

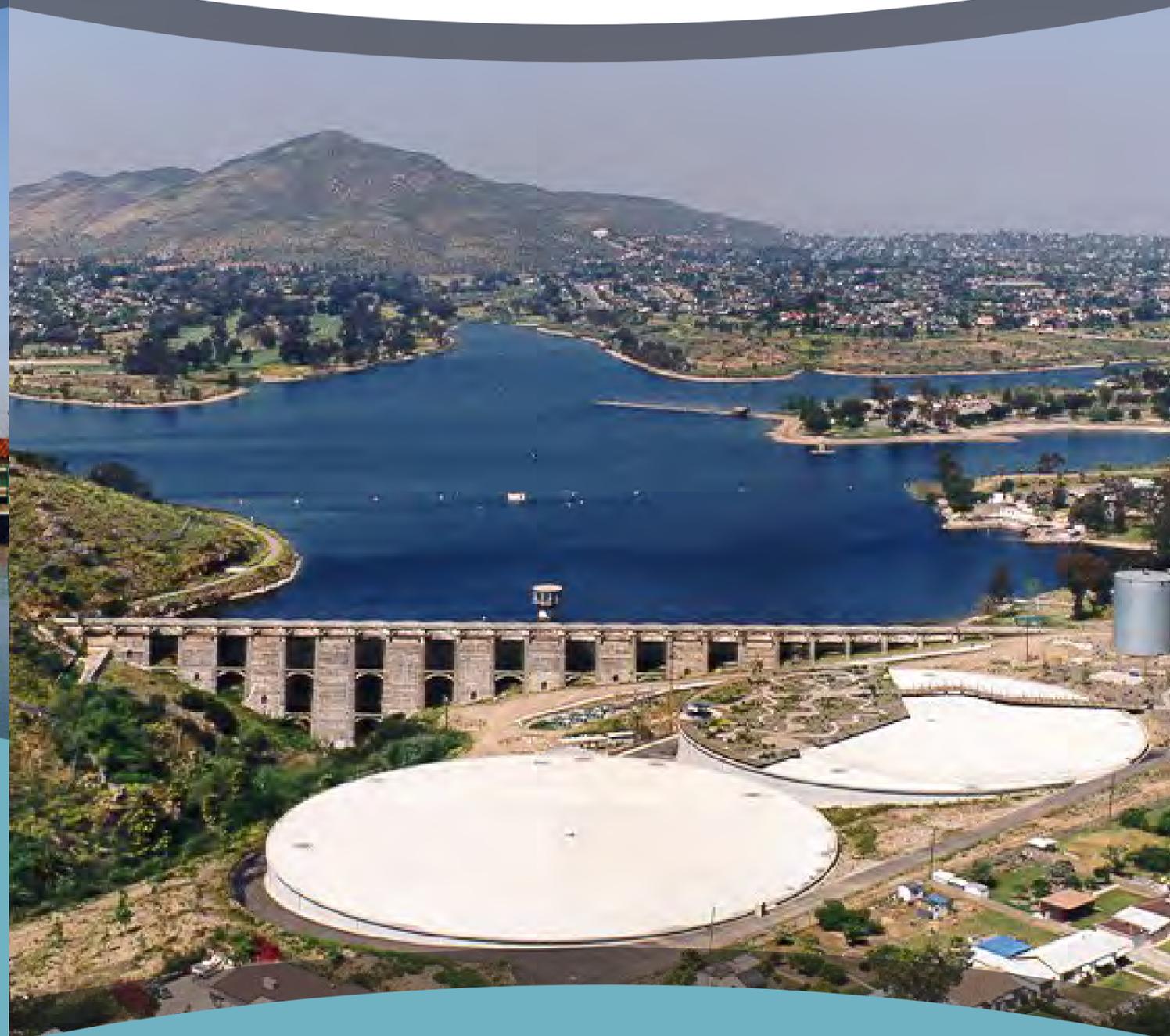


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City of San Diego Public
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**San Diego Public Utilities Department
Explores Solutions to Water Shortage**

City of San Diego Public Utilities Department

San Diego Public Utilities Department Explores Solutions to Water Shortage

The San Diego Public Utilities Department is continuously maintaining its pipelines while exploring ways to use wastewater for human use and consumption through new technologies

*Written by: Jamie Robinson
Produced by: Tom Ventura >>>*



City of San Diego Public Utilities Department

Department Explores Solutions to Water Shortage

Arid climates within parts of Texas, Arizona, New Mexico, Nevada and Southern California present unique problems to local public utility departments, whose water departments must constantly innovate to provide this limited resource to the public. The San Diego Public Utilities Department, under the leadership of Director Roger Bailey, owns and operates nine raw water reservoirs which store both local runoff and imported water. The department also has an Advanced Water Treatment Demonstration Plant in the City that is examining the use of advanced water purification technology to provide safe and reliable water for San Diego's future.

