

## POWER

### **The Supreme Court just gave a great explanation of our baffling electricity system**

By Chris Mooney January 26



The Empire State Building towers over the skyline of a blackout-darkened New York City just before dawn in this 2003 photo. (AP Photo/George Widman)

Environmental groups are cheering over the Supreme Court's Monday ruling in the obscure yet deeply

consequential case *Federal Energy Regulatory Commission vs. Electric Power Supply Association*, in which a 6-2 court decision blessed "demand response" — the idea that big

companies (and maybe, someday, aggregated groups of individuals) can get paid for using less electricity at key times when it eases pressure on the grid.

Demand response is as important as it is difficult to understand. And that's why the Supreme Court's majority opinion, written by Justice Elena Kagan, is a

marvel. People should read it for something bordering on electrical literacy — a rarity these days, understandably but also unfortunately.

[Court hands administration, environmentalists a win in electricity supply ruling]

To understand demand response, you first need to grasp a key detail: You and I generally pay the same price for every kilowatt hour of electricity that we use at home, but that's an artificial arrangement that protects us from shifts in electricity's



true price on wholesale markets.

This price varies greatly based on the demand for it, and that demand fluctuates constantly — even if we tend to be individually insulated from these market shifts by our utility company, its regulators, and so on. (Continued on page 2)

### **California to Decide Fate of Solar in Biggest U.S. Market**



California regulators are set to decide how much rooftop solar customers can get for selling their excess clean energy in a pivotal vote for the largest U.S. solar market. "The California Public Utilities Commission will consider a proposal Thursday that would continue a policy called net metering, which requires utilities to pay rooftop solar customers the full retail rate for electricity they put onto the grid," Bloomberg reports.

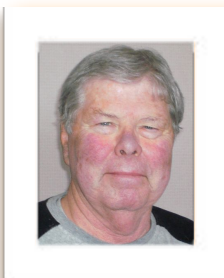
Bloomberg, Jan. 27

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### **Water and Power Associates, Inc.**

is a non profit, independent, private organization incorporated in 1971 to inform and educate its members, public officials and the general public on critical water and energy issues affecting the citizens of Los Angeles, of Southern California and of the State of California.



## Roger D. Weisman

With deep regret we report the passing of our former Board Member, Roger D. Weisman. Retired Los Angeles City Attorney,

### “ . . . our baffling electricity system ”



*(Continued from page 1)*

Here’s how wholesale electricity markets — operated by nonprofit entities like [PJMInterconnection](#), which regulate sales between electricity generators and those who purchase power to deliver it to us, such as utilities — actually work, per the Supreme Court ruling:.....suppose that at 9 a.m. on August 15 four plants serving Washington, D. C. can each produce some amount of electricity for, respectively, \$10/unit, \$20/unit, \$30/unit, and \$40/unit. And suppose that LSEs’ [load serving entities, aka utility companies] demand at that time and place is met after the operator accepts the three cheapest bids. The first three generators would then all receive \$30/unit. That amount is (think back to Econ 101) the marginal cost—i.e., the added cost of meeting another unit of demand—which is the price an efficient market would produce. FERC calls that cost (in jargon that will soon become oddly familiar) the [locational marginal price](#), or LMP.

Yes, you just read that right — all three low bidders get the highest of the three bids.

This system may sound odd, and has been the topic of much debate among economists, explains Susan Tierney, a former Energy Department assistant secretary who is now with the Analysis Group. But the idea is that without it, generators wouldn’t make the lowest bid that they can afford, and the final settled upon price would end up being much higher. “The consensus among economists is, a clearing price market really encourages people to offer as low as they can offer,” Tierney says.

But now, the Supreme Court majority continues, suppose that there’s an electricity demand spike:

As in any market, when wholesale buyers’ demand for electricity increases, the price they must pay rises correspondingly; and in those times of peak load, the grid’s reliability may also falter. Suppose that by 2 p.m. on August 15, it is 98 degrees in D. C. In every home, store, or office, people are turning the air conditioning up. To keep providing power to their customers, utilities and other LSEs [load serving entities] must ask their market operator for more electricity. To meet that spike in demand, the operator will have to

accept more expensive bids from suppliers. The operator, that is, will have to agree to the \$40 bid that it spurned before—and maybe, beyond that, to bids of \$50 or \$60 or \$70. In such periods, operators often must call on extremely inefficient generators whose high costs of production cause them to sit idle most of the time....As that happens, LMP—the price paid by all LSEs to all suppliers—climbs ever higher. And meanwhile, the increased flow of electricity through the grid threatens to overload transmission lines....As every consumer knows, it is just when the weather is hottest and the need for air conditioning most acute that blackouts, brownouts, and other service problems tend to occur.

