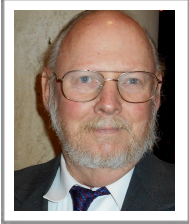


Water and Power Associates, Inc.

Newsletter

Year 43, Volume 2

April 2014



President's Notes

Edward Schlotman

Are we in a drought? Despite the recent rain (as I write this) the answer is obviously yes. One need only look at the dry and dusty Central Valley or storage lakes such as Lake Mead to know we are in a drought. According to a Los Angeles Times editorial (January 26, 2014 page A23) we are actually experiencing three droughts. **The first** is described as a regional drought which we can all see evidenced by the lack of rain falling in Southern California. **The second** is a drought which affects the Gulf of Alaska system which brings water to the Eastern Sierras (from which Southern California gets much of its water) and **third** the Central Valley drought which the Times editorial describes as running across the Western United States and especially the Rocky Mountains which feeds the Colorado River and from which we get water.

The editorial also suggests three courses of action for California's consideration: recapture more rainwater, clean and reuse urban wastewater and lastly, maybe build new dams.



In an apparent follow-up to the editorial described, the Times published (February 7 page A15) an op-ed piece by David Helvarg, the Executive Director of Blue Frontier, an ocean conservation group (www.bluefront.org/). In his article Mr. Helvarg pointed out that California's climate change center has suggested that the state could lose 70 to 80% of the Sierra snowpack by the end of the century, or to say it differently one third of the state's water supply. His proposal? Consider large-scale desalinization "as an important part of our water supply portfolio." He also strongly cautions that there are serious concerns to first be addressed. The first is energy use. The second are the risks associated with what may be pulled into the intake pipes and what's pumped back out, and three, the large-scale trapping of millions of marine organisms. He suggests we seriously consider cleaning up brackish inland groundwater to address those concerns and additionally adding the reclamation of agricultural water to the mix to be cleaned up. *(Continued on page 2)*

Computers, Meters, and Smart Meters

Matthew Lampe



Matthew Lampe has spent six years as the Chief Information Officer of the Los Angeles Department of Water and Power. This is his third career in the field of digital technology with local government. He was the Chief Technology Officer for the City of Portland, Oregon, and before that the head of technology strategy for the City of Seattle, Washington.



Recently, Los Angeles news media has run numerous articles about LADWP billing problems – billing errors, over-billing complaints, customer difficulties communicating with the Department, and delays with the new computer system. At the January meeting of the Associates Board, Matt Lampe, DWP Chief Information Officer, in charge of upgrading the DWP digital systems, gave a detailed explanation of the problems in installing an entirely new digital system. *(Continued on page 3)*

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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

President's Message *by Edward Schlotman*

(Continued from page 1)



vs.



In the midst of these various articles and op-ed pieces on water and its lack of the Times also published (February 19, 2014 pA11) an interview with Professor Jay Famiglietti, a UC Irvine professor of Earth system science and head of the UC Center for hydrologic modeling. He is also a newly appointed member of the Santa Ana Regional Water Quality Control Board. At the beginning of his interview the professor had a lot of good things to say about how well Southern California manages water. He notes, "so well that things look pretty green and we have not seen mandatory restrictions...." But he thinks that we should begin moving towards gallon per day limits and suggests 90 gallons* per day per person as something to look at.

. When asked about water construction projects his answer was in the negative: "The biggest challenge is climate change, so it doesn't make great sense to me to undertake huge infrastructure projects. We hear people talk about more storage; my response is, there may not be any water to put into that storage.



The Bay Delta plan might be necessary and it might not be. Before spending millions, if not billions, our water managers have to think much more carefully about water conservation, efficiency, pricing, more appropriate crops, then big projects." All in all the good professor did not have any good news for us.

None of this is really new of course. We've gone through these cycles but every time it begins to rain again, as it is as I write this article, we seem to forget our recent past. This is a state of some 37,000,000 people and growing. Not only do they need water with its infrastructure which furnishes them jobs and amenities and lifestyle, but they also use water. Where is it all going to come from? Probably not a giant ice cube from outer space! Is there any real long-term option other than desalinization of seawater? As always I welcome your thoughts. ♦



* How much space does a 90 gallon container require?
 1 gallon = 0.133681 cubic foot
 1 cubic foot = 7.48052 US gal
 The Los Angeles Sanitation Department standard allowance for a single family dwelling is one 60-gallon black trash container, one 90-gallon green yard trimmings container, and one 90-gallon blue recycling bin.