"We're using a reverse osmosis treatment process which is similar to the desalination process," says Bailey. "It is a very advanced process, a multi-barrier stage process, which is beyond anything that we currently do."

San Diego imports 95 percent of the City's water from the Colorado River and Bay Delta.

Most cities in arid places do use outside resources (in some cases in addition to any local and state watersheds). It is not only the limited levels of water from outside resources that necessitates the kind of innovations San Diego Public Utilities is exploring.

"Imported water is very expensive and in limited supply," Bailey says. "Because of that, we are constantly trying to figure out where the next drop of water is going to come from. One of the solutions was to take what would traditionally be effluent from the tertiary wastewater treatment process – which is discharged out to the ocean – and treat it to the most advanced treatment option-beyond what we currently do.

"If the Demonstration Project is successful and the policy makers approve moving forward, we will take the purified water from the most advanced treatment process, blend it with our current raw water supply, and treat it again at our Drinking Water Treatment Plant before distributing it in our potable water system. That's quite different from most places in the country."

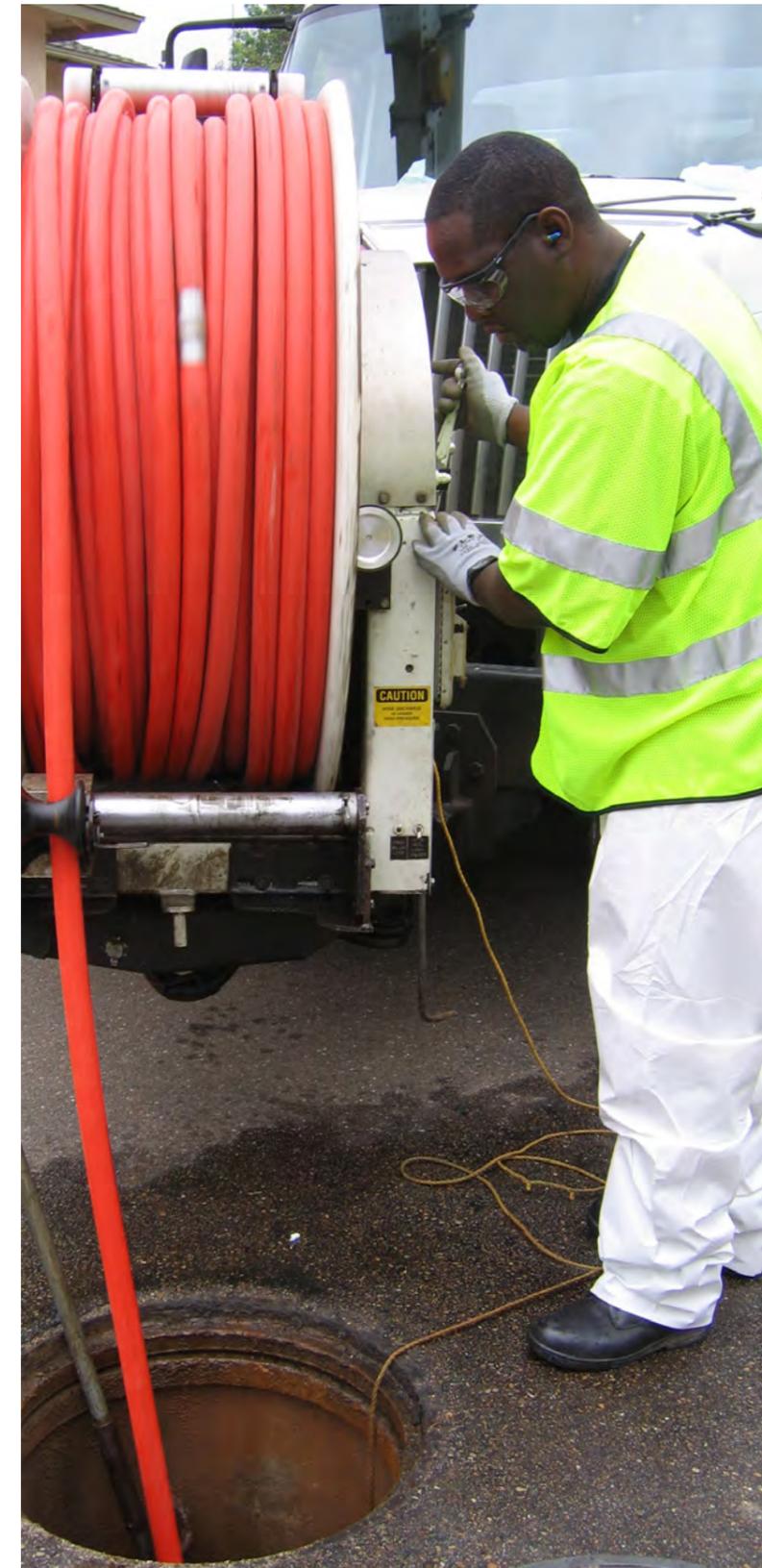
San Diego Public Utilities utilizes surface-water reservoirs for storage of raw water before sending it to the drinking water plant for treatment, in contrast to nearby departments like Orange County, which utilizes water aquifers. The City owns nine surface-water reservoirs ranging in size; they are the Lake Hodges Reservoir (with 30,250 acre-feet storage capacity), the Miramar Reservoir (6,700 acre-feet), the San Vicente Reservoir (90,000 acre-feet), the Sutherland Reservoir (30,000 acre-feet), the El Capitan Reservoir (113,000 acre-feet), the Morena Reservoir (50,000 acre-

