

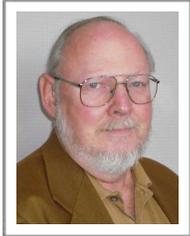
Water and Power Newsletter

Associates, Inc.

Year 41, Volume 1 - January 2012

President's Message

Edward A. Schlotman



As I write this reprise in mid-December we now know there is plenty of water for the year (and wind too) but again I must ask how are we planning for our future needs. Our population will increase. I think that is a given we can count on. Ten percent more from 2010 to 2020? Another 10 percent from 2020 to 2030? History suggests those numbers are at least in the ballpark. Does our water availability also go up another 10 percent each decade to match the population increase? Perhaps we can conserve enough. (Ah yes, once a week baths - the good old days at grandmother's house). But that doesn't take into account increased commercial, agricultural and industrial demand. We can make more electricity. But can we make more water?

It seems like no one wants to do anything these days particularly if there is significant or even just loud vocal opposition. It seems like everyone tends to say the hell with it, especially if a dis-favored industry proposes something. An example that illustrates the point is the proposed Keystone Pipeline Project from Canada to refineries along the U.S. Gulf Coast. (Continued on page 3)



ANNUAL MEMBERSHIP MEETING

& Board Elections
Saturday,
February 11, 2012
10:00 a.m. to Noon
at
L.A. DWP Headquarters
A-Level
111 North Hope Street
Los Angeles.

All members are invited to attend our Annual Membership Meeting on Saturday, February 11, 2012. Your votes will elect the Board members for the coming three years.

Please notify Dave Oliphant if you plan to attend so we can confirm your attendance with LA DWP Security. DWP retirees remember to bring your DWP identification; all others bring a valid I.D. ♦



INSIDE:

President's Message	1 & 3
Annual Membership Meeting	1 & 3
Bryson Blames China	1
Our Guests:	2
Board Meeting & Lunch at CSUN	3
Condor Threatens Wind Industry	4
Exelon Clean Energy	4
California Regulations, BC Hydro	5
ARB and Cap & Trade	5
Membership Dues	5
Book Review	
Steve Erie, <i>Paradise Plundered</i>	6
NAWAPA, (Part 2)	
Right Sized For Today	7-9
Historical Archives	9

Bryson Blames China for Lack of U.S. Clean Energy Manufacturing

Commerce Secretary John Bryson, the former CEO of Edison International, said in an interview with the Los Angeles Times that virtually none of the manufacturing related to clean energy technologies was being done in the U.S. because of China's subsidies to the industry. Bryson was quoted as saying: "China has offered very, very, very low-cost manufacturing facilities for the production of many of these emerging technologies in the clean energy area and many other areas. So there's been a kind of subsidization of manufacturing there that again is questionable under the rules of the World Trade Organization. That's something we'll just have to continue to focus on."

On dealing with China's trade practices, Bryson said he and President Obama have emphasized that "this is a really important bilateral relationship in which there are very important mutual benefits. What's happened over the 10 years [since China joined the World Trade Organization] ... is the Chinese made a whole series of commitments. Those commitments need to be honored." Bryson said China's recent imposition of tariffs on SUVs and large cars "look kind of like retaliation, perhaps relative to the solar industry putting something before the Department of Commerce [asking for an investigation into trade practices by Chinese solar manufacturers]."

Bryson said that he would continue to work with the president to increase investments in green technology. "The president is a big supporter of green technology development. And California has been uniquely supportive. The major investor-owned utilities in California have been pioneers in these areas." ♦

*Sincere Thanks To Our Recent Distinguished Guests,
Hosts & Hostesses*



Victoria A. Campbell
California State University Northridge
Programs and Projects Assistant,
Oviatt Library



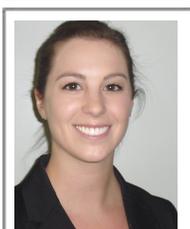
William Glauz
LADWP Manager of Resource Planning
& Solar Energy - Solar, Electric Vehicles



Jeffrey Kightlinger
Metropolitan Water District Of Southern
California,
General Manager



James McDaniel
LA Department of Water and Power,
Senior Assistant General Manager, Water
System