So enter “demand response” here: But what if there were an alternative to that scenario? Consider what would happen if wholesale market operators could induce consumers to refrain from using (and so LSEs from buying) electricity during peak periods. Whenever doing that costs less than adding more power, an operator could bring electricity supply and demand into balance at a lower price. And simultaneously, the operator could ease pressure on the grid, thus protecting against system failures. That is the idea behind the practice at issue here: Wholesale demand response, as it is called, pays consumers for commitments to curtail their use of power, so as to curb wholesale rates and prevent grid breakdowns.

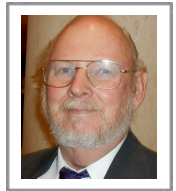
And that’s why the Federal Energy Regulatory Commission, or FERC, [moved in 2011](#) to empower “demand response” and ensure its compensation in electricity markets — and thereby allow companies to sell the *lack* of electricity use. With demand response, such refraining from use itself becomes a bid on the market.

That’s right — our system is such that not using power when everybody else is demanding it is a very valuable thing. Especially if you’re a big company with a big electricity bill, demand response could save you a lot of money if you use it to shift around when you turn on certain key pieces of equipment or run certain operations. *☞*





# President's Message



By Edward Schlotman

As I write this I am presently in the Hill Country of Texas, about an hour north of San Antonio. There has been a drought here for some period of time. There are restrictions regarding the use of both automatic manual sprinkler systems. They include time of day limits (e.g. 6 to 10 in the morning and 8 to 12 at night).



Frankly I don't know from where the water comes, ie wells, rivers or lakes, probably all of the above. I do know there is a river that runs through the town we are in. There is enough water for swimming, shallow

draft boating, and fishing. But where do the people turn when there is a really severe drought? One answer may be a place like Lake Buchanan which I would estimate is about 200 miles north of San Antonio.

We did a road trip the other day. My Texas niece drove. She was amazed to find the reservoir very full, especially considering the poor rainfall conditions this area has experienced. There has been some rain during our visit but not much, and the temperature, as I write this, is in the mid to upper 80s. Yes that passes for winter here! So what happens if the drought continues and the rainfall stays low? What do they do? If you have any suggestions I will pass them along.

We in Southern California, on the other hand, have multiple resources, the State Water Project, MWDs resources and facilities and DWP's resources from the Owens Valley South. We need to recognize however that these resources are not endless and some must be used to preserve the environment. (How we do that is a whole different discussion.)

We also should recognize that we have an abundantly overflowing resource in our backyard. It is called the Pacific Ocean. We can desalinate that water and put it to a reasonable and beneficial use for the people of California. To put it somewhat dramatically, do we have to turn into a third world country before California does the right thing for its people? *RS*

## Patti David Crossley



LADWP's Power System founding editor of *LiveWire* newsletter. Michigan State University Journalism graduate. She worked for NBC News Manila, the L.A. Times, Chicago Tribune, and Newsweek Asia.

## Guy Lipa



Chief of Staff  
Los Angeles Department of Water And Power

## Michael J. Moore



Retired LADWP Manager of Public and Governmental Affairs; Former Retiree Representative on DWP Retirement Board. Former WAPA Board Member;

*Thank You  
So Much*



## Justifying the LADWP's Rate Increase



The Los Angeles City Council recently approved a rate increase requested by the Los Angeles Department of Water and Power (LADWP). How will that money be spent?

Much of LADWP's water and power infrastructure needs to be replaced due to age and rate/risk of failure. It costs about three times as much to repair or replace a water pipe after it fails than before it does so, and it can cost up to six times as much to repair or replace failed power equipment than it costs before the equipment breaks down. Approximately 65 percent of LADWP's 321,000+ power poles are at least 50 years old, and at least 45 percent are more than 60 years old, which is their average life span.

During the 2007 heat storms, 674 LADWP power transformers failed and 28,455 LADWP customers suffered extended power outages. After LADWP's transformer replacement program, the subsequent and more severe heat wave of 2014 resulted in 189 transformer failures, but the number of customers who experienced extended power outages

decreased to 195, a 99.3 percent reduction.

LADWP is also being forced by nature and regulations to transform its water and power supplies. California's laws now mandate water conservation. LADWP also has to increase the amount of water Los Angeles can obtain from local water supplies. To do this, LADWP has to invest in water recycling, conservation, and capturing storm water runoff.