“

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”

—Public Utilities Director Roger Bailey





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BioFuels also provides renewable energy generation at biomethane gas sites. BioFuels is the only Company in California to implement a fully operational biomethane plant at the Point Loma Wastewater Treatment Plant in San Diego. The BioFuels facility purifies flared digester gas into natural gas quality and injects the product into the utility pipeline. The success of this plant provides the City of San Diego with an additional revenue source and reduces approximately 25 million pounds of CO2 from the atmosphere.

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feet), the Barrett Reservoir (34,800 acre-feet), the Murray Reservoir (4,500 acre-feet) and the Otay Reservoir (50,000 acre-feet).

The operations of these surface-water reservoirs are just one of the responsibilities of the San Diego Public Utilities Department, which employs more than 1,500 employees of different skill levels and capabilities. Bailey credits internal training programs for providing pathways for employees to advance their careers within the system, which ultimately benefits the Department and community.

“We have three significant programs relative to training that are systematic through the operation,”

Supplier Profile

BIOFUELS ENERGY, LLC

BioFuels Energy, LLC is a privately owned Company located in San Diego, California. BioFuels produces renewable energy and reduces greenhouse gas emissions by transforming biomethane gas into renewable energy. The resultant product can either be used in one of three manners: (a) injected as natural gas into the local utility pipeline, (b) used to produce renewable energy on-site or (c) transported in CNG trucks to off-site locations for either fuel or energy production. BioFuels has built, owns and operates a biomethane purification plant at the Point Loma Waste Water Treatment Facility in San Diego County. The BioFuels' product is injected in the utility pipeline and nominated to a 2.8 MW fuel cell at the University of California, San Diego and a 1.4 MW fuel cell at the City of San Diego South Bay Water Plant. BioFuels is also developing a 9MW landfill-gas-to-energy plant in Washington State. The currently flared landfill gas will be captured, purified and supplied to Caterpillar Generation Sets. The energy produced will be sold under contract to the local utility. BioFuels is also developing fuel cell power plants within the California University system.

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Bailey says. “These programs are the management academy, the leadership academy and the mentorship program. The management and leadership academies really seek to find the new leaders within the organization and give them the skill set that they need to A) do their current job, and B) to transition them into senior roles in this organization.”

Bailey notes that the concerted effort through standing programs that run annually (the management and leadership academies start twice per year and the mentorship program runs once) is unique among utility departments and organizations in general, and has helped create “one of the most skilled workforces in the business.”

Future plans within the San Diego Public Utilities Department are targeted to continue to provide reliable service to customers with minimized service disruption and minimized sewer spills, “so that customers can reap the benefit of improved services,” Bailey says. This means continued replacement of pipelines for water and wastewater, indirect potable reuse (IPR) to offload wastewater treatment and ocean discharge by the Point Loma Wastewater Treatment Plant, and a system-wide



optimization project.

“It’s an optimization of the entire treatment and pump system, both on the water and wastewater side,” Bailey says. “We will utilize a consultant who will look at how we

currently run our systems and will help us optimize them to improve our service delivery and save money.”

Be it wastewater treatment, the repair or replacement of pipelines or

a system-wide streamlining, Bailey says customers are the priority. The Department will continue its efforts to optimize their systems with this end-goal in mind.

STATISTICS



HEADQUARTERS:

City of San Diego, Public Utilities Department
Metropolitan Operations Complex (MOC) II
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KEY PEOPLE/TITLES:

Roger S. Bailey, Director

EMPLOYEES:

1,530

WEBSITE:

www.sandiego.gov/publicutilities

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