

Solar Power Is Straining California's Power Grid

Solar power is causing damage to California's electrical grid and could lead to blackouts this summer, but the state's plan to solve the problem is vehemently opposed by The Sierra Club.

"The state was forced to shut down its solar farms on March 27 because they were producing more electricity than Californians needed," which regulators say damaged the grid, the Daily Caller reports.

Solar Power To Cause Summer Blackouts In California



Solar power is causing damage to California's electrical grid and could lead to blackouts this summer, but the state's plan to solve the problem is vehemently opposed by The Sierra Club.

The state was forced to shut down its solar farms on March 27 because they were producing more electricity than Californians needed. Grid operators say this damaged the power grid, and the system will be incredibly vulnerable to damage and blackouts this summer because of excess solar power.

The operator's proposed solution is to merge its power grid with Pacific Corp, Oregon's electrical utility, which has access to many more reliable coal power plants that could offset the unreliability of California's solar systems.

Environmental groups such as The Sierra Club are furious about the solution and sent a letter to California Democratic Gov. Jerry Brown in

February demanding California suffer blackouts rather than merge grids with a company that uses coal power.

"It's constantly solving a constant problem, meaning you're always trying to balance," Nancy Traweek, who directs system operations for California's electrical grid, told KQED Science Monday. "All of a sudden you have a major cloud that comes over a solar field. That [power] needs to come from somewhere else immediately. When it gets really bad, now we really got to start cutting as much as we possibly can. If that's not done, then you could have a blackout."

Since the output of solar and wind plants cannot be predicted with high accuracy by forecasts, grid operators have to keep excess reserves running just in case. This also places extra stress on the grid, which could even lead to brownouts or blackouts, similar to those that struck the state in 2000 and 2001. (continued from page 3)

So, What Happened to the California Drought?

By Robert Yoshimura

In April of 2015, the state of California was in the fourth year of one of its worst droughts in history. The previous winter (2014-2015) yielded the lowest rainfall and smallest snowpack ever! In response, Governor Jerry Brown issued an executive order mandating a 25% reduction in water use throughout the state. In May, 2015, the Water Resources Control Board adopted a detailed emergency water conservation regulation to implement the Governor's order. The reductions were to be achieved by requiring all water agencies in the state to implement mandatory conservation measures to reduce statewide monthly water deliveries by 25% compared to the same month in 2013. Fines of up to \$10,000 per day were to be assessed upon any agency failing to meet its goals. Specific conservation targets for each agency varied depending on the average use of (Continued on page 2)

CONTENTS

- 1, 2, 3. Power Articles submitted by Thomas J. McCarthy
- 7, 8, 9, 11
- 1, 2 & 11 California Drought by Robert Yoshimura
- 3 Our Guests & Speakers
- 4, 5 Guest Presentation: by Todd Rother, P.E. San Fernando Groundwater Basin Remediation Strategy, Costs, and Status,
- 6 Book Review by Abraham Hoffman Power And Control In The Imperial Valley, Nature, Agribusiness, and Workers on the California Borderland, 1900-1940, by Benny J. Andres, Jr.
- 8, 9 Blackouts stemming from the record gas leak at Aliso Canyon
- 9 Natural gas plants running at a fast clip, EIA says
- 10 Mystery History by Jack Feldman
- 10 Board of Directors
- 11 President's Message, Edward A. Schlotman



**POWER** articles

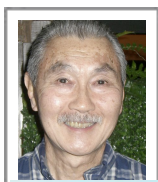
submitted by
Thomas J. McCarthy



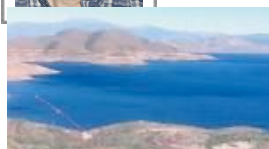
Study: California Ratepayers Could Save \$1.5B Per Year by 2030 with Regional Market

California electricity ratepayers could potentially save as much as \$1.5 billion a year by 2030 under a regional electric market for much of the western United States, initial study results of the idea show. The California ISO and others such as utilities in the West are considering creation of a regional energy market. The grid

operator on Friday released preliminary results of studies examining the economic and environmental impacts of a regional energy market. California and the West will see environmental and economic benefits should a multistate, regional electric market move forward, according to early results.
❖ *SNL, May 20*

**WATER** articles

by
Robert Yoshimura



California Drought

(Continued from page 1) water in that agency's service area. Thus, cities such as Los Angeles, which has done a great job in conserving water over the last 40 years, were assigned lower targets than other jurisdictions where per capita water use has been greater. Los Angeles' target is 16%, whereas other water agencies were given targets ranging from as low as 8% to as high as 35%.