Helen Pollock
Metropolitan Water District Of Southern
California Intern;
Coro Fellow in Public Affairs



Cindy Ventuleth
California State University Northridge
Director of Development, Oviatt Library



Fred S. Barker, P.E.
LADWP, Waterworks Engineer;
Transmission Operations, Water
Quality Operations



Joycelyn Dunham
California State University Northridge
Projects and Programs Coordinator,
Oviatt Library



Abraham Hoffman, Ph.D.
W&PA former Board Member;
Author; teaches History at
Los Angeles Valley College



Holly M. Lovich
California State University Northridge
Special Collections / Archives, Oviatt
Library



Thu Pham,
LADWP, Graphic Manager,
Government, Legislative, and Public
Affairs; Displays & Exhibits



Mark Stover, Ph.D.
California State University
Northridge
Dean, Oviatt Library



Walter Zeisl
LADWP, Manager of Advertising,
Education Outreach and
Administrative Services, Public
Affairs Group

President's Message

(continued from page 1)

☞ “The Keystone pipeline project is back in play as part of the payroll-tax cut debate, and Congressional Republicans say it would create jobs.

☞ The 1,700-mile long pipeline would transport crude oil from Canada's oil sands region in Alberta to refineries along the U.S. Gulf Coast. The Obama administration pushed back the project last month pending a review from the State Department,

☞ The State Department said last month it would conduct another review and issue a decision after the 2012 election, and Obama has said he will not approve a payroll-tax extension tied to Keystone approval.

☞ Keystone supporters don't just cite jobs.

☞ The expanded pipeline is slated to carry 700,000 barrels of oil a day to U.S. refiners, about 4% of the country's daily consumption of 19 million barrels a day. That oil would technically still be imported, but from politically stable Canada. ---

☞ It's also the oil itself that's got environmentalists so concerned -- it's actually the main reason they are against the pipeline.

☞ Oil from the oil sands is dirtier than conventional forms of crude. The oil sands are just that -- oil mixed with sand. To get a usable form of crude, massive amounts of water and energy are used to separate the sand from the oil.

☞ The result is a product that has a total greenhouse gas footprint some 5% to 30% greater than conventional oil.

☞ Extracting the oil sands is also hard on the local environment. They are often mined in huge pits, the size of which are hard to overstate. Vast swaths of forest are cut down, and nearby waterways have been polluted. Companies that operate in the oil sands, ... have gotten better at mitigating the effects, but problems remain.”

So there supposedly would be plenty of jobs and there would be lessened dependence on Mideast oil in favor of Canadian oil yet when people complain about that dirty oil or those dirty oil companies any show of support seems to vanish. Is the project controversial? Yes. Are there consequences? Yes But are we perhaps cutting off our noses to spite our faces. Don't we at least owe it to ourselves to do our own due diligence on such matters, make up our minds and not be swayed by political game playing in Congress or the White House or even by who yells the loudest? How does that apply to us? Consider the consequences if we fail to do something about water supply. What happens in 10 or 20 years when not only our population but the National population is up. Whose water and what uses will be environmentally and otherwise acceptable or will return to the era of the Saturday night bath (short ones of course) and to hell with the smell during the week before we can talk about such things as, heaven forbid, desalination?

As always I welcome your thoughts on these matters. ♦

Ed Schlotman

WAPA & CSUN Buffet Luncheon

Our November 9, 2011 Board Meeting/ Luncheon was held at **California State University at Northridge**. The gracious staff members who joined us then conducted an informative tour of their library, the 2nd largest in the California University System, which receives 1.6 million visitors each year.

We also toured the creatively designed exhibit of the **Catherine Mulholland Collection, “Valley Memories”**. Over the years Catherine, a long-time W&PA member, donated her personal and family archives, photographs, scrapbooks, memorabilia, clothing and ranch records to the Library. ♦



W&P Associates joined guests, CSUN staff and faculty in the buffet lines.

Exelon's Rowe Hails Shale Gas Boom as Clean Energy Bridge



Exelon CEO John W. Rowe said the natural gas from shale boom was providing "at least a 10-year bridge, maybe a 20-year bridge" for the U.S. to develop low-cost clean energy technologies to combat climate change, the Philadelphia Inquirer reported. Rowe said claimed risks from hydraulic fracturing to produce gas "will mostly prove untrue." He responded to a critic who said CO2 emissions from gas will become "a major impediment" in 20 years by saying that it was better to "do something now" about climate by using gas than to "wait for a perfect solution 20 years down the road."