In Memoriam



Dr. Pankaj Parekh
 LADWP
 Water Quality Director &
 Protector of Public Health

It is with deep sorrow that we announce the death of Dr. Pankaj Parekh on January 29, 2014.

Dr. Parekh, served on the W&P Associates Board of Directors from 2009 to 2014.

Retirement



Anh-Thu Thi Pham
 Graphics Manager,
 Government, Legislative
 & Public Affairs,
 Displays & Exhibits

We congratulate our long-time member and supporter, **Thu Pham**, on her retirement after 32 years at LADWP.

Look for more in-depth information in our July edition about the contributions of Thu Pham and Pankaj to the W&P Associates.

Water Education Foundation



Longtime Executive Director
Rita Schmidt Sudman retired March 26, 2014 after more than 34 years of leading the Water Education Foundation.



New Director effective March 27. **Jennifer Bowles**, a former award-winning journalist who covered Western water issues and became a communications

strategist for a major California law firm known for its water law practice, has been named as **Executive Director of the Water Education Foundation.**

Computers, Meters, and Smart Meters

(Continued from page 1) Be it noted, at the same time as DWP is installing this system, it is also increasing the use of more variable, less consistent, renewable energy sources and supplies, establishing variable price structures related to time of use, and installing multi-directional complex communication smart meters, while continuing to upgrade the water and power systems for greater efficiency and conservation, among other things.



When Matt Lampe started with DWP's system it was in the Noah's Ark of technical systems, having at least two of everything and buying from every vendor. Working with converting information from meter readings to cash accounting is a complex business. Meters had to be installed, repairs and readings made, and information transmitted to the right accounts, bills calculated and mailed. There was a great deal of information movement involved on both the water side and the power side. It was really chaotic. Customer service was having the most difficulty, struggling with its diverse information systems, so that organizing into one system was the first big task.

Management did not want to straddle two systems so Lampe put together an integrator team (hereinafter "the IT") to select a single system. The IT looked at **Oracle** (an American multinational computer technology corporation) and **SAP** proposals but SAP bailed out along the way. The DWP already had more Oracle technology in the shop, anyway. The IT worked on a meter data management system, particularly with regard to specializing with smart meters. They replaced the old system. Things had been custom-built into the old computer information system, such as meter reading routes, which

needed a new solution. The IT needed to aggregate water trouble calls into the meter reading routes which required an additional system integrated into both the customer information system and the field activity management system.

Until the 1990's, the DWP Water System used Thomas Guides to find repair routes close to where a hydrant blew so they could organize repairs efficiently. With the new system, instead of sending three different trucks for different services in the same area, they would be able to sort related problems with one truck.

The new system sorts through the same trouble flow and deals with that complexity using general information system tools. The IT set up 27 key process areas where they did some fairly complex process diagrams, e.g. customer service, power work orders, coordinating the different activities. The IT looked at interfaces and developed an interface map for the system – a blue box system interface with interactive lines of communication between the new

C u s t o m e r
I n f o r m a t i o n
S y s t e m , O r a c l e ' s
C u s t o m e r C a r e
a n d B i l l i n g
(C C & B) s o f t w a r e ,
a n d t h e M o b i l e
W o r k F o r c e



Manager (MWM) for field work dispatch and all the related systems such as the Power System's work management system.

In 1974, the DWP was using the programming language, Common Business Oriented Language (COBOL) – a flat file design on a main frame, at a time when the storage in today's typical smart phone would have cost more than a million dollars. When the IT selected Oracle they used an integrated architecture and some prepackaged systems. The IT trained as a team the IT, DWP consultants, and DWP people, working together with a consistent approach. The group used common naming standards that people could use and grow familiar with together. Interface is where to go with integration. As you move into testing a new system, sometimes the way it is designed is not the way you want to go, so the idea was to get the system in and only when it is operating optimally, go to monthly billing.

