THE R4RD NEWSLETTER

Residents for Responsible Desalination

P.O. Box 5422, Huntington Beach, CA 92615-5422

www.r4rd.org

©2009 R4RD | ***Issue IX*** | December 2009

R4RD's Mission

Educate

the public about seawater desalination;

Protect

local control of vital water resources;

Advocate

the use of technology and practices that avoid environmental and human health impacts; and,

Promote

environmentally preferable alternatives to desalination, such as water conservation, reclamation, retention, and recycling.

Message from R4RD's President

The past months have provided lessons for many of our members. R4RD marshaled forces and headed to L.A. to a meeting of the Metropolitan Water District (MWD) Board to protest an action that would give San Diego water agencies $350million in subsidies to help Poseidon's desalinated water from its proposed Carlsbad plant better compete. Seemingly, the private sector of the financial world has little or no faith in Poseidon's abilities to put together this deal. Poseidon's "financing plans" have been met with resounding silence. Never fear, *a public agency*, MWD, to the rescue! To make matters worse, Poseidon will now be able to use the MWD indirect endorsement plus the $350million as a form of collateral to apply for state tax-free bonds! Never mind that "San Diego" and "fiscal responsibility" are never mentioned in the same sentence.

Between formal meetings, the MWD General Manager, Jeff Kightlinger, met "through the night" with Poseidon to come to an arrangement that was "satisfactory to Poseidon". This, despite over 40 speakers who publicly voiced opposition to subsidizing Poseidon *and* a prior vote taken by the MWD Board that would have contained wording *not* satisfactory to Poseidon. Such wording would have been prohibitive to the big desalter. One man, Mr. Kightlinger working, literally, out of the light, changed it all. Does this agency need a grand jury investigation?

Another nagging question for Huntington Beach: Will Poseidon reach for another bite of the public apple when it comes to Orange County? And, after all this talk of no public funds needed. That statement is about as valid as Poseidon stating one of the values to Huntington Beach would be that Poseidon would pay a utility tax. The ink wasn't even dry when they suddenly protested the utility tax because Poseidon's plant would be a pumping station not a utility. Go figure. Just one more myth by the namesake King-of-the-Sea.

Friends, *this* Kingdom by the Sea—Huntington Beach, the city we call *home*—is not Carlsbad. We have a voice in these proceedings and it will be heard. Conserve your water, use less. Buy a cistern to catch rainwater for your gardens and flowers. Pay attention to the City Council's actions. Support measures to use reclaimed water and enhance OCWD'S Ground Water Replenishment System in Fountain Valley. Keep in mind; Huntington Beach pumps the majority of its water from its own aquifer. We are not dependent on imported water.

Most of all, read, read, read. Educate yourselves on water issues. The Los Angeles Times is running excellent articles under "Thirst: California's Water Crisis. Putting a Limit on Demand". One statement headlines, "Best answer to the state's water woes may be you." For you internet-savvy people try "California Water Myths" from the Public Policy Institute of California at *www.eenews.net/Greenwire/2009/12/08/18*.

Important legislation dealing with a huge water bond will be coming in the near months. You *must* know what you are voting for or against. After all, it really isn't that we do not have enough water—we simply don't manage the water we *do* have. The late water maven, Dorothy Green, once said, "All the water we will ever need is right here, right now. Billions of gallons of water wash to the sea, unfettered, on a yearly basis."

Last, we would like to dedicate this edition of the newsletter to Dr. Jan Vandersloot, an extraordinary human being, father, husband, friend, and environmentalist. Jan died unexpectedly last month. His place on the R4RD Executive Board will remain in his memory. We shall not see the likes of him again.

Sincerely,

Merle Moshiri

Call to Action!

Poseidon Resources' seawater desalination project in Huntington Beach and other coastal desal projects must receive approvals and permits from the California Coastal Commission (CCC).

R4RD believes strongly that the Poseidon/HB project is the poster-child for irresponsibility and misuse of desalination technology and should ***not*** be permitted by the CCC.

R4RD encourages everyone with similar beliefs to express them, either by writing to the CCC or appearing at appropriate hearings, or both.

The CCC staff set up a special e-mail address:

PoseidonHBDesal@coastal.ca.gov

to take your written comments.

