idwr.idaho.gov – 208-287-4842 or

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Contract information for UWRL should be routed to Maria Gates at;
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