LADWP is mandated to stop burning coal to generate power, and to rely upon 33 percent renewable energy by 2020, reaching 40 percent by 2029. This means more investments in wind, solar, geothermal and other non-fossil fueled generation.

LADWP must also continue to invest in improving customer service. LADWP hired 130 additional Customer Service Representatives to handle phone calls, expand customer service hours, and decrease average hold time from 30 minutes to less than five minutes. Customers now have online access to their bills, usage data, and money-saving programs to assist them in conserving water and electricity.

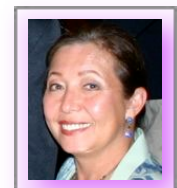
LADWP offers rebates for energy efficiency and water conservation, solar incentive programs, and the Feed-in-Tariff program. It also offers Electric Vehicle Charger rebates for residential and commercial customers.

The billing structure was designed to encourage conservation. Most customers will see a minimal increase in their monthly bill. The typical residential bill will go up by \$4.75 per month for five years. Customers who don't use as much water or power will see an increase of approximately \$1.95 per month for five years, and those who use more than their allotment will see an approximate monthly increase of \$17.64 for five years.

LADWP's water and power rates are lower than what most other California utilities charge. All California utilities must comply with similar renewable energy mandates, so their rates are also increasing. LADWP's rates, which have always historically been lower than those of other water/power utilities, are increasing the least. LADWP anticipates that the new rates will go into effect around the first quarter of 2016.

The rates at the LADWP are lower than what most other companies charge. All California utilities have to comply with similar renewable energy mandates, so their rates are also increasing. LADWP's rates are going up the least, as this chart shows:

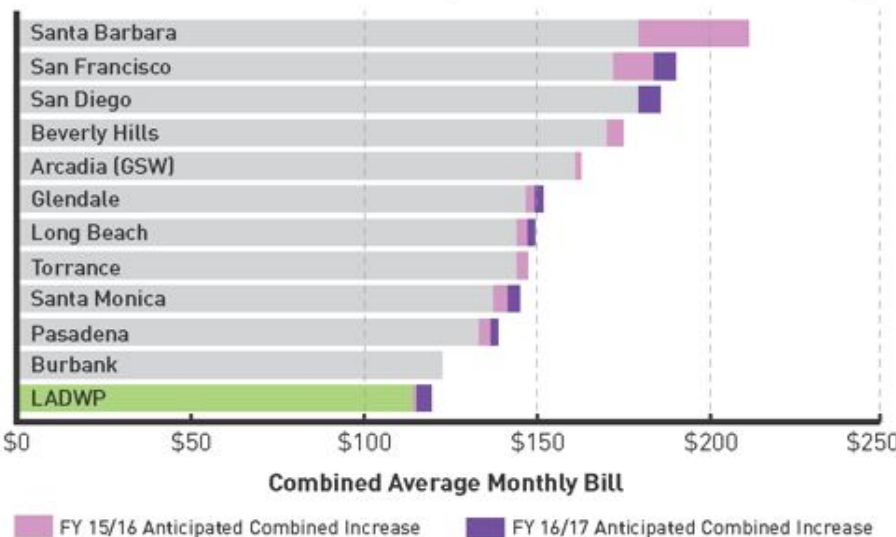
The LADWP anticipates that the new rates will go into effect around the first quarter of 2016.



By Patti David Crossley

### Competitive Rates

How L.A. Water and Power Bills Compare Before and After Rate Changes



**A great milestone...**



[waterandpower.org](http://www.waterandpower.org)

From May 1, 2007 to January 2016 our website has received **1,036,965 hits**. (pages visited) by **579,041 visitors**, 86.5% from USA; 13.5% international.  
January 1, 2016 to March 22, 2016:  
71,175 Hits (average 868 per day);  
41,645 Visitors, an average of 508 Visitors Per Day,  
85.7% USA + 14.3% International.



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The MYSTERY of HISTORY



By Jack Feldman

**Background**  
March 30th marks the \_\_\_\_ anniversary of the beginning of the electrical distribution system of the Bureau of Power and Light (later LADWP) when the City installed its first power pole on the corner of Pasadena Avenue (now N. Figueroa St.) and Piedmont Street. The pole still exists today as can be seen in the following photo:

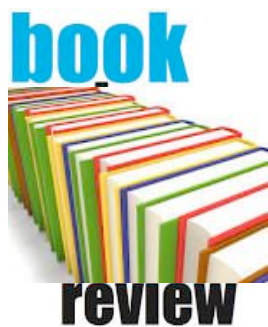


This 1946 photo shows a streetcar heading east on Piedmont Avenue as it makes a turn onto N. Figueroa Street in Highland Park. Power poles line both sides of the street. LA's first Municipal installed power pole stands on the corner at center-left.