Surging gas production was hurting Exelon's profitability by cutting revenue from its nuclear plants and helped lead it to cancel plans to build new plants. Rowe was quoted as saying: "I cannot build a new nuclear plant to compete with gas." However, he noted that gas-based plants in Pennsylvania could enable the state "to compete with China." ♦ *Philadelphia (Pa.) Inquirer, Oct. 30.*



Bryson vs. China, Condor, Exelon, California Regulations, articles: submitted by ← Tom McCarthy

Air Resources Board article: written by John Schumann →



Condor Threatens Wind Industry in California's Tehachapi Mountains

The California condor could be the nemesis of California's wind industry, which has attracted \$3.2 billion in investment in the past three years and was expected to be the lynchpin of California's renewable energy mandate to obtain a third of its power from renewables by 2020, Forbes Magazine reported. The condor, nearly extinct 25 years ago, has begun reinhabiting its historic range, following a flight path that intersects with wind farms in the Tehachapi Mountains. Jesse Grantham, the California condor coordinator for the Fish & Wildlife Service, was quoted as saying: "Wind turbines right now are on the edge of the condor's expanding range. As the number of birds begins to increase and they begin to take advantage of some of the other food resources in the southern Sierra, there's no question that's where the birds will be. They'll be crossing over those areas where most of the wind energy is going now."

Under the federal Endangered Species Act, no one can kill a condor without an "incidental take" permit, which the government has no intention of issuing, according to Forbes Magazine. The U.S. Fish and Wildlife Service has told Kern County officials that most of the proposed wind farms for the region and at least one existing wind farm threaten the condor. Pacific Gas & Electric and Terra-Gen Power have cancelled wind projects in part due to concerns about the condor, while the Sierra Club has sued over an approval for NextEra Energy Resources' proposed 300-MW wind farm. ♦

Forbes, Jan. 16



California Condors

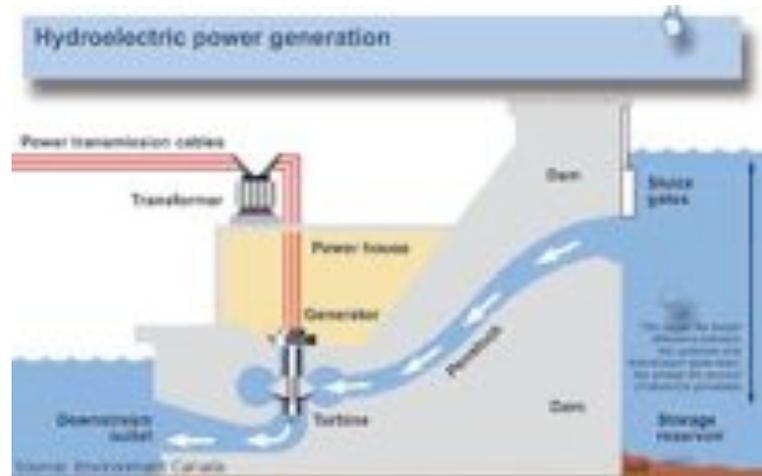




California Regulations May Outlaw British Columbia Hydro's Power Import-Export Practices

"The California Air Resources Board on October 10, 2011 adopted regulations for its cap and trade program covering greenhouse gas emissions. The regulations covering about 350 businesses, including electric utilities, require an overall 15% reduction in emissions from current levels in 2020.