Note: The CCC will not accept e-mail attachments at this internet address.

Alternatively, mail or fax your written comments to the following postal address or fax number:

California Coastal Commission
Attn: Mr. Tom Luster
45 Fremont, Suite 2000
San Francisco, CA 94105-2219
Fax: (415) 904-5400

R4RD and its partners in the Orange County Desal Coalition also encourage all concerned parties to attend and/or speak at all CCC hearings with Poseidon or other ocean desalination projects on its agenda.

Coastal Commission Calendar

WWW.COASTAL.CA.GOV

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JANUARY 2010

January 14-15, 2010

Huntington Beach
City Council Chambers
2000 Main Street
Huntington Beach, CA

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FEBRUARY 2010

Feb. 10-12, 2010

Oceanside City
Council Chambers
3oo North Coast Hwy.
Oceanside, CA 92054

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MARCH 2010

March 10-12, 2010

Central Coast Area
(Location TBD)

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APRIL 2010

April 14-16, 2010

Ventura County
Board of Supervisors
800 S. Victoria Avenue
Ventura, CA 93009

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MAY 2010

May 12-14, 2010

Santa Rosa/Marin
North Central Coast Area
(Location TBD)

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JUNE 2010

June 9-11, 2010

L.A./Orange County
South Coast Area
(Location TBD)

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JULY 2010

July 7-9, 2010

Santa Rosa/Marin
North Central Coast Area
(Location TBD)

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Although the Coastal Commission tries to hear agenda items in a location nearest the project site, there are no guarantees of that.

However, with that in mind, February's CCC agenda will likely have a Poseidon/Huntington Beach project item.

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THANK YOU ALL!

To all R4RD members and supporters who so generously donated to R4RD's recent fundraising efforts, thank you very much. Your beneficent contributions will be used to produce public service announcements and materials as counterpoint to Poseidon's campaign of disinformation about its desalination project in Huntington Beach.

The R4RD Newsletter

Published quarterly by:

RESIDENTS FOR RESPONSIBLE DESALINATION

Editor: Dave Hamilton

e-mail: *dehamilton@earthlink.net*

Note: R4RD welcomes your articles and letters pertaining to water desalination, conservation, reclamation, or sustainable living. Please include your name, telephone, and e-mail address, if you have one. Important—Please include all applicable attributions, footnotes, and permissions if your submittal is not entirely original.

Submit Articles by the 15th day of the months of January, April, July, or October to be considered for the next quarterly publication. THANK YOU!!
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Doing Desalination Wrong: Poseidon on the Public Dole

By Peter Gleick in SFGate City Brights blog "*Water by the Numbers*" on November 4, 2009

Many people believe that desalination of seawater is the ultimate solution to California (and the planet's) water problems. I've written about desalination in previous posts, and have made it clear that I love the idea. In theory. And in select locations.

In practice, however, desalination in California is an idea whose time has not yet come. It remains too expensive, compared to untapped conservation and efficiency, recycled water, capturing stormwater, and smart trades with agriculture. The [Pacific] Institute wrote about the pros and cons of desalination in one of [its] most downloaded studies.

Even worse, the first effort to build a major desalination facility for urban water supply in California, by the private group Poseidon Resources, is poorly designed, badly financed, and environmentally unsatisfactory. It is going to become the new case study in how NOT to do desalination, replacing the previous case study (also of a Poseidon effort) of how not to do desalination – Tampa Bay, Florida.

What is the latest problem? The money. The desperate drive to do a desalination project in California is leading to a set of financial travesties. Despite their initial claim that Poseidon would bear all of the financial burden and risk associated with the private plan to desalinate ocean water at an old power plant in Carlsbad and sell it to public water agencies, **Poseidon now says it needs massive public subsidies. Here are two of them.**

Water Number: Poseidon wants at least $530-million in tax-free state bonds for Carlsbad, and they want a $250 per acre-foot per year subsidy from the Metropolitan Water District (MWD). These are both huge public subsidies to fund a private project designed to produce profits for private investors. Interestingly, **Poseidon originally said the plant would cost around $270million**. It now appears that it will cost at least twice that, with the public bearing substantial costs.