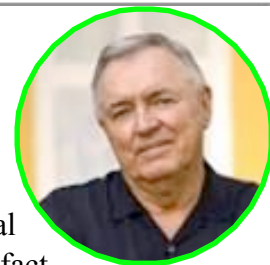
(2016) - View looking at the southwest corner of Piedmont Street and N. Figueroa Avenue, showing LA's First Municipal installed power pole as it appears today.

**What year was LA's First Municipal Power Pole installed?**  
A) 1900 B) 1908 C) 1916 D) 1924  
Answer found at: [http://waterandpower.org/museum/Mystery\\_History.html](http://waterandpower.org/museum/Mystery_History.html)



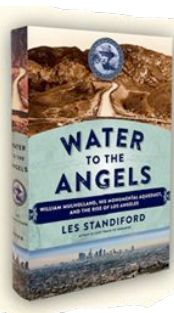
**WATER TO THE ANGELS:**  
*William Mulholland, His Monumental Aqueduct,  
 and the Rise of Los Angeles,*  
 by Les Standiford. New York:  
 Harper-Collins, Publisher, 2015. 316 pp.  
 Illustrations, Notes, Selected Bibliography, Index. Hardbound, \$35.99.

By Abraham Hoffman, Phd.



Over the last four decades there has been a growing interest in the history of the Owens Valley-Los Angeles water dispute, with an increasing number of publications since the 1980s. The publications include academic and general interest books and a wide range of articles, from scholarly studies to poorly researched and biased polemics. Catherine Mulholland’s biography of her grandfather, published in 2000, and Gary Libecap’s *Owens Valley Revisited* (2007) have offered fresh perspectives on a controversy that has endured in print—and film—for more than a century.

That said, Les Standiford’s book provides a retelling of how Los Angeles obtained its water supply from the Owens River, with a main focus on the career of William Mulholland, chief engineer of the Los Angeles Aqueduct Project and long-time head of what is known today as the Los Angeles Department of Water and Power. Intended for general readers rather than specialists, Standiford relies on the major studies of the controversy, among them works by Catherine Mulholland, William Kahrl, Gary Libecap, and this reviewer. Although the book deals with the City of Los Angeles, Standiford makes occasional references to New York City’s water supply system and the Panama Canal, constructions with which the Los Angeles Aqueduct compares in ambition and accomplishment.



Standiford is very much aware of the factual errors and opinions posing as fact that have lured careless writers into repeating misstatements, and he lets the reader know whether a story is apocryphal or documented truth. He also includes an interview with Robert Towne, author of the screenplay that became the motion picture *Chinatown* (1974). The film has become a cult classic but, unfortunately, not just as a great mystery story. Fans of the film have ignored Towne’s distortions of history, blending of characters, and accusations of murder and incest, instead believing the film was a documentary. Towne makes no apologies for the picture’s long-term success. “I never expected the controversy that it caused,” he says, but he also states, “Of course I didn’t mind it, either” (p. 264). He even appears on the Mulholland episode of the PBS-funded, four part documentary, *Cadillac Desert*, based on Marc Reisner’s best-selling polemic. Without any evidence supporting his statements, Towne condemned civic leaders as criminals who should have been put in prison for their dastardly deeds. Standiford grants Towne his opinion, but he observes, “For the record, no one has ever put forward credible evidence of collusion between Mulholland and [*Los Angeles Times* publisher Harrison Gray] Otis” (p. 264). (Continued on page 7)





~ Water To The Angels  
(continued from page 6)

Standiford deals with the politics of the controversy, but his chief intent is to write about Mulholland's greatest achievement, the construction of the aqueduct, and he supplies fascinating details about the project. He also makes use of the information left out of Catherine Mulholland's *William Mulholland and the Rise of Los Angeles* (2000), which originally weighed in at a 2,000-page manuscript that had to be edited down to size. While much of what Standiford describes will be familiar to students of the aqueduct's history (that is, the serious works), there's enough here to make his book worth the time. He even interviewed Christine Mulholland, William's great-granddaughter, and Hal Eaton, Fred Eaton's great-grandson. And there are recollections of survivors of the St. Francis Dam disaster that add to the dimensions of the tragedy.