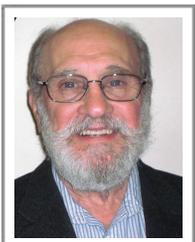
After challenges to its AB 32 cap and trade program, the regulations went into effect on January 1, 2012 and compliance will begin on January 1, 2013. Carbon Dioxide (CO₂) emissions from power plants is the main contributor of greenhouse gases from electric utilities. The rule compliments existing California law that requires 33% of electric energy to come from renewable resources by 2020. The renewable goal will achieve about the same reduction in CO₂ emissions as the cap-and-trade program." ♦



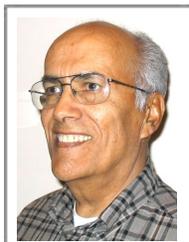
California's new CO₂ cap-and-trade regulations would require BC Hydro's power exporting business to buy carbon credits on its energy exports to the state beginning in 2013, probably wiping out Hydro's primary export market and raising electricity prices for British Columbia consumers, according to energy economist Aldyen Donnelly, principal of WDA Consulting, the Vancouver Sun reported. Hydro's power export revenues have subsidized electricity prices for British Columbia customers. Donnelly was quoted as saying: "If the price of California allowances continues to trade at around \$15 [per ton of carbon dioxide equivalent], that's enough to wipe out B.C.'s profits on the electricity trade. It's a big bloody deal."

Powerex President Teresa Conway was quoted as saying: "It is too early to determine the impact California's cap-and-trade program will have on export revenues. However, given BC Hydro's supply of clean and renewable resources, it is expected that the impact will be generally positive and will not negatively impact rates." She said Powerex was "still exploring a number of options with CARB" to make sure Hydro's "clean and renewable resources are recognized as GHG-free." The California regulations went into effect Jan. 1, but suppliers have one year to comply. ♦ [Vancouver \(British Columbia, Canada\) Sun, Jan. 4.](#)

ANNUAL MEMBERSHIP DUES



David Oliphant
Membership Chair



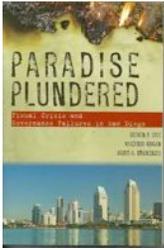
Carlos Solorza
Treasurer

Membership Renewal notices have been sent to all members. If you have not yet responded (we know; lots of holiday mail recently), please send your renewal in or bring it to the February Annual Meeting.

We welcome all donations and encourage each member to sponsor a new member to join for a first year membership or invite a friend or business to join.

Send new member contact information and \$20 check to:
Water and Power Associates, Inc.
Membership - 2012
10121 Groveland Avenue
Whittier, CA 90603

BOOK REVIEW



PARADISE PLUNDERED: *Fiscal Crisis and Governance Failures in San Diego*, by **Steven P. Erie, Vladimir Kogan, and Scott A. MacKenzie**. Stanford: Stanford University Press, 2011. 342 pp. Tables, Figures, Notes, Index. Paper, \$24.95. Order from Stanford University Press, 1450 Page Mill Road, Palo Alto, CA 94304-1124; (800) 621-2736; HYPERLINK "<http://www.sup.org>" www.sup.org.



Steven Erie and his co-authors have taken the city of San Diego, California, to the woodshed, charging the city's political and business leaders—and its residents—with endemic flaws in the city's governance. However, this book is not a polemical tract. The authors document their case with numerous tables, graphs, and extensive end notes based on impartial studies, interviews, and published sources. What emerges is a failure of business and political leadership on a massive scale.

The word *hubris* comes from Greek tragedy wherein a mortal offends the gods through excessive pride, greed, egocentrism, and just plain bad judgment. All of these words apply to the history of San Diego, a municipality notorious for missed opportunities and poor policy-making. The authors expose these problems in a series of provocative chapters. San Diego historically opted for tourism rather than manufacturing in the late 19th century, giving Los Angeles an advantage that San Diego never overcame in economic growth. In the early 20th century San Diego civic leaders captured the United States Navy's Pacific Fleet, obtaining federal funds for harbor improvements and naval facilities. The city also became home to high-ranking officers and retired admirals, contributing to a conservative population that expected much from

the city but without giving much, especially in the area of taxes.

San Diego's downward slide towards insolvency accelerated in the 1980s. The city government found it easier to fund public services by raiding the city workers' pension fund, a practice that on the surface seemed to provide for the city's public service needs. By the early 21st century, however, the debt owed to the pension fund had gotten far out of control. Police protection, fire protection, parks, libraries, and many other public services were (and continue to be) seriously underfunded.