The new General Manager said go to new monthly billing right away but the new head of Customer Service said "No, we can't possibly do it, yet." IT ran 1500 tests, again and again. IT asked "Are there any defects that we really can't live with?" They were told, "When you get to the point where you can do it, do it." (Continued on page 4)

Guest Presentation



(Continued from page 3)

There are two areas where Lampe and his team are most concerned:

1. **The routing of meter readers.** The Customer Service meter readers are faced with a new general information system. The first time they tested routes, it was not good because some electric meters are in the back yards and water meters are in the front. There is no way, initially, any geography-based system is going to know the location of all meters. So the meter readers will put in their comments and from there DWP can adjust the routes based on meter readers' feedback. There are places where DWP has hundreds of meters and the street numbers don't show, e.g. at the Port – Pier 3. So, the team puts in a map but it takes time to get it right.
2. **The mobile work force manager.** This application has had a lot of need for corrections (patches). Patches on the system caused delays in testing. Some of the issues the IT saw had to do with adjusting how DWP used work features. If a crew deferred work, the computer system assumed it required overtime; but the dispatcher could re-schedule the work without the overtime need. The workforce manager needs sophisticated routing - the time can be estimated, but the scheduler, attempting to reestimate assignments too often, can become overwhelmed. An estimating change from every 2 minutes to every 5 minutes resolved a number of problems. For example, one person may still be working on an issue, with another issue waiting for him/her, while another person has finished, so the waiting work is dispatched to the person who is

available. Routing is complicated and very sophisticated.

So how's the new system doing, so far? That determination involves complex measuring – service matrix, transportation, engineering. It's handling 10,000 events at a time for each district and its organization is based on cost priorities. For example, an on-order (a request to turn a service on) is more important than an off-order (a request to turn a service off). The system adjusts cost for how long an order will take. If DWP has done an on-order following an off-order, the system was designed to automatically process the off-order and send out a customer bill; a bug prevented this from working and caused some delayed closing bills. Patches to improve the system are being made based on feedback, and the system is more stable and productivity is improving. In addition, when DWP began the new system, they also had a bunch of backlogs they had to take care of.

Meter exchanges. With meter reading, if you don't get reads you delay billing, and billing in the past has been delayed sometimes as much as two years. If there is no meter history, the DWP must estimate. The CC&B has good estimating tools. They first use last year's measure. If unavailable they use the last 60 days, and if no other data – Customer Service employees look at trends and similar customer usage. *The vast majority of estimated bills are quite good, as they are based on the customer's historic data.*

DWP is in the middle of a 50,000 meter exchange. The old system exchange, once the old meter was taken out. So, Customer Service

has some meters with no meter history. For example, there are only an estimated four months with meters in the Chatsworth area. Old meters are hand-read. IT set up smart meters with automated reads. The team went live with the intent to save meter history and employees are still sorting through the records. Two or three different factors coming together affect estimates. Doing this many systems at once there will still be problems and there are still some issues to resolve, e.g. solar creates problems – where meters are located for solar affects the measures.

Lampe's team is looking at the potential real-time pricing where time-of-use increases the price at the peak usage time, or at having the potential to modify the time of use bands. The old meter was fixed at time of use, where the smart meter can be modified remotely at any time to change period of use pricing. The cost of meter-reading is not the main concern but rather other items that affect costs. E.g. There is a turn-off when an apartment tenancy changes, the landlord takes over temporarily, a new turn-on, and off and on again when it goes back to the new tenant. That has a cost effect.

Cost for the whole new system is \$106 million which includes \$80 million of new money.

There have been difficulties in installing the new system. For example, there were mismatches between the old system and the new with different meters. With automated billing, the billing cost is three cents per bill. A number of customers have automatic electronic payment. *(Continued on page 5)*

Computers, Meters & Smart Meters



(Continued from page 4) When Lampe started, DWP did not know how to install a major digital technology financial project. Lampe had the experience from Seattle and Portland of installing new systems, and brought with him some of their best practices. There, the right technical people and the right processes had led to successful projects, although not without early issues in some cases.