This week, Poseidon Resources announced that it would request an extra $50million (raising their total request to at least $530million) in tax-free Private Activity Bonds to finance the project. Every year, the California Debt Limit Allocation Committee apportions the state's limited allocation of tax-free bonds to proposed projects. Typically, projects such as the desalination plant in Carlsbad can only receive $100 million in funding in a year, and most of this money is supposed to pay for low-income housing, not private water developments.

The second subsidy would take as much as $350million over 25 years from the MWD and give it to the private company so they can sell water that wouldn't otherwise be cost-effective. Yet the water will not reduce the region's dependence on outside sources, as supposedly required. In fact, the proposed contract insists that desalinated water not be used to displace State Water Project or Colorado River Water. This is another travesty. At their November 9 and 10 meeting MWD will decide on the requested subsidy for Poseidon. All of this comes despite the Poseidon's claim on their website that there will be "no expense to the region's taxpayers."

Sadly, at the same time that MWD is poised to approve this gift, they appear to be on the verge of eliminating a comparable offer to water conservation and efficiency improvements that can produce more water at far lower cost.

Why isn't this MWD subsidy being used instead to pay for water-efficiency improvements? The massive MWD subsidy would pay for thousands of waterless urinals, high-efficiency toilets, California-appropriate landscaping to replace lawns, and other efficiency measures in homes, businesses, and public buildings. As one example, a southern California water advocacy group has estimated that for $187million, the same amount of water could be saved simply by replacing urinals in the region with waterless ones. Even more important, this would reduce energy demands (rather than increase them with energy-intensive desalination), add far more jobs than Carlsbad, reduce wastewater treatment needs, and not kill fish, among other benefits.

MWD should reject the request for a subsidy, and the Debt Limit Allocation Committee should decline the request for tax-free bonds. The Emperor has no clothes. Everyone I talk to in private knows this, but no one seems willing to say it in public. Let me: The Emperor (or in this case, the god Poseidon) has no clothes. Butt naked. Maybe MWD should vote on the subsidy in a secret ballot, so Board members can vote their conscience without retribution. "We will commence construction activity by Nov. 14," a spokesman for Poseidon says. Fine. If they have all the permits, let them build it without public subsidies and prove to us that it is really a viable, environmentally sound, and fiscally feasible project.

About the author: Dr. Peter Gleick is president of the Pacific Institute, an internationally recognized water expert, and a MacArthur Fellow.

***Editor's Note:* The MWD Board approved the subject subsidy of $250/ac.-ft. for Poseidon's desalted water on Nov. 10, 2009 despite outspoken public opposition.**

Editor's Note: The following article was inspired by ***"The Poseidon Misadventure"*** by Nick Schou that appeared in the Orange County Weekly in a December 2005 edition.

11 More Arguments Against Irresponsible Seawater Desalination

The Huntington Beach City Council issued conditional permits to Poseidon Resources, LLC in February 2006. The permits were for Poseidon to build and operate a seawater desalination plant co-located on the site of the AES power generation plant. This project would be the nation's largest desalination plant built 300 yards inland from the middle of Orange County's most infamously polluted beach.

The desalination plant would use the ocean-water cooling system of the nearby AES power plant. The Poseidon facility would filter 100-million gallons of seawater to produce 50-million gallons of potable water daily.

At first, the project appeared to be a no-brainer, given the region's chronic water shortages. Who would oppose a project that could possibly provide a new source of drinking water? Nonetheless, opposition mounted with growing concerns over the project's environmental impacts and the likelihood that its water would fuel construction of new homes in Orange County. It became hard to find anyone who supported the project. Anyone but Poseidon, that is, *and* the County's growth industry.

Contrary to Poseidon's PR pitchmen for the project, following are R4RD's 11 more reasons the HB City Council should not have permitted this project:

1. The desalted water provided by the Poseidon plant would cost more than twice as much as water from local reservoirs, the State Water Project, groundwater pumping, and other sources. In mid-2005, Poseidon executives claimed rather insistently the plant's water would cost roughly $800 per acre-foot. By February 2006, Poseidon executives had revised the projected cost to $950/acre-foot. Then, in 2008, the projected cost had risen to $1250/acre-foot as admitted by Andrew Kingman, Poseidon's CFO. What the cost will be in 2012 is anyone's guess. In comparison, HB residents currently pay less than $500/acre-foot for water.