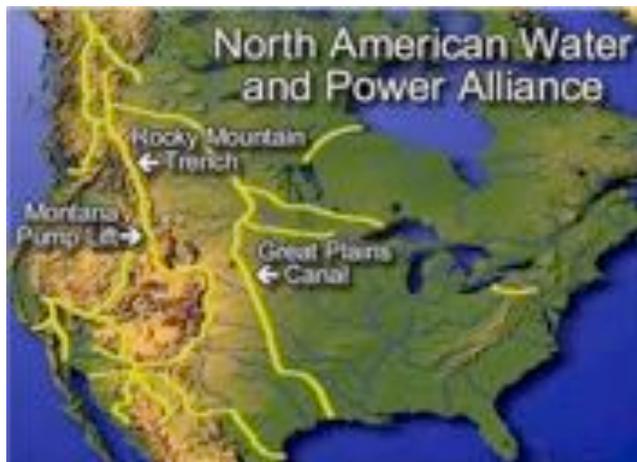
Despite these fiscal challenges, city leaders entered into unholy alliances by making grandiose plans, building a convention center, a football stadium, and other grand monuments, but also making sweetheart deals with developers for those expensive projects. The city and its residents have consistently rejected proposals for a world-class airport (*a San Diegan planning to fly to New York or to Europe or Asia must go to LAX for the flight*), and its agreement with the Imperial Irrigation District to buy Colorado River water is so fraught with environmental challenges that it may never become reality. San Diegans seem to expect their public services to be provided without paying for them, such as free trash collection.

San Diego in recent years named itself "America's Finest City," a serious case of hubris if there ever was one. The city missed the opportunity of serving as headquarters for major companies. Instead, major companies have branch offices there, with managers who have few ties or allegiances to the place where they live until transferred elsewhere. San Diegans are also slow learners, adamantly refusing to vote for funds for fire protection even after two disastrous fires that destroyed thousands of homes.

Erie and his co-authors will make no friends in the publication of this important book. But then, no one liked Cassandra either, with her dire predictions for the future (which all came true) ignored by everyone. San Diegans should take this book seriously and get their heads out of the sand. The authors warn, "*Reversing these trends will require the focus, determination, and good faith of all members of the San Diego community*" (p. 282). At the very least, that community can't say it wasn't warned. ♦

Review by *Abraham Hoffman* who teaches history at Los Angeles Valley College.





N A W A P A : RIGHT-SIZED FOR TODAY

By Bill Tappan

About the Author: Bill Tappan is a retired business development manager from Parsons Water & Infrastructure division headquarters in Pasadena, CA. He has been fascinated with, and is an on-going advocate for, NAWAPA for nearly ten years. Bill is a resident of Alaska.

As a follow up to Bob Yoshimura's fine article in your October newsletter, let's now explore what a "right-sized" **North American Water and Power Alliance** (NAWAPA) project might look like and mean to our country today---nearly 50 years after it was originally proposed. To better understand how NAWAPA might be reshaped by today's economic, social and political realities, **we should briefly look back to determine what has changed in the past 50 years.**

🌿 **In 1964, when Parsons published its report to Congress,** the term *environment* was commonly applied to the science of psychology, e.g., "*What environment did you grow up in at home?*" Yes, the Sierra Club was around fighting projects like the Glen Canyon Dam construction said to be one of their biggest defeats. Of course the term *environment* today has a completely different common connotation. Also in 1964 one of the strongest antagonistic groups was, and for the most part continues to be, very vocal Canadian nationalists. While perhaps in the minority, their collective mantra goes something like this, "*We're not giving our precious water to the United States!*" The few B.C. Rivers which were proposed to be diverted by approximately 10% are essentially wild rivers that flow, for the most part, freely and unutilized into the North Pacific Ocean.

🌿 **They include the Fraser, Liard, Peace and Columbia Rivers.** One might ask, "*Whose water is it? Is this Canada's water pouring untapped into the ocean, or is it up for grabs, or is it God's water...or what?*" This argument applies to the **Yukon River** as well, which is a vital component of NAWAPA. Additionally, there was a form of embargo in the 60s which made it difficult, if not impossible, to export natural resources from Canada to the United States. NAFTA has since erased some of those problems.