Q & A

In answer to questions from the Associates about what, if anything, would Lampe do to minimize problems if he were to do it again:

1. He would make sure that schedules were in agreement with union agreements. The union letters of agreement had to be amended to assign employees to be part of the project team, otherwise there would be questions why we were using these people on this project.
2. He would push harder for a delay in going to monthly billing. Some of the resources of his project were shifted to other projects because they were not yet ready to begin working on the new system.
3. If you are having tiered rates, you really need to have smart meters to do it right. Lampe's team are also working with area emergency radio systems in connection with the future of smart metering. On the financial side, there is nothing that the Oracle can not do well. ♦

Matthew Lampe.
 Current: Chief Information Officer
 Los Angeles Department of Water and Power;
 Previous: Pie Head Productions, LLC,
 City of Portland, City of Seattle;
 Education: University of Michigan



Guest presentation review by David J. Olihant

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Book Review

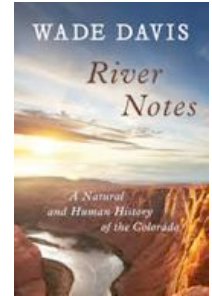


By Abraham Hoffman

RIVER NOTES:

A Natural and Human History of the Colorado,
by Wade Davis.

Washington DC: Island Press, 2013. 164 pp. Bibliography, Index.
Hardbound, \$24.95; paper, \$14.95. www.islandpress.org.



Wade Davis, a writer for the National Geographic Society and the author of a number of books, continues the tradition of Wallace Stegner, Philip Fradkin, Edward Abbey, and other authors who have written about the Colorado River. Davis offers an interdisciplinary appreciation of the river, discussing its geology, botany, history, and the dismal record of its misuse. Rather than chapters, Davis presents his views in a series of segments, “river notes,” that include his own participation on a rafting trip down the Colorado. His most incisive comments, however, deal with the injuries done to the river by the policies of state and federal agencies.

There are no less than 25 dams on the Colorado River, and there would be more had not environmental organizations challenged the government agencies and prevented further construction. Taking a very long view (billions of years) of the river’s history, Davis notes that as rivers go, other rivers, notably the Mississippi and Missouri, are much larger in volume of water. But the Colorado River dominates the Southwest, and it is the prime supplier for thirsty cities and agricultural production in that region.

The Colorado River’s biggest problem is one of demand

exceeding supply. The estimate made in 1922 of 17.5 million acre-feet of water annually flowing down the river has long been known to be a major miscalculation one made in an abnormally wet period. In divvying up the water to cities and agricultural districts the allotments clearly overestimated the ability of the river to meet the paper obligations. Davis never mentions “global warming” or climate change,” but he warns that prolonged droughts have occurred before, causing the Anasazi to abandon their homes centuries before the arrival of the Europeans. Observing the current drought, he predicts the likelihood that Los Angeles, Phoenix, Las Vegas, and other Southwestern cities that depend heavily on the Colorado River for water and/or power could well follow the Anasazi.

Having stated this Jeremiad, Davis presents a case for cautious optimism. City use of water represents only a small part of river allotment. Most of the water goes for agricultural and irrigation districts that produce cattle, alfalfa (used mainly as a cattle feed) and cotton products that can be raised elsewhere in the nation at much less cost than what the river’s allotted users need. The Colorado Compact of 1922, Davis argues, is obsolete, its makers long dead, and a major revision of

Colorado River policy is long overdue.

River Notes is not just about misuse of the river. Davis writes lyrically of the stories found in the rocks and plants in Grand Canyon and of his trip down the river, fighting to get past the numerous rapids. He retells the story of John Wesley Powell’s 1869 expedition and Powell’s unsuccessful effort to convince politicians and irrigation crusaders that the problem was not putting water on Southwestern lands but of the lack of water to do so. Davis does not condemn the cities of the Southwest, nor does he ridicule their residents as using water to fill swimming pools or wasting it on green lawns. He appreciates the conservation efforts made by cities. But he argues that the larger issue is that Hoover and Glen Canyon dams and their artificial reservoirs, Lake Mead and Lake Powell, are in critical condition as water levels drop to unsustainable conditions. Progress demands a high price from the river that cannot be paid, and time is running out for policy makers to face the exhaustion of a river that has too many straws sucking out its life. ♦

Abraham Hoffman teaches history at Los Angeles Valley College.