In the end, there's no end to this story. Forthcoming books about the failure of the St. Francis Dam by J. David Rogers, Jon Wilkman, and Norris Hundley and Donald C. Jackson will be published by the time this review appears. As for the standard of scholarship found in these books, I will repeat the comment I made in my review of Catherine Mulholland's book when it was published in the *American Historical Review*, October 2001 issue: "...this biography sets a standard for research that dares historians examining Mulholland or the water controversy to ignore the book at their peril. There should be no excuse in the future for sloppy research or repetition of old factual errors." 🌿

Abraham Hoffman  
teaches history at  
Los Angeles Valley College.



More Power

Ivanpah Solar Plant May Be  
Forced to Shut Down

The Ivanpah Solar Electric Generating System, a federally backed, \$2.2 billion solar project in the California desert, is not producing the electricity it is contractually required to deliver to PG&E Corp., the Wall Street Journal reports. The solar plant may be forced to shut down if it does not receive a break Thursday from state regulators. The Energy Department said last week it supports giving the plant more time. PG&E Corp. is asking the California Public Utilities Commission for permission to overlook the shortfall and to give Ivanpah another year to sort out its problems, the Wall Street Journal reports, warning that allowing its power contracts to default could force the facility to shut down. The commission's staff is recommending that it grant the extension Thursday. "Continuing the delivery of [renewable] energy from these innovative energy facilities is in the interest of all parties and furthers important state and federal policy goals," a PG&E spokeswoman said. 🌿  
*Wall Street Journal, March 16*



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### Opinions & Updates Concerning the LADWP Rate Action

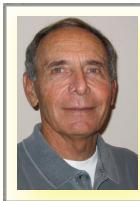


Los Angeles City Councilman Felipe Fuentes' motion, approved January 22, 2016, for a charter amendment to fundamentally change the way LADWP is managed and its political oversight contains several items that are very troubling. The proposal to "depoliticize" the LADWP actually opens it up to even greater political interference. Even though the City Council plans to hold public hearings [when?], it appears that the amendments are being developed without public input. The proposal covers many issues including a full time board and staff to oversee DWP management, eliminating civil service protection, using independent legal counsel instead of the City Attorney, and eliminating the City Council's rate approval authority. The interesting point in this whole exercise is that the City Council still wants to maintain overall control by retaining their right to veto any action taken by the LADWP board!

Why the rush to get the charter amendment on the next ballot? The last charter amendment regarding LADWP was over 20 years ago. And, if the Council has not learned from the mistakes made in the previous attempt to "fix" LADWP, then they need to take the necessary time to get it right. The City Council needs to have independent expert professional advice, utility industry input and most importantly, input from LADWP's customers, the ones that pay the bills.

The Associates are following this process and plan to provide input with its extensive knowledge and background in these matters.

You can find Councilman Fuentes motion on the City's web site, <http://council.lacity.org/Directory/index.htm>, under the "top ten Popular City Council Files" The file number is 16-0093. D



Submitted by John W. Schumann

The first week of February the Los Angeles Department of Water and Power made a presentation to the Energy & Environment Committee on issues that were raised during the last Power Rate Increase and provided answers to all the questions that had been brought up. There was no presentation on the current rate action. However, there was discussion on the appropriateness of taking a 5 year action at this time while a new governance structure is being investigated. Proponents hope to have a charter change on the ballot this year and are concerned about tying the hands of the new governing body.

The Department is anticipating presenting the proposed rate action to the Energy & Environment Committee next week but is not sure how the governance issues will impact the approval. It appears (to the Water System) that most of the concern is based upon concerns over the direction of the Power System. They are considering requesting that the Power and Water Rate Actions be separated (although most of the Council Members do not want to have to take two votes) as Water needs to issue bonds in the very near future and will not meet appropriate ratios without an increase.

There does not appear to be substantial opposition to the rate proposals, although the attorney who challenged the rates in Orange County has threatened legal action regarding the cost basis of the water rates.

The Department is still hopeful of approval in February or early March so that it can be implemented in April.



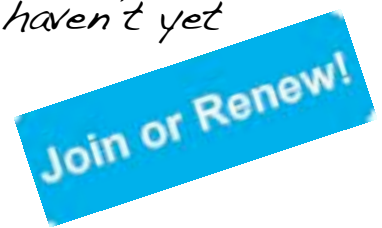
Submitted by Gerald A. Gewe



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waterandpower.org/membership.html](http://waterandpower.org/membership.html)

*Thank you*

*If you haven't yet*





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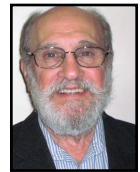
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