2. Despite Poseidon's 2006 denials of needing public subsidies for its desalted water, Poseidon's executives came begging for such subsidies from the Metropolitan Water District Board in 2009 for its Carlsbad plant's product water. MWD agreed to a $250/acre-foot subsidy with a maximum of $350,000,000 over 25 years. This subsidy will be borne by MWD ratepayers. It's very much expected that Poseidon will be seeking similar public subsidies for its Huntington Beach operation.

3. California perennially runs on the brink of summer electricity blackouts and brownouts. Seawater desalination requires massive amounts of electricity to produce fresh water. Fresh water consumption is at its highest during the summer periods most prone to blackouts thus creating an infrastructure conflict. Each day the Poseidon plant would consume the equivalent electricity to 30,000 to 35,000 Orange County households.

4. Poseidon claims the desalination project would benefit HB because the company would remove existing obsolete storage tanks, add traffic lanes to Newland Avenue, and clean up on-site hazardous waste. But the project's certified EIR stated clearly that Poseidon would store even more hazardous chemicals on the site. These chemicals include hypochlorite, ammonia, lime, ferric sulfate, miscellaneous polymers, sulfuric acid, and sodium bisulfate. Many of those chemicals-would be flushed into the ocean during an emergency. Some of these toxins would get dumped into near offshore waters during routine plant operations.

5. As of December 2009, Poseidon has no committed customer for its water. Thus far, Poseidon has ambiguous letters of intent with several public water agencies and an even more ambiguous "arrangement" with the Santa Margarita Water District to provide half of the plant's production of fresh water. The more probable winners in the Poseidon sweepstakes are South County homebuilders who want to throw up another 14,000 homes.

6. Poseidon project proponents insisted throughout the CEQA process that the project would neither induce growth nor be used to meet the water needs of future development plans. However, lo and behold, the 2009 HB Beach-Edinger Corridor Draft EIR states that the Poseidon plant will be the most probable source of water supply for the increased housing in the planned development.

7. By co-locating with Huntington Beach's AES power plant, the Poseidon project would take

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11 More Arguments *(continued from Page 4)*

advantage of AES's open-ocean intake and outfall pipes. The AES power plant is an aging and inefficient facility that is already under attack for its impact on the environment. The California Energy Commission (CEC) estimates that AES's once-through-cooling system kills 95% of the marine life sucked into it from the ocean. The added Poseidon project would increase the marine life killed to 100%. The smaller marine organisms sucked into the AES cooling system are ground up by plant processes then flow back into the ocean, where the resulting organic material becomes a breeding ground for bacteria. The stretch of beach in front of the AES plant has repeatedly been closed due to high bacteria levels. Both the California Coastal Commission and the California Department of Parks and Recreation say the Poseidon plant would make that bad problem worse.

8. While the Poseidon plant would supposedly create 50-million gallons per day of potable water, it would also need to dispose of 7,000 tons per day of the resultant removed salt. The salt would be discharged 1200 feet offshore via the AES outfall pipe in the form of a brine concentrate with twice the salt content as the background seawater. The effect of that brine on the local marine life could be disastrous. The project EIR argues that this brine wouldn't harm local marine life because fish "are mobile and can leave the area under adverse conditions." The marine epifauna could quite possibly swim away, whereas the infauna could not. The infauna, which can constitute over half of seafloor dwellers, would not survive the hyper-salinity caused by this brine effluent.

9. Huntington Beach would get bacteria and brine. Despite assurances by Poseidon that HB could buy the water if it wants to, the City doesn't need it according to the most recent official Urban Water Management Plan. No one is arguing that the City's annual take from the project of about $2million in tax revenue would not be beneficial. However, such an amount would not come close to covering the costs of the cumulative environmental damages.

