



RON GALPERIN
CONTROLLER

November 20, 2015

Honorable Eric Garcetti, Mayor
Honorable Michael Feuer, City Attorney
Honorable Members of the Los Angeles City Council
All Angelenos

Re: Audit of DWP Customer-Based Water Conservation Programs

Dear Colleagues and Fellow Angelenos:

As we prepare for the possibility of heavy rains this winter, we should keep in mind that El Nino-produced storms in California could bring us only a temporary respite from a protracted drought. Droughts are to be expected in our state and scientists have found evidence from centuries ago that some of them have lasted for decades. As temperatures rise due to climate change, our natural weather cycles are expected to become more extreme.

Currently, City of Los Angeles customers of the Department of Water and Power (DWP) use more than 435 million gallons of water per day, 85% of which comes from hundreds of miles away. Stocks we depend on from Northern California, the Eastern Sierras and the Colorado River have been diminishing. Last year, California's snowpack was only 35% of normal. This year, it peaked at 17% of normal, a modern-record low.

What if those conditions persisted for a long while? How would we continue to quench the thirst of our semi-arid City of 4 million people and our region of more than 20 million? Hence the imperatives that we reduce our dependence on far-away supplies and our uses thereof.

Our Record of Conservation So Far

As a community, Angelenos have responded with extraordinary verve to calls to cut back on water use from the Governor and Mayor. Collectively, Los Angeles City

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customers have cut back on water use by nearly 17% during the last two years, reducing average per person daily consumption from 131 gallons to 109. This is truly remarkable, given that, before these cuts, we were already using the same amount of water we did when there were a million fewer of us.

Today, I am releasing an audit that examines various customer incentive and rebate programs under the auspices of the DWP, which spent \$24.7 million on such programs in FY 2013-14 and \$40.2 million in FY 2014-15. This year's DWP budget calls for spending \$59 million on water conservation programs. Our principal water wholesaler, the Metropolitan Water District, has also increased its spending on such programs. MWD, which spent only \$18 million on rebates and incentives in all of Southern California in Fiscal Year 2013-14, increased that to \$131 million in FY 2014-15, of which \$43 million went to pay for rebates and incentives in the City of Los Angeles alone.

Earlier this year, MWD added more than \$300 million for all of Southern California. These expenditures covered the costs of providing customers with free water-saving devices such as faucet aerators and low flow showerheads, providing customers with rebates for installing low-flow toilets and washing machines, and for replacing water-hungry lawns with more drought tolerant landscapes.

DWP reported that, as a result of its direct water conservation programs, 4,210 acre-feet of water were saved in Fiscal Year 2013-14. That works out to about one gallon per capita per day. In Fiscal Year 2014-15, DWP reported saving 7,197 acre-feet of water, which works out to 1.6 gallons per capita per day. The DWP's turf replacement program, which saved the second most water among DWP's four financial incentive programs, accounted for water savings of about half a gallon per person per day. During this same period, Angelenos voluntarily cut their overall water use by 22 gallons per person per day.

One can't help but think that the direct savings from the rebate programs were a relative drop in the bucket.

DWP's Turf Replacement Investment Was Largely a Gimmick

Auditors found that DWP does not adequately prioritize water conservation projects based on which are the most cost effective. The key component of DWP's conservation program last year--turf replacement--targeted outdoor water use, which constitutes about half of residential water use. But evidence suggests that the turf replacement program, called "Cash in Your Lawn," was largely a gimmick--a device intended to attract attention and publicity.

It in some ways worked as intended. By paying more to provide customers an initial opportunity to get involved in water conservation--in hopes that participation and

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behavior might continue--it had value as an advertising campaign that helped stimulate major public interest in the drought. But this came at a rather high cost and, arguably at the cost of some fairness. Aid was distributed Citywide but was most concentrated in the western San Fernando Valley. As well as ordinary ratepayers, beneficiaries included some affluent households and some private golf courses. One particular contractor benefited handsomely.

If money is no object, turf replacement rebates are a relatively expedient way to save substantial amounts of water, But, of course, money is an object. Auditors found that the turf replacement program gave DWP the lowest return on investment, in terms of gallons of water saved per dollar spent, than other conservation programs, by a wide margin. Auditors calculated that DWP spent nearly \$16 million on *non-turf replacement programs* in FY 2014-15 that were expected to save between 1,717 and 7,278 gallons per dollar over their estimated lifetimes. Turf replacement programs, on the other hand, were expected to save only an estimated 350 gallons per dollar spent over the lifetime of DWP's nearly \$18 million investment in FY 2014-15. (These expenses do not include administrative and certain other costs.) That does not take into account the cost of additional turf replacement rebates paid by the MWD. These lifetime estimates are based on DWP's reports of its spending and estimates of the life expectancy of residential turf replacement (forecast at 10 years) versus the life expectancy of other major rebate programs (forecast at up to 19 years).

