

# Firm battles the giants of high-tech metering

## MEASURING VISION

CELIA LAMB / STAFF WRITER

Tom and Emily Tamarkin envision a future where homeowners, using a Tamarkin digital "time-of-use" meter, can tell how much electricity, gas and water they're using each minute.

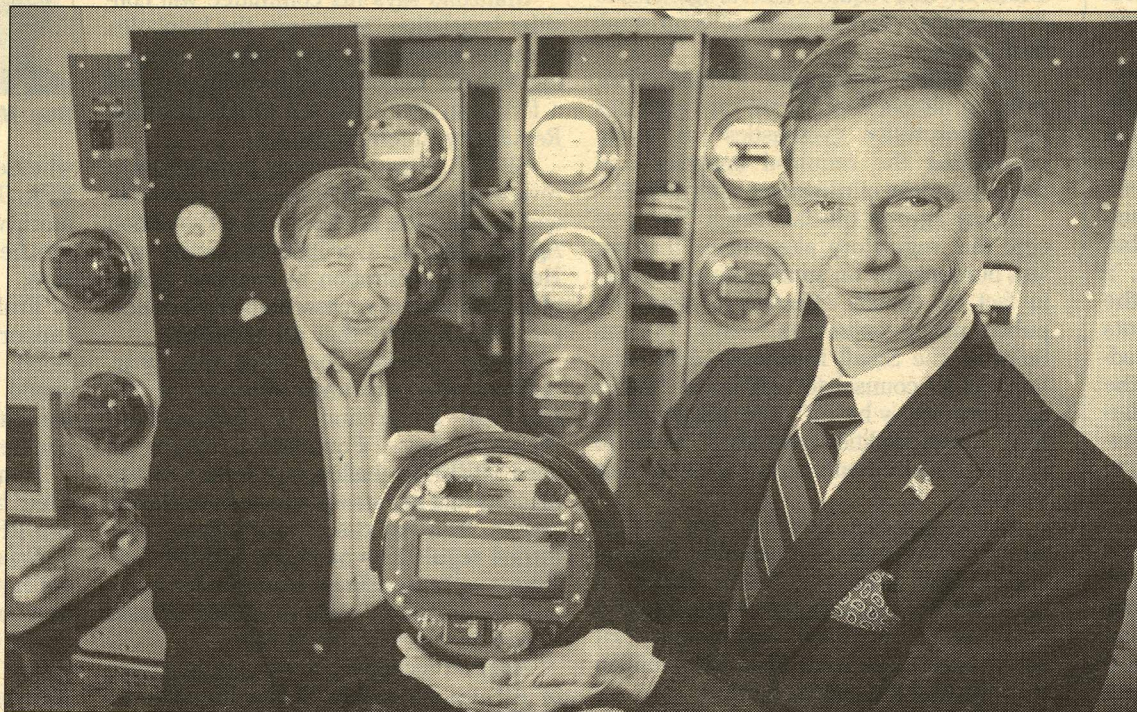
Powered by a newly purchased patent, the husband-and-wife team hopes their 7-year-old USCL Corp. of Sacramento can produce economical meters and succeed in a field occupied by such giants as General Electric Co. and Siemens Corp.

The Tamarkins are putting all their earnings from other projects to finance development of the meter and display console, products they say need redesigning before USCL can sell them.

During last year's energy crisis, utilities ramped up time-of-use meters to spur conservation among businesses of peak-hour power use. Such metering in California remains in the dominion of businesses, usually big industry.

The Tamarkins, founders of USCL, hope to make inroads in residential electric markets with a digital meter developed by a former Sacramento Municipal Utility District employee. The meter can measure not just electricity use, but natural gas and water. And it can "talk" to the utilities via the household's phone line.

USCL plans to join that meter to a display console showing how much electricity, natural gas and water the household is using and how much the residents can expect to pay for them. The company is seeking out agreements with utilities to beta test its meter and display system. It has garnered the interest of the city of Vernon, and it was talking this



DENNIS MCCOY / SACRAMENTO BUSINESS JOURNAL

**Tom Tamarkin, foreground, with Jack Mador, company president: A "time-of-use" utility meter for homes**

**What's in it for utilities:** USCL's system would eliminate the need for meter readers and therefore cut down on labor costs because the utilities could tap into the meters and download usage data remotely. The meter would come with a signaling system so a utility would know instantly if someone's trying to tamper with it and steal electricity or if there's an electrical problem in a house causing a sudden change in frequency.

And, a utility would be able to control some functions in the house with the meter, cutting certain circuits during power shortages to prevent blackouts or turning down specific functions, like lights, without risking people's health and safety. A utility could even display messages on the

someone's on the way to fix a neighborhood power outage or showing an advertisement for energy-efficient light bulbs.

"These are all features that we've looked at with various technologies," said Tom Smith, director of metering for Pacific Gas and Electric Co., upon hearing a description of USCL's plans for its metering system. "I have not seen a device that integrates all these features. We'd be very happy with an integrated device that had this much functionality."

USCL hopes to sell the meter for \$75 to \$85 and the in-home display panel for \$75. Digital meters typically start at \$85 to \$100, but don't include as many features. When outfitted with added features, such as time-of-use metering, and automatic data

the likes of General Electric, Siemens and Schlumberger Industries can go for \$250 to \$300.

Smith said PG&E would take a look at a USCL device selling for about \$80.

### Huge market, big obstacles:

There are about 135 million residential electric meters in the United States, Tom Tamarkin said. Many were put in soon after World War II and are reaching the end of their useful lives.

The Tamarkins hope to convince utilities to gradually replace their old meters with USCL's product as the old ones turn obsolete. They also want to offer copyrighted software and billing services to utilities through long-term contracts.

But some of USCL's electronic

meters are several years old and need to be redesigned. Tom Tamarkin estimates USCL will need \$1.5 million to \$2 million for research and development, and it is pitching to venture capitalists.

**Genesis:** Former SMUD employee Tom Turino conceived of the meter in 1994. He presented his ideas to SMUD's board of directors, and the utility agreed to help him develop a prototype with the aid of a microelectronics research group of the U.S. Department of Defense. In 1996, soon after the prototype was done, SMUD decided it didn't want to continue with the project. Turino and SMUD became embroiled in litigation that ended with SMUD giving up all rights to the meter, paying \$1.5 million and admitting no wrongdoing or liability, according to a television report from the time. SMUD declined comment on the matter.

Turino sold the meter patent to USCL last year.

He said he preferred to work with a startup because he thought they'd be less likely to shelve it and more likely to share the credit for the invention. Turino received an undisclosed cash payment, and both he and the federal government will receive royalties for each meter sold.

The Tamarkins, who used their savings to found USCL, previously designed and sold other equipment, including light-sensitive sorting systems for warehouses. It's been in the past couple of years that they've put all earnings from other projects into developing the meter and console.

In 2000 the company took in revenue of \$600,000, Tom Tamarkin said. He projects profits of \$50 million to \$250 million annually in