

We claim:

1. A computer implemented method for selecting an appropriately sized meter for use in a selected application implemented by a computer processor implementing instructions stored in a non-transient memory, the instructions comprising

receiving utility meter data transmitted from a plurality of utility meters, each utility meter being installed at a unique utility monitoring location;
identifying incorrectly sized utility meters based on utility meter data for particular utility meters that displays quantization effects; and
selecting an appropriate meter based on the identification of the utility meters displaying quantization effects.

2. The method of claim 1, wherein the quantization effect in the utility meter data is generated by a utility meter that accumulates flow information over a period of time longer than a measurement period for that meter without incrementing a flow unit.

3. The method of claim 2, wherein the utility meter data includes flow units based on a measured flow extending over a plurality of measurement time periods.

4. The method of claim 1, wherein the amount of utility meter data used for the identification is selected based on the utility meter usage.

5. The method of claim 1, further including determining a meter register type based on the identification of the incorrectly sized utility meters.

6. A meter replacement system for selecting an appropriately sized meter for use in a selected application, comprising
a database including utility meter data transmitted from a plurality of utility meters, each utility meter being installed at a unique utility monitoring location;
a meter sizing management system including a computer processor implementing instructions from a sizing application stored in non-transient memory for identifying

incorrectly sized utility meters based on utility meter data for particular utility meters that display quantization effects; and

a meter replacement system for ordering a replacement meter having a correct sizing based on the identification of the utility meters displaying quantization effects.

7. The system of claim 6, wherein the quantization effect in the utility meter data is generated by a utility meter that accumulates flow information over a period of time longer than a measurement period for that meter without incrementing a flow unit.

8. The system of claim 7, wherein the utility meter data includes flow units based on a measured flow extending over a plurality of measurement time periods.

9. The system of claim 6, wherein the amount of utility meter data used for the identification is selected based on the utility meter usage.

10. The system of claim 6, wherein the sizing application is further configured for identifying determining a meter register type based on the identification of the incorrectly sized utility meters.

11. A self-correcting advanced metering infrastructure including a plurality of utility meters, a meter communication system and a utility meter management system, comprising:

a plurality of utility meters, each utility meter configured to measure and transmit utility consumption data at a unique utility monitoring location;

a meter communication network for communication the utility consumption data from the plurality of utility meters to the utility meter management system;

a meter sizing management system including a computer processor implementing instructions stored in non-transient memory for identifying incorrectly sized utility meters based on the transmitted utility consumption data for the plurality of utility meters that display quantization effects; and

a meter replacement system for ordering a replacement meter having a correct sizing based on the identification of the utility meters displaying quantization effects to improve utility monitoring accuracy.

12. The system of claim 11, wherein the quantization effect in the utility consumption data is generated by a utility meter that accumulates flow information over a period of time longer than a measurement period for that meter without incrementing a flow unit.

13. The system of claim 12, wherein the utility consumption data includes flow units based on a measured flow extending over a plurality of measurement time periods.

14. The system of claim 11, wherein the amount of utility consumption data used for the identification is selected based on the utility meter usage.

15. The system of claim 11, wherein the meter sizing management system is further configured for identifying determining a meter register type based on the identification of the incorrectly sized utility meters.

16. The system of claim 11, wherein the meter sizing management system is configured for periodic evaluation of utility consumption data to identify quantization effects and the identification of quantization effects in a utility meter initiates replacement of the utility meter generating the utility consumption data including the quantization effects.

17. The system of claim 11, wherein the meter sizing management system is implemented based on a determined or detected end of meter mechanical life for a utility meter.