How Interest in Turf Rebates Swelled and Fell Off

The turf replacement program, which had been around for several years, attracted little attention until last Fall when both DWP and MWD dramatically raised the amounts of rebates they were offering. MWD doubled its rebate from \$1 to \$2 per square foot of residential lawns removed. DWP increased its rebate from \$1 per square foot to \$1.75. Thus, homeowners could claim combined rebates of up to \$3.75 per square foot for replacing lawns with gravel, drought resistant plants and/or artificial turf. A similar pattern held true for lawn replacements for businesses, which were paid up to \$3 per square foot from both agencies combined. This did not reflect ratepayers' total costs. Since DWP ratepayers pay MWD for the water DWP purchases, part of what MWD offered DWP customers in rebates originated with DWP ratepayers.

Here is a breakdown of the program's trajectory to date. DWP statistics show that less than one percent of all DWP's 700,000 residential and commercial customers received turf replacement rebates during the two most recently completed fiscal years. In FY 2013-14, 1,236 residential customers and 14 business customers received them. But those numbers surged in FY 2014-15, when 5,320 residential customers and 106 business customers received the rebates. In the first two months of this fiscal year, DWP reported those numbers continued to grow, with an additional 2,579 residential

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customers and 28 businesses receiving checks for completed projects. That extended the turf rebate participation rate to two percent of DWP's approximately 480,000 *residential* customers. To be fair, that number does not fully reflect the program's appeal in that it does not count an additional 24,093 DWP residential customers whose applications are still in queue, according to the MWD. If two-thirds of those customers follow through on their projects that would appreciably boost participation to almost seven percent of DWP residential customers.

The California Urban Water Conservation Council estimates that there are 2.5 million acres of turf grass in California. If we were to take the turf replacement rebate program to its logical extreme, and issue rebates of \$3 per square foot to replace all of that, we would have to spend \$403 billion, which is about two thirds of the national defense budget.

My office believes that transparency is important and that public monies used for incentives should be a matter of public record. DWP, however, has not released detailed information about who the turf rebate recipients are, citing ratepayers' privacy rights. MWD, however, has released information about DWP customers receiving rebates, with names and precise addresses redacted. In the case of customers of most other Southern California water agencies outside the City of Los Angeles, MWD has also provided names. Disclosures of who received turf replacement rebates in these jurisdictions outside the City have shown that recipients have included owners of high-value residences as well as exclusive country clubs. Some private golf courses are known to have been recipients in the City as well.

Last year, seeking to spike interest in conservation, MWD tapped its reserves and appropriated a two-year total of \$450 million for water conservation incentives and rebates for Fiscal Years 2014-15 and 2015-16. By this month, MWD reported that it had spent or committed almost all of that money. It had paid out or was committed to pay out \$277 million throughout Southern California for turf replacement rebates alone. MWD has stopped taking new applications for them. But DWP is still offering \$1.75 per square foot. Officials told my office, however, that, since MWD dropped out, applications by DWP ratepayers have dropped off by 80%.

Turf replacement rebates may have helped to alter cultural norms for the better as neighbors eyed one another's newly landscaped yards, but there have been criticisms too--including observations that surfaces such as gravel and artificial turf increase surface temperatures and promote a lack of watering that can kill nearby trees dependent on residual water from lawns.

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A Sobering and Encouraging Review

In examining this program and DWP's various other incentives--including less expensive, longstanding and more cost-effective rebates for low-flow toilets and efficient washing machines--my office received information that was both sobering and encouraging. The sobering part was that all of DWP's incentive programs combined cut per capita water use by only 2.6 gallons per day over two years.

The encouraging part was that, during the same period, Angelenos voluntarily cut their overall water use by a remarkable 22 gallons per person per day. That means Angelenos, acting without special financial incentives, accounted for 88% of the cuts in reducing per capita daily use. This has been an overwhelmingly civic-minded response. It also suggests, as our audit indicates, that public education about the need to conserve can be an even more powerful tool than financial incentives.

Giving Ratepayers More Choices

Ironically, increased conservation has meant that DWP took in less money than expected. The utility announced last month that it would have to implement a small upward rate adjustment to make up the difference and keep the system running. The DWP is also seeking a longer-term rate increase that will ask all of us to pay more.