The people of California responded enthusiastically and achieved an overall reduction in water use totaling 24% from June 2015 through March 2016 compared to the same months in 2013. The total water conserved amounts to 1.3 million acre-feet, enough water to fill a reservoir seven times the size of Crowley Lake, Los Angeles' largest reservoir, or enough water for 6.5 million people for a year. That tremendous effort combined with an El Nino winter, which failed to meet expectations but nonetheless provided nearly normal levels of rain and snow, have significantly improved the outlook for water supply for 2016.

The statewide snowpack as of April 1, 2016 stood at 87% of normal and was skewed northward with greater than normal amounts in the north and less than normal amounts in the south. Likewise, reservoir storage on the State Water Project (SWP) as of mid-May was above normal in the largest northern facilities and less than normal in the smaller central and southern lakes. The encouraging water levels in the state's reservoirs led the Department of Water Resources to increase its allocation of deliveries to SWP contractors to 60% of the requested amount, significantly more than the 20% allocation of last year.

As a result of the encouraging snowpack and reservoir conditions, a number of water agencies and the Association of California Water Agencies (ACWA) testified in April before the State Water Resources Control Board to either rescind or scale back the conservation targets established by the emergency conservation regulations. On May 18, the Board responded by issuing a modified regulation that transfers control of conservation targets to local agencies based on their own assessment of available supplies for their respective jurisdictions. The state wide 25%

conservation goal is now history. Urban water suppliers are now required to set their own conservation targets assuming three more dry years after 2016 (the assumed dry years are to mirror water supply conditions in 2012-13, 2013-14, and 2014-15). Each water agency must calculate the shortfall in supply over the next three years under the above assumptions and establish a level of conservation that will offset the shortfall and assure an adequate water supply for those three years.

So, is the drought over, and what does this mean for Los Angeles and the rest of Southern California? In the findings section of the new regulation, the Water Resources Control Board states that "The drought conditions that formed the basis of the Governor's emergency proclamations continue to exist" and that "The drought conditions will likely continue for the foreseeable future and additional action by both the State Water Resources Control Board and local water suppliers will likely be necessary". Furthermore, according to the US Department of Agriculture, nine counties in the San Joaquin Valley and Southern California have more than 60% of their area in exceptional drought, the most severe drought condition defined by USDA as shown in the figure below.

For Southern Californians, our local water agencies will calculate their conservation goals and submit them to the Water Resources Control Board on June 22, so we won't know until then what specific conservation targets we are facing. However, because we are in the most severe drought classification in the country and because the stipulated assumptions for calculation of those targets require that we anticipate another dry period that includes the driest year in history, we will likely continue to see moderate to high conservation targets. Consequently, they should provide relief from the 25% goal we have endured for the past year. [See chart on page 11] ❖

We Welcome And Thank Our Guests & Our Speakers



Todd D. Rother, M.B.A., P.E.
 Los Angeles Department of Water and Power
 Water Engineering and Technical Services
 Division
 Groundwater Remediation Planning



Ahn Thu Pham,
 Retired, Los Angeles Department of
 Water and Power
 Public Affairs Manager



Michael S. Webster,
 Los Angeles Department of Water and Power
 Water Engineering and
 Technical Services Division
 Groundwater Remediation Planning,



Tamara Wurst,
 Master of Science
 Biological Science
 (granddaughter of Dave Oliphant)

Solar Power To Cause Summer Blackouts In California



(continued from page 1)

“It’s constantly solving a constant problem, meaning you’re always trying to balance,” Nancy Traweek, who directs system

operations for California’s electrical grid, told KQED Science Monday. “All of a sudden you have a major cloud that comes over a solar field. That [power] needs to come from somewhere else immediately. When it gets really bad, now we really got to start cutting as much as we possibly can. If that’s not done, then you could have a blackout.”

Since the output of solar and wind plants cannot be predicted with high accuracy by forecasts, grid operators have to keep excess reserves running just in case. This also places extra stress on the grid, which could even lead to brownouts or blackouts, similar to those that struck the state in 2000 and 2001.

