

## MEASUREMENT SOLUTION FOR CORROSIVE ENVIRONMENTS

# *Curb Meter development*

The new American Meter Curb Meter is the result of a joint development between the Sempra Utilities and American Meter Company. Individuals within the two companies sought to provide a solution to an increasing demand for a curb meter replacement.

Reaching back as far as 1999, the Engineering Group for the Sempra Utilities put out a call for help. With an estimated installed population of 425,000 aging curb meters (cast iron, top reading meters installed in a vault, below grade) and no supply of new units, they were concerned.

American Meter answered the call. The volume demand for curb meters in North America is limited. It is these relatively small numbers that caused the production of cast iron curb meters to be discontinued in the early 1990's. Not warranting a dedicated product design, the solution was to adapt our existing aluminum bodied meters to do service in the wet and corrosive environment of the curb vault. In addition, the index and badge would need to be adapted to allow for reading from the top of the meter.

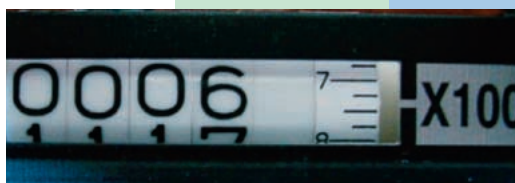


*The new design Curb Meter*

Numerous designs and concepts were considered. The combined Sempra and American Meter team performed a great deal of laboratory and field testing. In order to combat the corrosion issues, the meter was fully coated in two-component polyurethane. The chosen index was a top reading odometer unit. The index is an adaptation of American Meter's existing front reading odometer unit. A redesign of the casing and the addition of a speed counter equivalent wheel provided the top reading requirements. In order to clearly read the index, a change was also made to the index box to remove the standard frosting along the top edge. The final alteration was to install the meter's badge on a new badge plate attached to the handhole plate screws.



*Curb style regulators*



*The top reading index*

**Shift to Production**

With the acceptance of an established design, American Meter set up a production line where the unique characteristics of the new curb meter could be built in. The facility included state-of-the-art two-component application equipment with (instead of 'including' again) high-pressure pumps, heated line, specialty mixing spray guns and a custom-built conveyor system for handling the new type of meter.

Once the new facility was in place, Sempra began to enter their first significant orders. One of the major benefits of the new design is that it is not limited to just the 250 cubic foot per hour meters. In fact, the top reading index design can be used for the AR-250, AC-250, AL-425 and AC-630 meters. Sempra has ordered close to 6000 curb meters in 2004 and expectations are that these numbers will continue to increase as their many cast iron units continue to age.

**Expansion of the Concept**

The success in the new Curb Meter's implementation has led to numerous expansions of the concept. First, several other utilities in North America are looking at using this new meter to replace their cast iron meters. In fact, after many years of not doing so, some are even beginning to consider using curb meters in new applications again.

In addition, the new coated meters are being tested for highly corrosive above ground locations such as oceanfront properties. Notorious for corrosion, these properties can leave meter sets exposed to a 24/7 dose of damaging moist and salty air. Included in both below grade and above ground applications is the regulator. Evaluation has also begun using coated regulators for these meter sets.

Commercial and Small Industrial applications are also being considered. Meters such as the AL-1000 and regulators like the 2" 1813B can also be coated with the two-component polyurethane and be used in vaults or other corrosive locations.

The most interesting evaluation that is going on right now might be the use of Automated Meter Reading (AMR) on these new curb meters. Curb Vaults are locations where Meter Readers can incur more than the usual number of injuries.

Although not specifically designated as 'hard to read' locations, curb vaults can still present a challenge. Due to the use of the standard American Meter body and index mounting configurations, almost every available AMR device, including our own TRACE system can be installed on the meters. This option is currently in the evaluation stages and the results obtained to date look very optimistic.



*The new Curb Meter with AMR*

**Conclusion**

We are pleased that through the combined efforts of the Sempra Utilities and American Meter we have developed a new product that provides a measurement solution for our customers. Perhaps we are even more pleased that this solution came about when American Meter and our customer worked together to our mutual benefit. We look forward to more opportunities to assist our customers in this same way.

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