As an alternative to current rebate and incentive programs, what if we were to let creativity reign and structure financial incentives beyond the current two-tiered and even the proposed four-tiered system of rates? We could reward ratepayers for using less water, however they accomplished it, regardless of whether they participated in a formal rebate program. In other words, what if we were to promote more choices?

That might stimulate even more interest in conservation. But for a program like that to flourish, ratepayers would need to be able to measure their own progress on a daily--or even a minute to minute basis. The technology to do that is available, but not in use.

Meters and Submeters

Practically speaking, it is very difficult for ratepayers now to monitor their usage effectively. Current water meters record usage only in 7.48 gallon increments and bi-monthly water bills, only in 748 gallon increments. It's difficult to get immediate gratification from, say, taking a shorter shower when you can't figure out how much water--and money--you saved. But so-called "smart meters" and submetering technologies exist that could measure in much smaller increments and give instant feedback to ratepayers and to utility billing systems capable of generating discounts..

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Smart meters and submeters rely on WiFi or cell phone technologies to communicate directly to utilities and customers, who can access the information in real time on their computers and smartphones.

Some other major water systems around the country and state have already started installing smart meters. But DWP, the nation's largest municipal utility, is behind. DWP's electrical power side, which is its biggest revenue generator, is unfortunately thinking of installing smart meters that won't work for the water side. The electrical side may have unique needs, but installing smart electric meters, without having smart water metering technology, would be a terribly missed opportunity.

Further, I suggest that DWP explore providing incentives for the installation of water meters or submeters for more tenant households. DWP reports that it has about 700,000 meters but there are about 1.4 million households in the City. Households that don't have meters are typically in multi-unit buildings with only one meter per building. Using smart meters or submeters in individual apartments would provide a way for these households too to keep tabs on how much they use.

How Do We Increase Our Supply of Water?

We draw only about 11% of our water from our principal local source--an underground water basin that covers much of the San Fernando Valley. This aquifer, called the San Fernando Groundwater Basin, is currently so polluted that less than one third of the DWP's 115 wells can be used. It has been polluted since the 1940s when a largely unregulated aircraft industry dumped contaminants without due care. Efforts to clean this up, which have been going on for decades, have not yet succeeded in containing the spread of the underground contaminated plume.

Our primary sources for water are hundreds of miles away. We have had to reduce the amount of water we take from the Owens Valley, a source near the Eastern Sierras, because of adverse environmental impacts. Our other major northern California source, the Sacramento-San Joaquin Delta, is in ecological danger and the state has restricted withdrawals. Our third major source, the Colorado River Basin, may also be in trouble.

Taking these factors into account, City water planners have charted courses intended to reduce our need to import so much. The Mayor has set a laudable goal of reducing by 50% the amount we buy from MWD by 2024. MWD's prices have doubled in the last dozen years, and will only continue to increase.

A Time to Think Bigger?

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I support the efforts that are currently underway to expand the removal of solids from sewage water so that more of it can be safely recycled for landscaping and industrial uses, and to capture more water during rainstorms so that it can be used to decontaminate and replenish our groundwater basin. We should consider expanding these efforts. For example, the City discharges 255,000 acre feet of sewage water per year into the ocean. The City has set a goal for itself, 20 years from now, to recycle 49,000 more acre feet per year of this wastewater. DWP says that setting a higher goal would cost too much in increased energy use and pipeline construction. But we believe that, notwithstanding, there is potential to increase that amount.

We should also consider the obvious fact of the ocean as a water source. The DWP has largely ruled out desalination because of concern over high cost and environmental impacts. But desalination technology is improving and the City should keep an open mind.

In Conclusion

Angelenos have altered, at this time, their water use habits for the better through greater awareness of the seriousness of our problem and through incentives. But the questions are: Is this permanent and, if not, how do we make it so? Moreover, we need a rate system that will encourage people to conserve.

There is definitely room for incentives. But we should consider providing them based on how much water people save, not on which rebate or incentive program they participate in. And, as we invest in incentives to reduce overuse of water, we must also invest in enhancing supplies.

While we face challenges, we also have opportunities to find new ways of meeting our goals and lead the nation in intelligent use of precious resources.

Respectfully Submitted,

A handwritten signature in black ink, appearing to read "Ron Galperin". The signature is fluid and cursive, with a horizontal line extending from the end.

Ron Galperin
CITY CONTROLLER