The country has already dialed down coal power plants and solar farms to their minimum load requirements in an attempt to avert disaster, but there has already been damage to the grid and, subsequently, power interruption

In order for the power grid to function, demand for energy must exactly match supply. Solar power runs the risk of providing either too much energy or not enough, as it cannot easily adjust output. Adding green power, which only provides power at intermittent and unpredictable times, makes the power grid more fragile,

especially in developing countries. Power demand is relatively predictable, and conventional power plans, like nuclear plants and natural gas, can adjust output accordingly as they put out a steady and predictable supply of electricity.

Additionally, California’s highest demand for electricity also happens right as the sun goes down, when people come home from work and turn lights on, which means grid operators must switch out the solar power for conventional coal, natural gas or nuclear power plants. Solar power in California simply does not generate electricity at times when it is most needed.

“If you continue going down this route, you’re going to have significant challenges in managing disturbances,” John Moura, director of reliability assessment at the North American Electric Reliability Corp, told EnergyWire late last month.

The U.S. Federal Energy Regulatory Commission (FERC) is currently investigating how green energy undermines the reliability of the electrical grid. FERC believe there is a “significant risk” of electricity in the United States becoming unreliable because “wind and solar don’t offer the services the shuttered coal plants provided.” Environmental regulations could make operating coal or natural gas power plant unprofitable, which could compromise the reliability of the American power grid. ❖





**Los Angeles Department of Water and Power
Water Engineering and Technical Services Division
Groundwater Remediation Planning**



Todd D. Rother, M.B.A., P.E.
Water Engineering and
Technical Services Division
Groundwater Remediation
Planning, LADWP

**San Fernando Groundwater Basin
Remediation Strategy,
Costs, and Status**

Local Groundwater Basins

City's Water Rights Allocations

Eagle Rock, 500 AF, 1%
Sylmar,, 3,405 AF, 3%
Central, 16,546 AF, 15%
San Fernando, 87,000 AF, 80%
Total of 115 Production Wells

**Groundwater Wells in the San
Fernando Groundwater Basin**

Total of 115 Production Wells.

Project Proposal Objectives

OVERALL PURPOSE

Restore and protect full use of SFB as a source of water consistent with water rights and historic groundwater use

SPECIFIC PROJECT OBJECTIVES

- Remediate SFB by removing contamination to restore/maintain beneficial uses
- Provide remediation and treatment consistent with regulatory requirements and State/Federal determinations
- Restore LADWP's capability to operate existing wells consistent with historic use to respond to variability in supply/demand
- Provide operational flexibility to respond to evolving regulatory requirements and migration of contamination plumes

Project Proposal

- Phase 1 – Site Characterization
- Phase 2 – Feasibility Study/Preliminary Design
- Phase 3 – Project Delivery

**Site Characterization Groundwater
System Improvement Study (GSIS)**

Characterized SFB

- 6-year study
- Identified & evaluated contaminants
- 70,000 data points
- **No Surprises!**

New Monitoring Wells

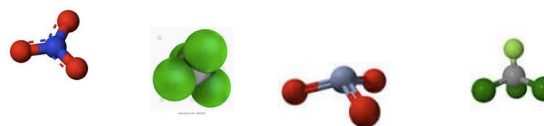
26 Monitoring Wells

Updated 1992 Remedial Investigation

Community Involvement



**Site Characterization
Contaminants of Concern**

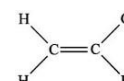


93 Contaminants Found

Volatile Organic Compounds (VOC's)

- Trichloroethylene (TCE)
- Tetrachloroethylene (PCE)
- 1,1-Dichloroethene (1,1 DCE)
- cis-1,2-Dichloroethylene (cis-1,2 DCE)
- 1,2-Dichloroethane (1,2 DCA)
- Trichlorofluoromethane (Freon 11)
- Carbon Tetrachloride

• (Continued on page 7)



Groundwater Remediation Planning

• (Continued from page 6)

Inorganic Compounds

- Chromium Perchlorate Nitrate

Other Contaminants

- n-nitrosodimethylamine (NDMA)
- 1,2,3-TrichloroInorganic Compounds
- 1,4-Dioxane
-