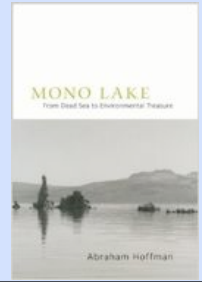


Mono Lake: From Dead Sea to Environmental Treasure

Hardcover – April 1, 2014

by **Abraham Hoffman** (Author)

Abraham Hoffman teaches history at Los Angeles Valley College



Description:

Mono Lake is one of the largest lakes in California, and Californians have been using it, enjoying it, and abusing it since nomadic northern Paiutes began hunting the lake’s vast bird populations. Controversy between environmentalists and the City of Los Angeles brought so much attention to Mono Lake in the late twentieth century that it became best known for its appearance on “Save Mono Lake” bumper stickers. This thoughtful study is the first book to explore the lake’s environmental and cultural history.

Hoffman writes about gold mining in the Mono Basin; the taking of birds and their eggs to supply food for miners and townspeople; a failed oil boom; efforts to develop recreational activities such as a state-operated marina, which also failed; catastrophes including plane crashes and the testing of bombs underwater; and litigation over the diversion of creeks flowing

into the lake and the resulting decline in the lake level. A variety of photographs, some never before published, ranging from mining to motor boat races in the 1930s are also included.

Approx. 184 pp., 6 x 9, 31 halftones, 2 maps, bibl., index

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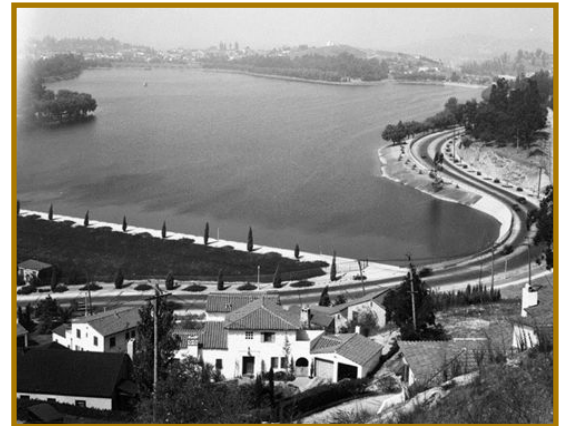
By Jack Feldman



Since the beginning of recorded history, earth-filled reservoirs have been used to help cities get through periods of drought. Los Angeles has been utilizing these types of reservoirs since the late 1800s. The following two photos shows one of LA’s earliest water reservoirs, put into service in 1908.



What is the name of this reservoir located just north of downtown Los Angeles?
 (Clue: The community it sits in was named after this reservoir.)
 Who was the reservoir named after?



(1930)* - View of the _____ Reservoir named for _____. The reservoir is an earth fill dam, asphalt concrete, with paved slopes. It was put into service in May 1908. In 1989, this reservoir was designated LA Historic-Cultural Monument No. 422.

(ca. 1924) - View looking north of the _____ Reservoir and surrounding area, with streets readied for new housing development.



Articles submitted by
Thomas J. McCarthy

⚡ Shocking ⚡ Electric Issues ⚡

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California Utilities Cleared To Buy Power To Replace Nuclear

Edison International and Sempra Energy utilities in Southern California were cleared to buy as much as 1,500 megawatts of electricity to replace the power lost when the San Onofre nuclear plant shut in 2012. "I wish we could do 100 percent preferred resources," Michael Peevey, president of the [California Public Utilities] commission, said at the panel's meeting in San Francisco on Thursday. "We just don't have it in the time frame necessary to ensure economic well-being, prosperity and keeping the lights on in Southern California."

Bloomberg, March 13

Tags: Edison International, Southern California Edison

Related coverage:

Calif. Green Energy Fails To Fill Void Left By Closed Nuclear Plant; Regulators Seek New Options, Associated Press

California Commission Directs San Onofre Capacity Be Replaced With Procured Power, Platts ♦

NRDC And U.S. Utilities Urge Grid Payments For Rooftop Solar

The Natural Resources Defense Council and the Edison Electric Institute issued a joint statement on Wednesday asking for a new rate structure to account for customers who generate their own power with rooftop solar systems. Owners of rooftop solar panels "must provide reasonable cost-based compensation for the utility services they use," the groups said in the statement.

