

APPENDIX H

**KCWA LARGE METER TESTING
&
REPAIR GUIDELINES**

KCWA Large Meter Testing and Repair Guidelines

- AWWA Guidelines – Testing and repairs shall be in accordance with AWWA M6
 - At least 3 test flows for each meter (low, intermediate, and high) KCWA requires turbine meters to also be tested in the range of low flow relative to the occupancy minimum appliance or fixture demand. Meters that do not collect these demands within 3 % accuracy must be replaced with a meter that can measure these flows.
 - In addition, compound meters should have additional tests at crossover.
- Testing/Repair Company Qualifications – It is recommended that at least one of the employees performing the field testing and repair services has attended a Large Meter Training School (by Neptune Technology Group or equivalent) within the last five years. Testing/Repairs shall be conducted in accordance with AWWA standards and as described herein.
- Equipment Calibration - Test equipment must be calibrated annually (meter tester must submit copy of current calibration report to KCWA).
- Valve Seals - If valves are sealed and must be operated for test purposes, contractor must re-seal valves and so note by test tag on the seal with date and name clearly provided.
- Disinfection - If meter repairs are conducted then precaution must be taken to prevent foreign materials from entering the water system and internal surfaces of new components must be disinfected in accordance with AWWA standard C651-99 and RI Department of Health regulations.
- KCWA Rules & Regulations - Any repairs/meter replacements are to be in accordance with current KCWA Rules & Regulations (Sections 2.5 and 4.3 contain most of the information pertaining to metering). However, the meter tester/repairer must adhere to all rules and regulations as they pertain to the activities being conducted. Copies of the Rules & Regulations can be obtained at the KCWA office.
- Rhode Island Department of Health – Applicable sections of the Rules & Regulations Pertaining to Drinking Water must be met.
- Meter Registers – New meter registers shall be the Neptune Pro-coder R900i radio frequency type registers either potted or integrated. Mach 10 and Protectus III meters shall have standalone register with R900 V5 CIMU. Meter registers shall be the proper size and type for meter. All meters to read in cubic feet. Meter Tester/Repair company should confirm latest equipment requirements with KCWA prior to repairs being made.

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- Meter Replacements – Meter replacements should be Neptune T-10, Tru/Flo, Mach 10 or Protectus III meters as appropriate. Turbine meters are not authorized in any application.
- Test Reports
 - Test reports should be mailed to KCWA within 14 calendar days from the date of test.
 - Test reports should be signed and should indicate whether or not the meter is testing within AWWA standards. Use AWWA methodology to calculate accuracy.
 - Report shall summarize the results of the meter test on a single page.
 - Report shall include any notes relevant to the test and action required.
- Compound Meters - Compound meters (i.e. Tru/flo, Protectus, etc.) are to be tested as a single unit.
- Meter Re-test – If a meter fails the initial test and is subsequently repaired then the meter must be tested, and a report provided to KCWA within 14 days after repair is made. Meter re-test is not required for register replacements for stopped registers.
- KCWA Notification
 - KCWA should be given at least 48-hour notification as to date and time when a meter or meter register is being replaced so that KCWA can obtain a final meter reading and collect information on the new meter and/or register.
 - KCWA should be notified when a test is to occur as activity could impact KCWA system.
 - Notifications shall be given to KCWA at 401-821-9300, Monday thru Friday, 8 AM – 4 PM.
- Valve Operation - Curb stops and mainline valves are only to be operated by KCWA staff.
- Confined Spaces - Many meters are located in confined spaces. The contractor must have appropriate training and equipment for working in these spaces.
- Plumbing Codes - Work shall be conducted in accordance with local and state plumbing codes. Permits may be required. It is the responsibility of the testing/repair company to acquire all permits required.

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- Fire Departments – Prior notification to local fire departments shall be made by the meter tester (or facility owner) if the test is on a meter that services the fire protection system within a facility.