Owner's Agent Contract

- Hazen & Sawyer
- 10 year / \$30 million
- Scope
 - Planning
 - Design Services
 - Alternative Delivery Evaluation
 - Construction Oversight
 - Startup and Testing
 - Regulatory Support



Project Proposal NH West Wellhead Treatment

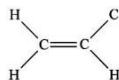
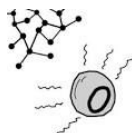
Conceptual 1,4-Dioxane Treatment Process

Contaminant and Design Flow

Contaminant	1,4-Dioxane
Design Flow Rate	(GPM / CFS / AFY) 8,500 / 18.9 / 13,710

Treatment Methods

UV/Peroxide Advanced Oxidation Process
Liquid Phase Granular Activated Carbon (LPGAC)



Funding Sources

Water Rates

- Responsible Parties
- Proposition 1
- Securitization
- Other State/Federal programs

Funding – Proposition 1

- \$800M available statewide thru June 22, 2021.
- 0% local match required.
- Match expenditures must be after 11/20/2014.
- LADWP Pre-Application Filed Sept. 2015. **⇒ \$317M**
- Draft Guidelines: Comments due 4/11/16.
- First round solicitations **Fall 2016.**



Next Steps

Funding Sources

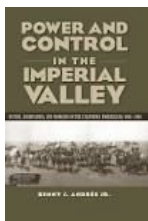
Project Proposal

- Cost of project
- Environmental Review
- DDW Permitting
- Funding
- Public Outreach;
- Community Involvement



• *Todd D. Rother spent two years working on the DWP Water Master Plan and five years on recycled water issues. Now he is working as part of the groundwater remediation planning group. LADWP has five groundwater basins providing 87,000 acre feet of water annually.*

• *Rother's handouts described above explained the groundwater issues. The San Fernando groundwater basin has 115 groundwater wells in the San Fernando Valley with two million acre feet in storage; however contamination has affected many wells and some have dried up, so that presently there are only 31 active wells. The long term average will provide 60,000 acre feet annually with 500,000 acre feet in reserve. They are still documenting the amounts available. DWP shares 800,000 acre feet of the basin with San Fernando and Glendale. In the early 1800's the Valley was agricultural, but with industrialization of the area, contamination from industrial solvents and cleaners was detected and in 1980 federal legislation required cleanup of the area as a superfund site. 1986 saw four areas in the Valley as superfund sites. The EPA identified two cleanup areas in 1992 and DWP took on its own remediation.*



POWER AND CONTROL IN THE IMPERIAL VALLEY:

Nature, Agribusiness, and Workers

on the California Borderland 1900-1940,

by Benny J. Andres Jr.

College Station: Texas A&M University Press, 2015. 229 pp. Illustrations, Notes, Bibliography, Index. Hardbound, \$43.



Benny J. Andres Jr. utilizes interdisciplinary skills to examine the history of Imperial Valley agriculture from its beginnings early in the 20th century until World War II. He begins by describing the Irrigation Crusade that inadvertently resulted in the Colorado River breaking through its banks and flowing into what became the Salton Sea, the efforts to tame the river, and the eventual construction of the All-American Canal. Although much of this is familiar territory to students of California water history, Andres broadens the investigation by including landownership—and who owned the land, lots of it—in Mexico as well as Imperial Valley. Political boundary aside, the Mexicali Valley and the Imperial Valley are geographically one region, complicating claims to the Colorado River’s water. The powerful Imperial Irrigation District campaigned for the Boulder Canyon Project Act and claimed victory over the river, putting U.S. landowners in the driver’s seat over Mexico. Mexico didn’t get a seat at the table until the 1944 treaty between the two nations.

Andres then moves on to the efforts to establish a Jeffersonian ideal of independent farmers, invariably white, what crops they would grow, and who would work in the fields. Initially whites, blacks, Hindus, some Mexicans, and Japanese constituted the labor force. Imperial Valley growers resented Mexicali Valley competition. No one at first took notice of the effect of salt on crops and the need for drainage. Farmers also had to deal with “armies of bugs, worms aphids, birds, rabbits, muskrats, and gophers” (p. 61) plus exotic grasses, grasshoppers, and snakes. Synthetic pesticides killed the pests but ended up in the water, with long-term effects on the environment that went ignored at the time. Then there were the issues of weather, marketing of crops, and figuring out which crops grew best. Although whites dominated the farming economy, some minorities, especially Japanese, found a niche in areas such as dairy farming. Progressives, who dominated politics in California, supported the passage of laws in 1913 and 1920 that seriously limited Japanese ownership of California land. Andres provides some interesting statistics: White farmers held 319,804 acres in 1920, as against 27,618 acres by Asians. 2,456 white farmers vastly outnumbered the 387 Asian growers in 1920.