Power Engineering Magazine, Feb. 12

Tags: EEI ♦

Moody's Touts U.S. FERC Transmission Rules In Highlighting Investment Shift

Utilities and power holding companies are pursuing greater investment in the regulated side of their businesses, Moody's said in a note Thursday, while also highlighting the key role that U.S. Federal Energy Regulatory Commission policies are playing in driving transmission investment. "FERC transmission regulation provides forward-looking formula rates, true-up mechanisms and premium authorized returns on equity. Transmission owners face limited revenue risk, owing to strong counterparty relationships with the operating utilities and the regional transmission organization," Moody's said.

Platts, Feb. 6 ♦

Capturing Carbon Seen Adding As Much As 80% To Electricity Costs

Capturing carbon from coal-burning power plants would increase the cost of electricity at those facilities by as much as 80 percent, more than utilities would get by selling the carbon, an Energy Department official said. We cannot attract private investment in the first plant, absent government support, Julio Friedmann, the deputy assistant secretary of the Energy Department, told a panel of the House Energy and Commerce committee on Tuesday. We need second-generation large pilot projects to bring down costs, he said.

Bloomberg, Feb. 11 ♦

Gas Power: Los Angeles moves forward with cleaner power from GE

February 11, 2014

By PennEnergy Editorial Staff Source: GE

The Los Angeles Department of Water and Power (LADWP) is losing the weight of old technology and exercising its right to use a more environmentally friendly approach. The utility is upgrading the Scattergood Generating Station to cleaner power generating technology from GE (NYSE: GE). LADWP plans to phase out Scattergood's 460-megawatt (MW) Unit 3 conventional steam boiler, in operation since 1974, and replace the capacity with cleaner, faster, breakthrough technology from GE.

For the Scattergood repowering project near El Segundo, LADWP chose the combination of GE's advanced heavy-duty and aeroderivative gas turbines, integrated using GE's modern distributed control system (DCS). This is a pairing of one GE GT-7F.05 gas turbine in a "Rapid Response" combined-cycle power island, with two LMS100 gas turbines into a hybrid power plant, specifically configured to meet LADWP's unique requirements. The result?

- GE technology reduces carbon emissions by using less fuel and reacting faster to changing grid conditions.
- The combined technology eliminates the use of ocean water for cooling and requires minimal water use, providing over 500 MW of output using air-cooled condenser technology.

- The new plant can start up and ramp up quickly to meet the demands of LADWP's dynamic system and support the use of renewable energy.
- The compact equipment footprint fits the unique site layout.

"Older units can take all day to reach full power, causing us to lose the window of opportunity we have to capture electricity produced by wind," said Aram Benyamin, LADWP senior assistant general manager---Power System. "With the GE technology generating power, we can achieve the intricate balancing act required to maintain a steady flow of power to our customers."

Victor Abate, president and CEO, Power Generation Products at GE Power & Water, says the innovative approach should help LADWP balance the energy grid more cost-effectively.

"The LADWP project provides unprecedented flexibility and efficiency by bringing together one of the world's most efficient F-class platforms with the most efficient simple cycle gas turbine," said Abate. "With the ability to ramp up fast when it's needed and turn down when it's not, GE's advanced technology will help the utility balance the grid, utilize natural gas to expand the role of renewables and better meet its pressing energy and environmental challenges."



The package behind the power

GE's ecomagination qualified advanced combined-cycle power island with "Rapid Response" technology will feature a 216-MW 7F.05 gas turbine, a GE ST-A650 steam turbine operating in combined-cycle mode and a heat recovery steam generator.

GE also will supply two of its ecomagination qualified 104-MW intercooled LMS100 aeroderivative gas turbines. With their rapid startup capabilities, the turbines are ideally suited to meet the grid's need for highly responsive and flexible units. In addition to being the most efficient simple-cycle gas turbine available, the LMS100 can change load at 50

MW/minute per unit as well as start and stop multiple times per day to suit rapidly changing grid loads. The monitoring and control of the new power generation equipment is unified under GE's innovative power plant DCS, based on robust and proven Mark VIe control technology.