🌿 One of the most debated social problems today is illegal immigration from Latin America across our southern border. **Under NAWAPA's plan, water and hydro power supplies would flow to the three northern border states of the Republic of Mexico; Chihuahua, Sonora and Baja California. The original plan called for delivery of 21-million acre feet of water and 2-million kW of power.** With these new resources, Mexico could develop extensive new or reclaimed agricultural lands, mining and industrial opportunities within its northern states, resulting in more jobs for Mexican nationals in Mexico while potentially reducing migration northward.

🌿 A right-sized NAWAPA project today would still be an incredibly huge undertaking—perhaps as much as \$600 billion to \$1 trillion dollars in design and construction. On the other hand, the number one issue with many Americans is **jobs. A project the size and scope of NAWAPA would put tens of thousands of American, Canadian and Mexican citizens to work for decades to come.**

🌿 And the employment will take place in hundreds of industries; planning, design, engineering, environmental, manufacturing of equipment and materials, etc. **One of NAWAPA's most important benefits to the Nation is it will considerably reduce America's dependence on expensive foreign oil.** As we've found out the hard way, some of these suppliers can hold America hostage by manipulating supplies and prices. NAWAPA will significantly reduce our demand on costly foreign oil imports while, at the same time, save our own domestic reserves for other uses.

🌿 The big question is, "*Who's going to pay the bill?*" Parsons found the original project not only feasible technically, but profitable after its mortgage is retired. Your author has developed a business plan which proposes a joint public-private financial structure to deliver the project without raising taxes. It is estimated that the project will pay off its mortgage within 15 to 20 years following full revenue service. This subject would require another article altogether. (Continued on page 8)

... the number one issue with many Americans is *jobs*.
A project the size and scope of NAWAPA would put tens of thousands of American, Canadian and Mexican citizens to work for decades to come.

(Continued from page 7)

So what ever happened to NAWAPA? Ralph M. Parsons spent over 15 years and millions of his personal fortune validating the project's feasibility especially from an engineering and construction standpoint. Unfortunately, with his death in 1977, the project lost its primary champion and backer. It remains his legacy, and with new-found interest it may still come to fruition. No one seemed interested or able to take up the challenge of such a colossal undertaking. Additionally, there was never a formal business plan or finance plan to "sell" NAWAPA to the world after its initial, albeit brief, bloom in 1964 when it was presented to the *U.S. Senatorial Special Subcommittee on Western Water Development* chaired by Sen. Frank Moss of Utah. Sen. Moss was an outspoken advocate for NAWAPA and the subcommittee endorsed it, but obviously never funded it.



In his 1986 landmark, if not controversial, book *Cadillac Desert*, Marc Reisner's final chapter addresses NAWAPA at length starting with the proposition, "Suppose, though, that it were possible to solve at one stroke all the West's problems with water [and power]." Mr. Reisner clearly gets the benefits of NAWAPA.

Son-of-NAWAPA: I humbly suggest the need today for a NAWAPA-like project, to supply a cheap, abundant, reliable and "green" source of wholesale water and hydro power for an estimated 100+ years has certainly not *decreased* since 1964—duh. On the contrary.

Consider where we'd be today if NAWAPA were in its thirtieth or so year of revenue service with another estimated 70-years of life expectancy to come. And its mortgage would have been paid off 10 years ago. Wow! Those folks in the 60s had some vision. But this is not the 60s; it's not even the same century. There just may be a glint of hope, however. A revised project that my colleague, Bob Yoshimura, and I lovingly refer to as *Son-of-NAWAPA* could be the answer.

A substantially revised (down-sized or right-sized) project could be today's solution to many of the continent's water and power needs for decades to come.

NAWAPA, as originally conceived, contained so many fanciful ideas and subprojects which are just not as important in the 21st century. A sampling of these grandiose subprojects included refilling the Great Lakes and a navigable canal connecting the Pacific Ocean to the Great Lakes and thence to the Atlantic Ocean via the St. Lawrence Seaway—a manmade Northwest Passage.

I suggest the scope of a right-sized project today would include a service distribution area limited (at least initially) to Alaska (the source), two or three Provinces of western Canada, the 11 western States of the Lower 48 and the three border states of northern Mexico. The principal, gigantic storage feature, the Rocky Mountain Trench Reservoir, could be shrunken somewhat to a more acceptable size and still made to work.

