

October 9, 2006

Local desalination test plant ready for state debate

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SANTA CRUZ — The city is seeking approval from the state Wednesday for a year-long test run to turn ocean water into something clean enough to drink — a pilot program officials hope leads to a longterm solution to prevent Santa Cruz from running out of water during a drought.

The city Water Department's plans to build a \$4 million pilot desalination plant at the UC Santa Cruz Long's Marine Lab on Schaffer Road require a coastal permit from the California Coastal Commission.

The temporary testing facility — to pump out 72,000 gallons a day — would be the prelude to a much larger \$40 million desalination plant constructed around 2009 if tests prove the technology is suited for the area.

"This has been done all over the world for years and years," said Linette Almond, city deputy water director. "However, every plant is different based on temperature of the water and level of salinity."

Santa Cruz would join other coastal towns up and down the state faced with water supply shortages that are attempting to use water from the ocean for human consumption. Desalination plants are operating from Marin to Marina, Long Beach and Carlsbad.

Critics fault the desalination process for its expensive and intensive energy use, and advocate instead for better conservation practices to preserve water supplies.

About 16 million gallons of water are consumed each day by Santa Cruz water customers during summer. The full-scale desalination plant would produce 2.5 million gallons a day as an emergency source during drought years, Almond said.

Santa Cruz, without a new water source in 30 years, would struggle today to keep taps flowing in the case of a drought, Water Director Bill Kocher said.

Without other avenues for creating a new source, the Water Department identified desalination as its best option in a water management plan for the city, which was unanimously approved last year by the City Council.

If granted a permit from the Coastal Commission, construction on the pilot facility would begin in early 2007 and take four months to complete, Almond said.

Testing, to last 12 months, would examine details of an energy-intensive reverse osmosis process and the resulting water quality. Through reverse osmosis, large pumps force ocean water through membranes, which remove the salt but allow water to pass through.

Desalinated water from the pilot project would not be used by the public, Almond said.

Instead, she said, the water would be remixed with its brine concentrate and sent into the UCSC seawater system that's used for various marine research projects.

Desalinated water must meet quality standards set by the state Department of Health Services, Almond said.

"The message is we're proceeding with testing, and we'll continue to study it in more and more detail," she said. "I think it can be done so it's not devastating to the environment by any means, and done incrementally so it doesn't induce growth."

The testing facility would be designed and operated by staff from the Walnut Creek-based engineering firm of Camp, Dresser and McKee. No city staff would be involved, Almond said.

The city received a \$2 million grant from the state Department of Water Resources to fund the pilot desalination plant; the other half would come from rates paid by city water customers.

Kocher said he expects the Coastal Commission to approve the coastal permit. Water Department staff members have worked with the commission's staff to address expected concerns at Wednesday's public hearing. With those issues addressed, the commission's staff is recommending approval, Kocher said.

"The point of the pilot is to give us answers," he said. "It's just a test."

The coastal commission meeting is 9 a.m. Wednesday at the Hyatt Regency Long Beach, 200 S. Pine Ave., Long Beach.

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