When the Scattergood site comes on line, the state of California will have 25 LMS100 units with more than 1,250 MW/min of regulation capability in California. Commercial operation of the Scattergood station's new power generating equipment is scheduled to begin by the end of 2015. GE's equipment will be manufactured at its facilities in Greenville, S.C., Schenectady, N.Y., and Houston, Texas. ♦

Ground broken on 250MW solar power project

Today U.S. Senate Majority Leader Harry Reid (NV) joined representatives from the Moapa Band of Paiutes, executives from First Solar, Inc. (Nasdaq: FSLR) and the Los Angeles Department of Water and Power (LADWP), as well as other community, government and energy industry leaders to celebrate the start of construction of the 250 Megawatt (MW) AC Moapa Southern Paiute Solar Project. The project is located on the Moapa River Indian Reservation just north of Las Vegas, and has a Power Purchase Agreement (PPA) with the LADWP to deliver clean, solar energy for 25 years to the City of Los Angeles.

“Today’s event marks a very important milestone for Nevada, the Moapa Band of Paiutes, and tribal nations throughout the country,” said Reid. “The Moapa Southern Paiute Solar project is the first utility-scale solar project on tribal land and will deliver much needed economic benefits to the Tribe and Nevada. It will also create about 400 construction jobs, and replace dirty energy with clean solar power.”

The power plant, anticipated to be fully operational by the end of 2015, is expected to generate enough clean solar energy to serve the needs of more than 93,000 homes. This amount of renewable energy will displace approximately 313,000 metric tons of carbon dioxide (CO₂) annually—the equivalent of taking about 60,000 cars off the road.

The project will play a key role in LADWP’s efforts to build a clean energy future by expanding renewable energy to 33 percent of its total power supply and eliminating coal power. Solar energy from the Moapa plant will contribute 2.4 percent toward LADWP’s renewable energy portfolio. This

transformational goal also includes reducing energy use by at least 10 percent through energy efficiency measures; expanding local solar and other forms of distributed generation; initiating a robust demand-response program; and rebuilding local power plants to better integrate renewable energy and be more flexible to meet peak demand

“The Moapa Southern Paiute Solar Project is a significant step toward the Los Angeles Department of Water and Power’s effort to achieve a major transformation of the city’s power supply—one that has greater reliance on renewable energy resources and zero coal power,” said Marcie L. Edwards, LADWP General Manager.

“The Moapa Southern Paiute Solar Project is a significant step toward the Los Angeles Department of Water and Power’s effort to achieve a major transformation of the city’s power supply—one that has greater reliance on renewable energy resources and zero coal power,” said Marcie L. Edwards, LADWP General Manager.

For the Moapa Band of Paiutes, the utility-scale solar project is an ideal opportunity for the Tribe to create economic opportunities while preserving the land and their cultural heritage. “This is an important step in becoming a leader in Indian Country and will help to create a model for other Tribes to follow,” said Aletha Tom, Chairwoman of the Moapa Paiute Tribal Council. “If our small Tribe can accomplish this, then others can also. There are endless opportunities in renewable energy, and Tribes across the nation have the available land on which to build them.”

Moapa Southern Paiute Solar, LLC (a subsidiary of First Solar Electric, LLC) is the project owner and will

construct the project using First Solar’s advanced photovoltaic (PV) thin film solar modules.

The project will be built on 2,000 acres of land on the Moapa River Indian Reservation and include an onsite substation and a new 5.5 mile 500 kV transmission line that will connect the project to the existing Crystal Substation, serving energy users in California.

“First Solar is thrilled to celebrate this important milestone with Senator Reid and distinguished guests, and honored to work with the Moapa Band of Paiutes on this landmark project,” said Jim Hughes, CEO of First Solar. “By working together, we will provide jobs and significant economic benefits to the Tribe and Clark County as well as helping LADWP deliver clean, renewable energy to its customers.”

Once the Moapa Southern Paiute Solar facility becomes fully operational, LADWP will be able to repurpose existing transmission systems that now bring high-carbon coal power from Navajo Generating Station. The Moapa plant, along with a second utility-scale solar power plant in that region of Nevada, will enable LADWP to stop receiving coal power from the Navajo plant by the end of 2015, four years before it is required by California state law—reducing greenhouse gas emissions by 8.4 million metric tons (MMT) between 2014 and 2019 cumulatively. The renewable energy from the two solar power projects in Nevada will contribute over 4 percent to LADWP’s goal of 33 percent renewable energy by 2020.

