

## **EDITORIAL**

### **ROYALTIES FOR RATEPAYERS**

*Put this in your cup and drink it: Water department has a desalination patent.*

**Sunday, September 10, 2006** - A taxpayer-supported experiment aimed at turning sea water into drinking water seems about to pay an extra dividend: cold cash. That's a novelty taxpayers can appreciate.

It could happen because the Long Beach Water Department has been awarded a patent on its breakthrough approach to desalination: a two-stage filtering system that uses 20 to 30 percent less energy than similar methods.

The patent is a clear sign that the so-called Long Beach Method of desalination is unique, but even more intriguing is the possibility of collecting royalties by licensing the process. Any proceeds would be divided between the city department and the now-retired employee who invented it, Diem Vuong.

Don't look for desalted sea water right away, though. The Long Beach department is in the early stages of testing the process. It started with a small in-house proof-of-concept apparatus that, as expected, removed the salt (as well as other impurities) from sea water.

Now a bigger system, built recently alongside an L.A. Department of Water and Power generating plant at the edge of the San Gabriel River in East Long Beach, is churning out 300,000 gallons of desalinated water a day, then returning the water to the channel whence it came.

That's because the project still is experimental. Alongside the two-nanofilter Long Beach Method is a conventional reverse-osmosis system (which uses a membrane to separate water from salts under greater pressure, requiring more electrical power). The department will compare the two systems precisely for energy efficiency and filtering prowess, although it's pretty clear which system will do better.

You'd be forgiven if you assumed that desalinated saltwater might be delivered to your house any day now, because some water agencies and some ambitious contractors talk as if they can do it cost-effectively and do it now. They can't.

The cost of water bought from the Metropolitan Water District, which pipes it in from Northern California and from the Colorado River, is about \$500 an acre foot (which is waterspeak for 325,851 gallons, or enough to cover an acre of flat land one foot deep). The cost of desalinated water, using conventional systems, is about \$1,200 an acre foot, or about \$150 more than the Long Beach Method.

Over time, this will change as imported water becomes scarcer and more expensive and desalinated water becomes relatively less expensive. In 10 or 15 years it should be a wash, so to speak.

At that point, the Long Beach Water Department expects to begin distributing some cost-effective, desalinated water. Not to mention the royalties.