10. Though the HB Poseidon project was promised to be "***totally financed by private investments***", the same promise was made for Poseidon's Carlsbad project—that turned out to be ***untrue***. For its Carlsbad project, Poseidon needed $350million in public subsidies to make the project financially viable. Plus, Poseidon is seeking public tax-free bond status for $550million for its investors. This, for a project that was first estimated to cost a total of $270million. An all too-familiar scenario is materializing for Carlsbad's sister project in Huntington Beach where Poseidon is expected to seek public subsidizing whenever it can and follow its same MO. Once again, Poseidon seemingly cannot settle on an estimate of its HB project's total cost. In 2005, Poseidon's publicly acknowledged total project cost estimate was $225million. By early 2006, the estimate had risen to $270million, not including the costs of 10 miles of 48-inch trunk pipeline. In 2008, the estimate had increased to $485million, not including the pipeline, as stated by Poseidon in a letter to the staff of the California Coastal Commission. The pipeline was estimated to cost between $40million and $90million. These amounts seem more like guesses than competent estimates. Overall, the finance picture is appearing more and more like a repeat of Poseidon's debacle in Tampa, FL.

11. Poseidon has no track record of successfully completing a desalination project in the US. In reality, Poseidon has no proof that its Seawater Desalination Plant will actually work. Poseidon's only other project, the Tampa Bay Seawater Desalination Project in Florida, went bankrupt just a year after the unfinished plant's scheduled opening. After additional $40million expenditure and 4 years of effort, the Tampa Water Authority has yet to get the plant to sustain its supposed design capacity. Poseidon says they had nothing to do with the plant's failures. Whatever the causes of the failure, Poseidon, in 2006, was touting this project as the business model for its proposed project in HB.

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NOTICE TO R4RD MEMBERSHIP

R4RD membership dues (i.e. donations) for R4RD's next fiscal year, July 1 through June 30 are requested. The battle for responsible use of seawater desalting technology in HB is about to enter a critical phase. This phase will need your participation. It will require both manpower and monetary resources to counter the deep pockets of the multi-national corporate proponents of irresponsible desalination. R4RD needs funds to retain professional services to further its formal appeals before the State Commissions and legislators. Your help with these matters will be greatly appreciated and of great value to R4RD's cause. Your donations are tax-deductible. Save your canceled checks as the receipt for your donations.
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Energy down the drain: The Next Worst Idea

By Debbie Cook

The next worst idea to turning tar sands into synthetic crude oil is turning ocean water into municipal drinking water. Sounds great until you zoom in on the environmental costs and energy consequences. Desalting seawater may be technically feasible, but in the end it is unsustainable and will become just one more stranded asset.

In 2003, the ***California Desalination Task Force*** was convened as the result of Assembly Bill 2717 (Hertzberg), authorizing the Department of Water Resources to study desalination facilities and "report on potential opportunities and impediments...". For nearly a year, an unwieldy group of individuals representing a multitude of agencies, industry, and environmental organizations convened around the state to study and prepare a report with their recommendations. As can be imagined, the membership was largely divided into two camps—those with a horse in the race and those without. The ***Task Force*** provided an opportunity to learn about this emerging technology, but more importantly, to learn about the relationship between water and energy in California. Knowledge about our energy and resource constraints logically leads to rejecting ocean desalination as a water supply source of our future.

The water/energy nexus

Make no mistake, California has a serious water crisis. But it cannot be addressed in isolation from our energy crisis. The problem was summed up perfectly in a 2005 California Energy Commission (CEC) presentation title: "There is no electricity crisis in California the water agencies can't solve—or make worse." Water is energy. According to the CEC, 10% of all electricity production in California is consumed in moving water around the state; another 9% is consumed for treating, disposing, pumping, heating, cooling, and pressurizing water.

Energy demand is at its highest July 1 to Sept. 15. The hottest days of the year also coincide with the highest water demand. Maintaining adequate electricity reserves is becoming a challenge in California. According to California's Energy Action Plan, "Because natural gas is becoming more expensive, …reducing consumption of electricity and diversifying electricity generation resources are significant elements of plans to reduce natural gas demand...". There is no more energy-intensive water source than ocean desalination.