Ultimately Mexicans came to dominate the labor force as an underclass with virtually no hope of advancing in status. Growers provided inadequate

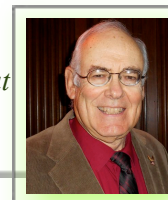
housing, paid low wages, and ignored problems of poverty and disease among farm workers. Mexicans faced the dilemma of needing their children to help in the fields while California law required mandatory school attendance. Growers ignored the law until authorities cracked down on truancy. Andres notes the differentiation in labor in the Valley: Whites, working in packing sheds, considered themselves a class and status above the Mexican, Filipino, and Asian field workers. With the coming of the Great Depression, Mexican laborers began organizing and going on strike. Growers (and non-growers such as bankers) formed the Associated Farmers, an organization that controlled law and order in the Imperial Valley. More complications arose as Okies and blacks migrated to California, lured by advertisements to what Woody Guthrie mocked as a “Garden of Eden.”

By the late 1930s the Imperial Valley had become a battlefield as white landowners attempted to retain power and unions, including white, Mexican, Filipino, and black workers, struck for better wages and decent working conditions. On the Mexican side of the border, the Baja California officials sided with the landowners.

At the end of this major study, which goes far beyond the pioneering work of Carey McWilliams’ *Factories in the Field* and Paul Taylor’s books on Mexican labor in the United States, Andres asks some disturbing questions. The Imperial Valley, with subsidized irrigation water, could grow four crops a year on rich soil, but produced large crops of poverty as well as fruits and vegetables. Andres calls for new federal and state laws to govern the use of water. Mitigation of the pollution of the Salton Sea must be meaningfully enacted instead of the decades of handwringing over its degradation. And maybe it’s time to recognize that the Imperial Valley is past its time for unsustainable agriculture. If land is marginal, take its dubious crops out of production, and put it under the control of the Bureau of Land Management.

Andres has written an important book that exposes an ugly side of agricultural production in California. His suggestions are cogent and urgent, yet solutions remain in the hands of politicians and at the mercy of powerful lobbyists who can’t read the writing on the wall. ❖

*Abraham Hoffman teaches history at
Los Angeles Valley College.*






Natural gas plants running at a fast clip, EIA says

Posted on April 4, 2016 |

By [James Osborne](#)

The evidence of natural gas's rise over coal as the fuel of choice on the nation's power grid continues to pile up.

 The U.S. Energy Information Administration reported Monday that for the first time on record last year the capacity factor of natural gas plants – the percentage of a plant's total potential electrical output that is actually generated and put onto the grid – beat out that of coal plants. U.S. natural gas plants ran at a capacity factor of 56 percent, compared to 55 percent that of coal.

The numbers illuminate a dramatic shift away from coal in recent years, as gas and renewable energy sources like solar and wind take an increasingly larger share of the grid. In 2005 coal plants ran at capacity factors of close to 70 percent, while

gas plants were running at less than 40 percent on average, according to EIA.

But the huge surge in natural gas production across Texas, Pennsylvania and other states has flooded the market, forcing down prices and making gas a more attractive option for power companies. Not only is gas plant construction surging, coal plants are retiring at a fast clip – 80 percent of all plant retirements last year were coal.

At the same time, EIA said, utilities are shifting to combined-cycle gas plants that uses both gas and steam to generate electricity, producing up to 50 percent more electricity from the same amount of fuel.

Those have been running longer hours than traditional gas plants,

pushing out coal plants that have traditionally served as what electrical engineers like to call base-load demand – the steady flow of electricity needed late night and early in the morning when human activity is at its lowest.

