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Archuleta: Water wizard says El Paso has plenty

by Dan Huff
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Edmund G. "Ed" Archuleta has a reassuring message for a rapidly growing El Paso: Relax ... at the very least we've got an eminently reliable and rechargeable 50-year water supply.

Archuleta, general manager of the El Paso Water Utilities Public Service Board since 1989, is credited by many observers credit as the one who came up with the idea of transforming the seeming lability of millions of gallons of ancient, brackish water in the Chihuahuan Desert's Hueco Bolson into a major asset - potable water.

That water will be going through the world's largest inland water desalination plant, now under construction at Fort Bliss.

Like a dubious or expensive power supply, a community's water reserves often enter into the equation when companies - or in El Paso's case, the U.S. military - are looking at places to deploy their plants and people.

Pentagon officials - and lots of other folks - had been doubting El Paso's water supplies ever since a 1979 study said the region was in danger of drying up by 2030.

Archuleta diverts the credit to the U.S. military, particularly the

vision of a former Fort Bliss commander, Lt. Gen. Stanley Green, saying he helped make it possible to construct the \$87 million desalination plant.

He said Green, a UTEP graduate, at times went against even the recommendations of the U.S. Army Corps of Engineers to help make the plant a reality. He noted the military also kicked in \$3.3 million.

"In return they'll get a very favorable rate on the water they buy," Archuleta said, noting the post now produces all but 10 percent of its water from its own wells.

When the project begins operation in 2007, it will provide a backup water supply for a post that now is growing much larger than anyone could have imagined only a few years ago.

Good management

Back in the 1970s, Archuleta said, El Paso was heavily dependent on fresh groundwater, pumping about 40,000 acre-feet per year, mostly from the Hueco Bolson east of the city. That's still about what the water utility is pumping today - an indication of how well El Pasoans are managing their overall water supplies.

In 1971 El Pasoans' average use, figured over the course of the year, was about 225 to 230

gallons per person per day. By last year, that figure had dropped to 139 gallons - roughly the goal the water utility had set back in 1990 for the year 2010.

That 139-gallon figure includes all users, residential, commercial and industrial, divided by the number of people in the region, Archuleta noted, adding that residential use alone amounts to about 112 gallons per person per day. New homes are performing even better, averaging 100 gallons per person per day or less over the course of the year.

As of 2007 the reverse-osmosis desalination plant, located on 144 acres of Fort Bliss property near Loop 375, will become El Paso's fourth source of water.

It's ultra-pure product, called "permeate" will be blended with fresh groundwater from 16 new wells around El Paso International Airport, of which six already have been drilled, Archuleta said.

With the blending process, the plant will produce roughly 27.5 million gallons of potable water each day, according to the water utility. Archuleta said the resulting blend would merge with the city's regular water-system through a 24-inch line running along Montana, as well as a 48-inch line along Loop 375.

In addition, he said, the high-salt wastewater would be carried off along a \$10 million, 22-mile pipeline, still in the design phase, that would deposit it into three wells that are each 2,200 feet deep.

He noted the city has already seen good results from 11 Lower Valley wells, whose brackish water has been filtered at the well-heads by the reverse osmosis process for several years now. Those wells operate on an as-needed basis, and on an exponentially smaller scale than the Fort Bliss plant will operate, he said.

Reserves

Finally, Archuleta said, another reason we can be confident in our water supply is that for the past decade his agency has been buying tens of thousands of acres of farm and ranch lands to the east of town. These lands hold both fresh and brackish water supplies, he said, adding the



Ed Archuleta

photo by Dan Huff

desalination plant would process outlying brackish supplies if necessary, but these reserves probably won't be touched for a quarter century or more.

Archuleta noted it costs about \$163 an acre foot to pump out fresh groundwater and chlorinate it; it costs about \$300 per acre foot to obtain and purify river water; about \$508 an acre foot to remove the salt from brackish water; and about \$1,000-\$1,200 to convert sea water into an acre foot of potable water.