The following is a comparative list of various California water supply sources and electricity consumption in kilowatt-hours (kWh) per acre-foot (ac.-ft.):

- Ground water pumping: **950** kWh/ac.-ft.
- Orange County's GWRS: **1500** kWh/ac.-ft.
- Colorado River Aqueduct: **2000** kWh/ac.-ft.
- West Branch State Water Project: **2500** kWh/ac.-ft.
- East Branch State Water Project: **3200** kWh/ac.-ft.
- Tampa Desalination Project (est.): **3560** kWh/ac.-ft.
- Poseidon Desalination Project: **5476** kWh/ac.-ft.

Power plants require water for cooling. Along the California coast, almost half of our existing electricity generation facilities utilize once-through-cooling (OTC) technology, resulting in the intake of 17-billion gallons per day of water. This causes the impingement and entrainment of millions of marine organisms. While dry cooling can reduce negative impacts on the marine environment, conversion is expensive, controversial, and limits a desalination proponent's plans for bootstrapping onto an existing intake/outfall pipe.

The Long Beach Water Dept. has been operating a demonstration desalination project for many years, experimenting with a more responsible under-ocean-floor seawater intake and discharge. Long Beach has pledged, "not to pursue seawater desalination unless our research efforts determine it can be done cost-effectively, with little or no environmental impact."

A Mirage in the Desert

The teaser horse in California's ocean desalination race is a private company called Poseidon Resources. They and their lobbyists have spent the last 10 years wooing water boards, legislators and consumers into believing technology could keep California's growing population satiated.

With the complicity of numerous water agencies, Poseidon has been largely successful. Most Californians have been convinced that ocean desalination is a good thing—a *new* drought-proof source of water in a state with diminishing resources. Many environmentalists believe that this *new* water will be a surrogate for water withdrawals from endangered rivers and streams in Northern California. Residents have been told that the projects will be constructed at no cost to taxpayers and will produce water that is comparably priced to imported water. Unfortunately the claims don't hold up to scrutiny.

All Politics is Local

The regulatory hurdles to ocean desalination are daunting. This Poseidon adventure in California spans more than a decade, beginning with a proposed project in Carlsbad, California—a project that is still in the permitting process (despite their website's claims to the contrary). By comparison to Huntington Beach, their Carlsbad proposal was an easy sell. San Diego imports almost all of its water from the Metropolitan Water District at a price close to $800/ac.-ft. In San Diego, *water independence* is at least as motivating as *energy independence* is to most Americans—and about as achievable.

In 2002 Poseidon filed an application with the City of Huntington Beach for a 50-million gallon/day project that would utilize existing intake and outfall pipelines belonging to AES, a global power company with generation and distribution businesses. Surrounding AES in the Southeast area of the city is a hodge-podge of land uses, including large

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Energy down the drain: The Next Worst Idea

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gas/oil tanks, a wetland, a wildlife care facility, a district sanitation plant, a mobile home park, a waste dump-site and hundreds of cranky homeowners who believe the area is an industrial dumping ground. In other words, Poseidon chose to become part of a long history of distrust between the industrial users, the city, and the residents. While Huntington Beach does not have interest in this new water source, it will be sharing the costs of a new water tank that had already been approved for the area. As a member of the Orange County Water District, Huntington Beach meets most of its water needs from a well-managed aquifer, with only 30% of its water imported from MWD at roughly $650/ac.-ft. In fact, to augment its water supply, OCWD embarked on its own desalination project using effluent from its next-door neighbor the Orange County Sanitation District. This partnership helped OCSD avoid construction of another outfall pipe and provided OCWD with a less energy intensive process. Granted, water costs are sure to go higher for all Californians as we struggle with a warming climate and growing population, but energy costs will increase right along with water.

In 2006, despite years of public protest, Poseidon won city approval and moved on to wrangling with other regulators and legal challengers. They also continue to seek a public partner so that they will be eligible for subsidies from the MWD.

Like corn ethanol, ocean desalination would not be remotely competitive without huge subsidies. In this case, $250 per acre foot plus publicly constructed and operated pipelines. So much for the pledge of, "no taxpayer money."

It's anyone's guess how long MWD can sustain these subsidies. But there is an even better captive market. The Southern Nevada Water Authority is salivating at the chance to trade MWD for Colorado River water. Perhaps we are seeing the first signs of another stranded asset: The Colorado River Aqueduct.