“When natural gas prices exceeded coal prices by a large margin, as was typically the case over the 2005-08 period, electricity systems where both natural gas-fired combined-cycle and coal-fired power plants were available to serve load would typically run combined-cycle units only after making maximum use of available coal-fired generation,” the EIA report reads. “As natural gas prices have declined, power plant operators have found it more economical to run combined-cycle units at higher levels.” ❖

U.S. Utilities' Natural-Gas Hedges Turn Sour

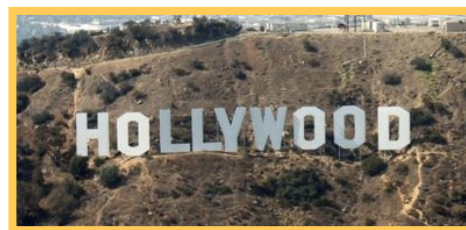
Natural-gas prices have plunged 74 percent in the past 10 years, but some U.S. utilities have not reaped the full benefit because of bad bets they made to hedge the cost of the fuel, the Wall Street Journal reports. In Florida, four utilities, including Florida Power & Light Co., suffered net losses of \$6 billion on their program from 2002 to 2015 because their natural-gas hedges wound up being considerably more expensive than

eventual market prices, a cost that was passed along to their customers. "Experts don't know exactly how much money utilities have lost nationwide on natural-gas hedges. But they say the sum is considerable if Florida is an indicator, because its approach was fairly typical," the Wall Street Journal reports. ❖

[Wall Street Journal](#), April 3



Will LA's historic gas leak knock Hollywood's lights out this summer? California energy agencies warn of blackouts stemming from the record gas leak at Aliso Canyon



By Herman K. Trabish | April 18, 2016

The day the lights go out in Hollywood may come this summer, the top California energy agencies say.

As a result of the worst natural gas leak in U.S. history, the electricity supply in the Los Angeles region could be threatened for two weeks this summer, according to reports prepared by California utility regulators, the grid operator, the state energy office and the city's municipal utility.

Beginning last October, a leak at the Aliso Canyon natural gas storage facility near the town of Porter Ranch emitted over 97,000 metric tons of methane, forcing evacuation of more than 5,700 families before being stopped in February. The leak reduced Aliso Canyon's gas stores to less than 20% of its capacity, which could spell trouble for the 17 natural gas generators served by the facility if electric demand is high, according to the "Aliso Canyon Risk Assessment Technical Report."

That report, prepared by analysts at the California Public Utilities Commission (CPUC), California Energy Commission (CEC), California Independent System Operator (CAISO), and the Los Angeles Department of Water and Power (LADWP), warned that "that if no gas can be withdrawn from Aliso Canyon during the coming summer months, a significant risk exists of natural gas curtailments during up to 16 days this summer."



"These curtailments could interrupt service and affect millions of electric customers during as many as 14 summer days," the report warned.

With Southern California Gas currently testing the facility's 114 wells, even its current reduced holdings are not available to meet unexpected spikes in demand in the area.



A variety of factors could provoke the outages, even with moderately increased demand, the agencies reported. They include supply delivery shorts, planned storage and pipeline maintenance work, or unplanned outages.

LADWP gas plants have long relied on Aliso Canyon gas supplies for fast ramping response to demand spikes, General Manager Marcie Edwards said. "Being without those supplies "introduces the possibility that our power plants will be curtailed from receiving gas—in other words not getting gas when it is needed to create electricity," she said. "If there is insufficient gas to operate our power plants, electric service interruptions could indeed result."

In response, the four California agencies released an Action Plan to preserve reliability in the Los Angeles area. It provides a number of solutions to the issues identified in the technical assessment, but critics say the plan fails to pose the hard questions about whether California has, in pursuit of eliminating coal and adding renewables to its grid, become too reliant on natural gas.

The Action Plan

The agencies' Action Plan, released earlier this month [April], proposes 18 mitigation measures that, analysts write, "will reduce, but not eliminate, the risk of gas curtailments large enough to cause electricity interruptions."

The plan classifies the mitigations in five categories: efficient use of Aliso Canyon; tariff changes to drive more efficiency from large gas consumers on the system; better operational coordination; LADWP-specific measures; and general electricity and gas efficiency measures.

Some of the mitigation proposals will entail costs, and some will require regulatory approval. One has caused a debate that must be resolved in the near term. Another has sparked a conversation that Californians may be having for years.

