

## C. AMI System Functionality Specifications (EXHIBIT A)

You must state if your product meets or does not meet each technical specification listed below in the space allotted on the right of each specification. Enter either “Meets Specification” or “Does not Meet Specification” next to each item. Your proposal should include this completed Exhibit A and a response that contains clear and concise statements describing how you do or do not meet each specification (limited to 3 pages).

1. **The AMI System including meter, register, endpoint radio, software and data collection must be developed and sold through one point of contact.** This will limit any type of finger pointing that could potentially happen when the meter, endpoint, and system are supported by two or more manufacturers.
2. **All registers must come hard-potted to endpoint radios (no splicing or connectors allowed) to avoid any type of moisture intrusion.** Any splice connection is a potential failure point in the communication between the register and radio endpoint.
3. **The AMI System must use the 450-470 mhz licensed frequency band.** This is the most proven communication method for Fixed Network AMI over the past 10 years. The system supplier shall provide this unique license to HB.
4. **The AMI System shall provide meter readings from every meter at least four-times per day.** This will allow HB to calculate water loss on a daily basis if needed, since all endpoints are transmitting information every 6-hours.
5. **The AMI System must be able to be programmed to enter an hourly profile mode, to best assist in Customer Service goals.** Hourly read information will allow for customer service to handle high-bill complaints and to identify customer leaks.
6. **The AMI endpoint must have a 20-year pro-rated warranty (10/10 years) while still providing data every day.** This will protect the District from the expense of battery replacement.
7. **The AMI System shall incorporate the use of a solid state encoder with only one moving part (magnet). Manufacturer must have produced this register for a minimum of 5 years. The unit must meet or exceed AWWA C707 Standards for Absolute Encoder Registers. Pulse generation registers will not be accepted.** Requiring solid state registers will minimize likelihood of stuck register failures in the field. Excluding pulse generation registers will ensure that the reading on the register always matches the reading in the radio endpoint.
8. **The Absolute Encoder Register must have 8-digit resolution through the AMI system. 8-Digit resolution is essential to provide data down to the 1/100<sup>th</sup> cubic foot for the most beneficial leak identification.** Registers that do not contain this level of discreet resolution do not identify the majority of leaks in a system that typically are at very low flow levels.

9. **The register must display the current Rate of Flow through the water meter.** This will ensure that if a customer has a leak it can be determined how big that leak is.
10. **The register shall provide notification of leak, backflow, and tamper events to the radio endpoint.** It is important that the register has intelligence in it that can be communicated to the radio endpoint and then on to the data collector. Most radio endpoints poll the register hourly at most whereas smart registers have a much higher level of discretion in identifying leaks, backflows, and tamper events.
11. **All meters proposed must meet ANSI/NSF 61 Annex G for use within California starting January 1, 2010. If additional compliance for Annex F (to be effective Jul 1, 2012) is already secured, please indicate this as well.** Requirements are listed in the RFP to ensure that respondents' materials are compliant with California State Statute AB 1953 Low-Lead laws. Annex G legislation (regarding lead-free requirements of the Safe Drinking Water Act) will be enforced January 1, 2010 by the State of California. Annex F legislation (further restrictions on lead-free requirements) will be enacted on July 1<sup>st</sup>, 2012.
12. **Residential meters must be positive displacement technology.** HB already has a positive displacement specification on all of its residential meters. Multi-Jet style meters will not be considered as they are not accurate enough at low-flow levels, they have more stringent restrictions on acceptable installation methods, and they don't have the lifespan of positive displacement meters.
13. **The AMI System must have endpoint recognition to allow for immediate successful installation feedback.** This ensures that installer receives a successful programming message on the handheld programmer. This will save HB time in having to re-visit any meters that were not installed correctly.
14. **The AMI System must be compatible with the integration of distribution system leak detection devices.** The same system infrastructure would thus be able to communicate the information from the leak detection devices to District offices, without requiring additional infrastructure expense nor field visits.
15. **The AMI System must have the option for System Monitoring by the manufacturer.** This will enable both HB and the manufacturer to very easily diagnose any data collection issues.
16. **Respondent must have a local distributor which stocks products/parts and provides local technical support.** This is extremely important as AMI Systems are fairly complex and it is necessary to have access to timely local technical support and training. Additionally, products are specialized and not easily available through wholesalers, so it is important to have a local distributor that maintains adequate stocking levels to cover District short-term needs.