Too costly to flush

The story of desalinated water has been largely one of unkept promises. Tampa Bay is a typical case. In 1999 Tampa Bay Water received a binding commitment for water at $557/ac.-ft. By 2004 costs were updated to $827/ac.-ft. By 2008, after a month of operation, it was estimated the wholesale cost to be $1100/ac.-ft. Even if this were an inclusive accounting, there are two factors that work in Tampa's favor: The salinity of the source water and their electricity rate. Both are critical to calculating water costs.

In 2003, Water International estimated that 44% of the cost of desalination was the energy component. But whose energy costs were they using, Florida or California? Or, maybe Saudi Arabia? In 2002, Oil and Gas Journal ran a story on desalination facilities in Saudi Arabia. They reported construction costs of 30 facilities at $20 billion, $4 billion for operations and maintenance, and water at $1356/ac.-ft. While there are differences between the thermal process used in Saudi Arabia and the reverse osmosis projects in the U.S., the cost of natural gas in Saudi Arabia at that time was 75¢/Mcf—a fraction of what we pay in the U.S.

California's checkered history with ocean desalination is equally unhelpful. Of those projects that have been reported:

- Gaviota Oil & Gas Processing Plant $4000/ac.-ft.
- Santa Catalina Island (built and operated by SCE) $2000/ac.-ft.
- U.S. Navy, San Nicolas Island $6000/ac.-ft.
- PG&E Diablo Canyon Power Plant $2000/ac.-ft.
- City of Morro Bay $1750/ac.-ft.

The City of Santa Barbara built a plant in the 1990s but never operated it. The Yuma Desalting Plant may be the biggest white elephant in the world. At the time it was built in the late 1980s, it was the world's largest reverse osmosis plant, capable of desalting 72-million gallons per day. The $245 million project was constructed to comply with the 1944 treaty with Mexico to reduce salinity of Colorado River water from 2900 ppm to 115 ppm. The estimated cost of operations and management was $24 to $29 million per year. To date, it has never operated except for tests. This paltry record coupled with a lack of transparency in the industry keeps everyone guessing. While difficult to challenge the wildly optimistic numbers that are perpetually paraded out at public meetings and in the press, environmental documents can sometimes fill in a few blanks. The Huntington Beach EIR states that the Poseidon project will require 5476kWh/ac.-ft. If Poseidon were paying a Florida rate of 4.5¢/kWh the cost of electricity alone would be $246/ac.-ft. If they paid what the average Californian pays—12¢/kWh—their electricity costs alone would be $657/ac.-ft. Poseidon stated at one of the Task Force meetings that it was planning on electricity at 6¢/kWh—a rate that is not available to *any* industrial user in the state. With those kinds of savings they could perhaps purchase enough lobbying to get special dispensation.

Too much water

One thing for sure, ocean desalination is not about California's water crisis. We live in an arid region and use too much water. Our water needs can be solved if we follow the lead of agencies like Irvine Ranch Water District and take appropriate measures: Allocation-based rate structures, smart timers, landscaping codes, and conservation. Ocean desalination is an example of our complete failure to recognize stark realities—water, food, energy, soil, air, and oceans are limited and our population and consumption keeps growing. Again, we are applying a technical fix to an adaptive challenge.

We are approaching the time when we will not have enough money to throw at our problems. We may be there now or we may be able to squeak out a few more stranded assets before our future catches up with our present.

I want to contribute to or join Residents 4 Responsible Desalination to help keep our beaches, air, and ocean clean. Enclosed is my membership/donation.

____Renewal ____New Member

Name: _____ ___$100 Benefactor

Address: _____ ___$50 Honor Roll

City: _____ State: ___ Zip: _____ ___$20 Family

E-mail: _____ ___$10 Student/Senior

R4RD is a charitable organization listed as a 501(c)(3) by the IRS, with Tax ID #20-3449139 ___$15 Individual

Make checks payable to: **Residents for Responsible Desalination**

Mail to: Residents for Responsible Desalination
PO Box 5422, Huntington Beach, CA 92615-5422

Website: www.R4RD.org

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Residents for Responsible Desalination

"Organized for charitable, scientific, and education purposes about desalination of seawater."

THE R4RD NEWSLETTER

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