The biggest single difference in opinion comes over the agencies' call for continued use of the Aliso Canyon facility to help mitigate the potential for blackouts this summer. (Continued on page 9)



blackouts stemming from the record gas leak at Aliso Canyon

(Continued from page 8)

☞ The limited current operations of the facility create a possibility of electricity service interruptions in the coming summer months,” the Action Plan concludes. “The sooner the facility can safely be brought back online, the lower the risk to gas and electric reliability.”

☞ Southern California Gas, which would like to keep operating the facility, said it appreciated that the agencies recognized “the crucial role Aliso Canyon plays in providing reliable energy service to Southern California.” _But many in California think a return to reliance on Aliso Canyon is not the right choice.



☞ “The high cost of operating the Aliso Canyon storage field, and the latent health and safety risks, are not addressed at all in either of the two documents,” according to a technical assessment prepared by electrical engineer Bill Powers for environmental advocacy group Food and Water Watch. Powers is a frequent critic of southern California utilities and CPUC expert witness.

☞ Because of flaws in the papers, they fail “to justify a conclusion that the Aliso Canyon storage field is necessary for the ongoing supply reliability in SoCalGas service territory,” Powers' report argues. Other environmental groups echo Powers' concerns. California's use of natural gas to generate electricity has become a “dependency” that “has negative implications to the state's economy, public health, and environment,” Tim O'Connor, California climate initiative director at the Environmental Defense Fund recently told a CPUC workshop.

☞ Power markets “that require Aliso canyon to get and remain operational — or else — are taking us in the wrong direction,” he added. They “favor deployment of natural gas, supported by natural gas storage, instead of fostering competition in which natural gas and clean energy resources can compete.”

☞ Aliso Canyon may be, he said, California's wake-up call.

The biggest single difference in opinion comes over the agencies' call for continued use of the Aliso Canyon facility to help mitigate the potential for blackouts this summer.

☞ The limited current operations of the facility create a possibility of electricity service interruptions in the coming summer months,” the Action Plan concludes. “The sooner the facility can safely be brought back online, the lower the risk to gas and electric reliability.”

☞ Southern California Gas, which would like to keep operating the facility, said it appreciated that the agencies recognized “the crucial role Aliso Canyon plays in providing reliable energy service to Southern California.” _But many in California think a return to reliance on Aliso Canyon is not the right choice.

☞ “The high cost of operating the Aliso Canyon storage field, and the latent health and safety risks, are not addressed at all in either of the two documents,” according to a technical assessment prepared by electrical engineer Bill Powers for environmental advocacy group Food and Water Watch. Powers is a frequent critic of southern California utilities and CPUC expert witness.

☞ Because of flaws in the papers, they fail “to justify a conclusion that the Aliso Canyon storage field is necessary for the ongoing supply reliability in SoCalGas service territory,” Powers' report argues.

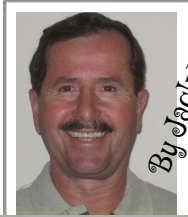
☞ Other environmental groups echo Powers' concerns.

☞ California's use of natural gas to generate electricity has become a “dependency” that “has negative implications to the state's economy, public health, and environment,” Tim O'Connor, California climate initiative director at the Environmental Defense Fund recently told a CPUC workshop.

☞ Second, it will stop making dispatch decisions on a strictly least-cost basis, Edwards promised. “DWP plans to use resources in less than the most economic way, again, in order to reduce gas burn.”

☞ Finally, it will stop marketing blocks of excess electricity and it will increase its investments in energy efficiency “to again try and reduce gas use,” Edwards pledged. ❖





By Jack Feldman



Board of Directors 2016~ 2017	
President	Edward A. Schlotman
Vice President	John W. Schumann
Vice President	Thomas J. McCarthy
Secretary	David J. Oliphant
Treasurer	Richard West
Assistant Treasurer	Phyllis E. Currie
Newsletter Editor	Dorothy M. Fuller
Assistant Editor	Patti David Crossley
Webmaster & E Newsletter	Jack Feldman
Assistant Web & Newsletter	Rex Atwell
Historical Documents Chairperson	Gerald A. Gewe
Historical Preservation Chairperson	David J. Oliphant
Robert J. DiPrimio	Steven P. Erie
Duane L. Georgeson	Bruce N. Hamer
Lawrence A. Kerrigan	Alice Lipscomb
Scott Munson	Melinda Rho
Philip Shiner	Roberta Scharlin Zinman

View is looking northwest on Winston Street toward where it intersects with Main Street in downtown Los Angeles.