March 24, 2014

By PennEnergy Editorial Staff

Source: First Solar ♦

⚡ Shocking ⚡ Electric Issues ⚡

EEI Tells Wall Street Electricity Is Main Ingredient Of Our Lives

Edison Electric Institute President Tom Kuhn and other EEI officials briefed Wall Street analysts, bankers and investors Wednesday on the U.S. electric power sector's priorities. Kuhn also discussed the steps the industry is taking to ensure the reliability of the electric grid in relation to storm response efforts, as well as cyber and physical security. "Electricity is the main ingredient of our modern lifestyle and is the power behind the 'smart' in our smart phones, smart appliances, and smart homes and businesses," Kuhn said. "As the industry continues to utilize new technologies to transform how we generate and deliver electricity, customers also are changing how they use our product." EEI Senior Vice President Brian Wolff outlined the key policy issues for the industry this year, including the critical policy debate, at the state level, on net metering. EEI Vice President of Energy Supply and Finance Richard McMahon talked about the industry's 2013 highlights.

Electric Light & Power, Feb. 12

Tags: EEI ♦

Better Batteries Are Key To Climate Change

(John Kemp)

Finding a better way to store electrical energy is the single biggest breakthrough needed to tackle climate change, writes Reuters analyst John Kemp in an opinion piece. "The problem is how to store that energy in a usable form available when and where needed," Kemp writes. "Solar panels are not useful at night, or in the winter at high latitudes, or when the sun is temporarily obscured by clouds. Solar energy ultimately drives the wind too. But wind turbines are useless on a still day."

Reuters, Feb. 11 ♦

Effect of Putin's Seizure of Crimea in Europe

President Barack Obama flies Sunday to a Europe shaken by Vladimir Putin's seizure of Crimea and his threats against eastern parts of Ukraine. US exports of energy and European development of shale gas will be a significant element of the EU-US summit in Brussels this week. --Tom Curry, *NBC News, 23 March 2014* ♦

In the longer term, the geostrategic balance between Europe and Russia hinges on energy. You have on the table in the United States the issue of: Are you going to export hydrocarbons or not? And the Europeans have on their table: are we going to stop our silliness about shutting down existing sources of production of energy — nuclear energy in Germany — and preventing ourselves from exploring new sources of energy like unconventional (shale) gas. This, I understand, will be a significant element of the EU-US summit in Brussels this week. --Francois Heisbourg, International Institute for Strategic Studies, 23 March 2014 ♦

German Chancellor Angela Merkel said on Friday that imports of U.S. shale gas could eventually be an option for European countries seeking to diversify their energy sources but the United States must first build the infrastructure to export. "Many people think that this could be one component, if the United States decided to export shale gas," she told reporters after European Union leaders discussed how to diversify energy sources away from reliance on Russian oil and gas.

--Reuters, 21 March 2014 ♦

The use of Russian gas is the only economically viable solution to deal with the problem of intermittency. The intermittent electricity generated from wind and solar plants is balanced with electricity from methane stores that are filled by Putin's people. But thus a new risk emerges. Germany's security is already compromised by dependence on Russian gas. If, as planned, Germany shuts down its still running nuclear power plants and relies fully on wind and solar power, dependence on Russia will only increase further — and reduce the security of supply. This in turn restricts Germany's foreign-policy capability even further. Do the Germans really know what they are doing? --Hans-Werner Sinn,

WirtschaftsWoche, 17 March 2014 ♦

Suddenly energy security, rather than climate change, is dominating Europe's energy agenda. At last week's summit, the European Commission was told find a way, within three months, to cut dependence on Russian gas — and to put on hold targets for carbon dioxide emission reduction, which were due to be ready for a global summit in September in Paris. European governments are waking up to the fact that subsidising electricity from intermittent wind farms has failed to prevent a ballooning dependence on imports to keep our homes warm. As William Hague, the Foreign Secretary, wrote yesterday, Europe now needs to invest in terminals and pipelines to import gas from places other than Russia, as well as develop home-grown shale gas. If only we had done so five years ago. -

-Matt Ridley, *The Times*, 24 March 2014 ♦