A Plan from Planland: For a Son-of NAWAPA project to move forward, it must have a realistic plan; I recommend a *crawl-walk-run* approach. Over the past eight years, and on my own time and dime, I have met briefly with both of Alaska's U.S. Senators, several state legislators including the Speaker of the House, state natural resources and energy czars and other state leaders to discuss the project. I've appeared on the local CBS television affiliate pitching a NAWAPA-like solution to Alaska's economic development, energy and employment needs. Unlike some Lower 48 States, Alaska has a very small population (approx. 710,000). We also enjoy a state General Fund surplus of about \$4 billion and a Permanent Fund, a kind of 401K in the public trust for Alaska residents derived from past oil and gas taxes. Its balance is worth over \$40 billion. My point here is Alaska should have the interest and motivation to invest in NAWAPA, at least on the front end. The following is a very brief overview of my plan.
 (Continued on page 9)

Share the History through Accessible Archives

The history of Los Angeles is the history of the Department of Water and Power. One can not tell the story of Los Angeles, indeed much of Southern California's story, without mentioning the DWP. Yet, how much of that story, that history, is really available to the average citizen? How much of the original resource materials are easy to find and accessible to the *average Joe* to verify facts?

The DWP does not maintain a museum or an archive. It closed its fifth floor library some years back. Some records are in the DWP Records Center, some are in City Hall Archives, some are buried in various places throughout the DWP facilities. This is even more true of historical artifacts. **There is no organized preservation of artifacts.** With both historical papers and artifacts, items that seem no longer of use are discarded, or may be taken home by employees who would rather see them retained than tossed.

We have begun our virtual museum on the website, and we hope to use it to present the story. **But, the DWP needs a safe secure place where items can be catalogued, stored, described and made available to the public for viewing, for research, for learning and for accurate historical accounting.** In other words, the DWP needs a professionally managed archive. *In the next newsletter*, we will discuss a proposal for such a facility that is available and well within the Department's reach. ♦ *By David Oliphant*



North American Water and Power Alliance

(Continued from page 8)

Step 1 – Crawl: A Blue Ribbon Panel will be commissioned including a facilitator, universities, a major design-build contractor, environmental firms, water rights attorneys, Native issues experts, financial institutions, political/public relations firms, government agencies (USA, Canada and Mexico), wholesale water and power utilities, etc. The panel will be appointed, not competitively selected...this way we will get the very best, and it saves time, money and offers limited “external” influence.

🌊 Next the Panel will commission a revised NAWAPA *Feasibility Study* which will update and validate Parsons engineering plans, construction estimates and schedules based on a right-sized project for today. The Panel will also conduct a review of political support and social and economic benefits to all stakeholders as well as a financing plan.

Step 2 – Walk: Assuming the Feasibility Study shows promise, the Panel will next sponsor an industry-wide forum(s) to titillate interested parties by revealing the plan and soliciting feedback.

🌊 This will supercharge interest and excitement for the project and help develop a snowball effect of public support. Attendees would come from all segments of all three nations. I suggest this forum(s) be held in Las

Vegas, the heart of the need for water and power supplies—plus it’s a fun place to meet.

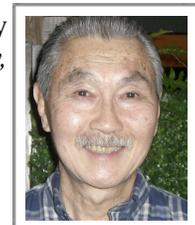
Step 3 – Run: Assuming this conference generates significant interest, the Panel (or some new, non-profit project consortium) will prepare RFPs for turnkey project packages—single contracts for planning, design, construction, finance and O&M for 15 years. I think we would be lucky to receive two or maybe three proposals, but that’s enough.

🌊 I realize this is a way over simplified version of my approach but, you get the idea. As mentioned above, it’s a crawl-walk-run plan which will keep costs in check especially on the front end. Sadly, I suspect nothing will become of this plan. Our water and power needs will only continue to increase without a solution to meet our needs in the West. But, I’m not willing to throw-in the towel. Not yet.

🌊 **In conclusion, I ask you consider two quotes;**

The late Sen. Frank Moss said, *“This is a plan [NAWAPA] that will not roll over and die. It may be fifty years or it may be a hundred years, but something like this will be built.”*

And, one of my all-time favorites by Benjamin Franklin, *“When the well’s dry, we know the worth of water.”* ♦



Submitted by Robert Yoshimura