A construction crew is installing conduit for electrical power cables.

This is one of the oldest known electrical underground distribution systems installed in the City.

When was this photo taken?

- A) 1890s B) 1900s C) 1910s D) 1920s

Name the utility doing the work:

- A) LA Gas and Electric Corp. B) Bureau of Power and Light
- B) C) LA Edison Electric Co. D) Pacific Light and Power

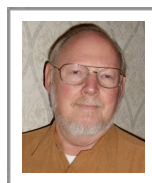
Answers at:

http://waterandpower.org/museum/Mystery_History.html



Electronic Newsletters are Available for Associates Members
 Send your request to dormfull@att.net





By Edward A Schlotman

Does California need more water? The obvious answer is “yes.” It is unclear why the political and governmental classes failed to deliberate, propose, or enact legislation to provide the people of California with an adequate supply of water. They can, you know, if they put their minds to it. I think it would be fair to hazard a guess that they have not put their minds to it. They will rub their hands in dismay but I haven't heard them actually doing something. Conservation and other water saving tips and those are certainly good ideas and effective practices that we should all follow, but they miss the central point: We need more water. Why have the political classes not supplied the people with more water? They can, you know, if they are willing to make the difficult choices needed. Maybe, just maybe politicians cannot make them.



I think they are going to have to, however, and sooner rather than later. We clearly need to have water for agriculture. It is a great enterprise of this State. But people need water too. Will we have to live in third world conditions because the powers that be have not made adequate preparations for a reduction in water supply during dry and drought years?

Many suspect that politicians have a hard time making a hard decision and while that may not be reality, although I'm not so sure, it is certainly their reputation. The lack of action to provide an adequate water supply during dry years may prove to be a prime example of their reticence.

I suspect that sooner rather than later the facts on the ground will force the hand of the political class.

One small example will illuminate what I mean. In January 2015 the official population of the State was 38,907,642. In January 2016 the population of the state was 39,255,883 (Dept of Finance). That's an increase of 348 241 in just one year. That is enough people to fill a city the size of Anaheim (358, 136 on Jan1).

How many more and “Anaheims” will we have before the political elites recognize reality? I suspect more people are already on the way to California, by birth and by relocation. And they will need fresh water.

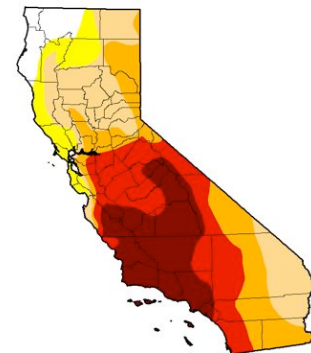
Are we to do away with lawns, parks and greenery because there is not enough fresh water? Some people may say that and raise their hands in failure muttering “Gosh I'm sorry we just don't have enough fresh water”, give up stuff so we can all just get by.

Well, I think there can be enough fresh water for everybody -- for the ranchers and farmers and for the people. Where is it? Why it's out in the ocean of course. “What?” you say “It has salt in it.” That's true. Wonder of wonders that salt can be removed by already existing desalinization processes. Will it be cheap? No, I suspect not. But everyone would have fresh water. Why won't politicians do it? I don't know. Does it have anything to do with their historic reluctance to make hard decisions?

As always, I welcome your thoughts and ideas. ❖

(Continued from page 2)

USDA Drought Monitor — as of May 17, 2016



- Normal
- Abnormally Dry
- Moderate
- Severe Drought
- Extreme Drought
- Exceptional Drought

By Robert Yoshimura

Study: California Ratepayers Could Save \$1.5B Per Year by 2030 with Regional Market

California electricity ratepayers could potentially save as much as \$1.5 billion a year by 2030 under a regional electric market for much of the western United States, initial study results of the idea show. The California ISO and others such as utilities in the West are considering creation of a regional energy market. The grid operator on Friday released preliminary results of studies examining the economic and environmental impacts of a regional energy market. California and the West will see environmental and economic benefits should a multistate, regional electric market move forward, according to early results. ❖ [SNL](#), May 20

Sibmitted by
Thomas J. McCarthy