

Poseidon Water Purchase Agreement: *Private Profit, Public Risk*

1. Poseidon initially promised that the cost of desalinated water from its proposed Carlsbad Desalination Plant would not exceed the cost of imported water.ⁱ However, the latest estimates released by Poseidon and the San Diego County Water Authority (SDCWA) reveal that the true cost of this desalinated water has nearly tripled from roughly \$900ⁱⁱ per acre-foot to roughly \$2400 per acre-foot with no cost cap.ⁱⁱⁱ Some analysts^{iv} believe the \$2400 per acre-foot estimate is still low.^v

The San Diego County Water Authority (SDCWA) is signing a 30-year “take or pay” contract with Poseidon for at least 48,000 (and up to 56,000) acre-feet of water per year. This amounts to **\$115 million per year**, or **\$3.5 billion** for the initial 30-year term of the contract. **Though this \$3.5 billion has yet to be accurately translated as a rate increase to end users, ratepayers can expect their water bills to increase by a minimum of 8-11 percent. With no firm cap either in the cost to purchase the water or the price the consumer is required to pay, water bills will likely go up well beyond this estimate.**^{vi}

To put this commitment in context, at the same time the SDCWA is considering this 30-year contract to pay \$115 million annually for Poseidon’s desalinated water (even during times the water is not needed), it is vigorously pursuing litigation against the Metropolitan Water District over alleged overcharges of \$28 to \$77 million per year.^{vii} The County Water Authority also saw an 18 percent reduction in water use in 2010. In 2011, the agency reported an additional 17 percent reduction in usage.^{viii} Because of this “new normal” where water sales volumes and revenues to the SDCWA are below the levels on which the previous budgets were based, the SDCWA has decided to save dollars by deferring major capital improvement projects (\$150 million in planned expenditures).^{ix} These deferred projects will eventually be added back into the budget in the coming years (and therefore **additionally** increase future rates).

Ratepayers and SDCWA member agencies should question both the substantial increase in the cost of water per acre foot as well as the commitment of at least \$3.5 billion for the Poseidon project when the SDCWA is reluctant to make other long-term expenditures because water sales and demand (i.e. revenues) have been lower than expected.

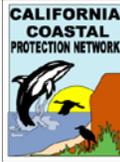
2. The cost of desalinated water is expensive due to the high energy usage involved in production. Compounding this, the cost of electricity in the San Diego area is increasingly volatile due to the shutdown of the San Onofre Nuclear Generating Station.^x The liability for paying for the variable impact of the energy cost to produce the desalinated has been assigned to SDCWA ratepayers.^{xi}

The independent think-tank Equinox Center has this to say about energy and desal:

“Concerns about the availability and cost of energy, as well as greenhouse gas emissions, make energy intensity a key issue in assessing the different water options. Desalination is the most energy intense solution, with an estimated requirement of 4,100 to 5,100 (kilowatt hours) per acre foot.”^{xii}

Energy costs make up a larger percentage of the cost of desalinated water than any other water supply. For Poseidon’s project, energy accounts for a quarter of the price of desalinated water. Thus, as energy prices go up they will disproportionately impact this water supply source.^{xiii} At a recent SDCWA meeting, its consultant, Clean Energy Capital, attempted to forecast the stability of energy costs^{xiv} for the next 30 years. Relying on lengthy disclaimers, the consultant made a huge and undocumented assumption that

For more information, contact: Marco Gonzalez: marco@cerf.org, or Julia Chunn-Heer: julia@surfridersd.org



Poseidon Water Purchase Agreement: *Private Profit, Public Risk*

energy rates will not follow more recent trends, projecting energy rate increases would not exceed more than 1.18 or 2.28 percent annually. However, the consultants own figures demonstrate that rates have actually increased over 60 percent in the last seven years.^{xv} SDGE's recent request to the Public Utilities Commission for \$1.1 billion to cover the expenses of the San Diego wildfires, and the unanticipated shutdown of San Onofre are just a few examples of the unpredictable nature of energy price speculation.^{xvi} This type of variability makes the cost of desalination equally volatile.

The SDCWA should not absorb the increasing, variable cost of the electricity to produce Poseidon's desalinated water.

3. Poseidon's Coastal Development Permit (CDP) contains numerous conditions that must be fulfilled in order for the plant to commence construction and operation, including a Green House Gas Reduction Plan (GHG Plan). After the CDP was approved, the Coastal Commission found that Poseidon intentionally misled the Commission by contending its desalinated water would replace an equivalent amount of imported water; thus the offsets it claimed as part of its GHG Plan were no longer valid. As a result, the new additional costs of implementing a revised GHG Plan will be shifted to the SDCWA. Poseidon has not shown that these costs have been accurately reflected in the price per acre-foot of desalinated water.^{xvii}

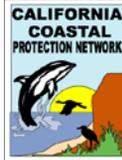
Special Condition 10 of Poseidon's CDP requires it to account for all of its indirect greenhouse gas (GHG) emissions resulting from electricity use each year by implementing its approved Energy Minimization and Greenhouse Gas Reduction Plan (GHG Plan). When the CCC approved Poseidon's GHG Plan in August 2008, Poseidon asserted that each acre-foot of water produced by desalination would replace imported water from the State Water Project on a one-to-one basis. As a result, the vast majority of its GHG emissions (70 percent) were automatically "offset", and Poseidon projected it would only have to purchase carbon offsets for approximately 16,000 metric tons of carbon dioxide equivalent (MtCO₂e).^{xviii} However, Poseidon has since acknowledged that the desalinated water it produces will *NOT* replace imported water on a one-to-one basis.^{xix} This admission radically changes the amount of carbon offsets Poseidon will have to purchase by ***more than 500 percent*** from 16,000 MtCO₂e to about 83,500 MtCO₂e.^{xx}

The cost of carbon offsets fluctuates with the voluntary over-the-counter market. Current estimates range from \$5 to \$40 per MtCO₂e. In order for Poseidon to buy five times more carbon offsets than originally planned, it must further raise the cost of desalinated water. As an example, a carbon offset that costs \$10 per MtCO₂e will add an additional \$12 to each acre-foot of water produced by Poseidon.^{xxi} Importantly, this is *NOT* a one-time cost. Poseidon, per Special Condition 10, must account for its indirect GHGs *each year*, and thus must buy the necessary amount of carbon offsets each year as well. The average price for MtCO₂e has only increased over time, and this trend is predicted for the future.^{xxii} Regardless of the exact price of MtCO₂e, this represents a new cost to the overall price per acre-foot.

SDCWA should protect itself, and its ratepayers, and ask Poseidon to demonstrate where the cost of fulfilling its GHG permit requirement is included in the current estimates being negotiated.

4. The SDCWA Water Purchase Agreement is the collateral that will be used to convince private investors to buy the bonds to finance the construction and operation of the project.^{xxiii} The project was first described as a \$250 million project, but soared to \$530 million in 2010^{xxiv}, increased another 47% percent to \$780 million in 2012, and is now rumored to be in the range of \$970 million.^{xxv}

For more information, contact: Marco Gonzalez: marco@cerf.org, or Julia Chunn-Heer: julia@surfridersd.org



Poseidon Water Purchase Agreement: *Private Profit, Public Risk*

In 2002, Poseidon indicated its project would cost only \$250 million.^{xxvi} Since written verification of water purchase agreements is required by bond raters, Poseidon has not yet been awarded a final bond rating or allocation. This delay, among others, has resulted in Poseidon repeatedly applying for California Pollution Control Financing Authority (CPCFA) bonds^{xxvii}. Each new submittal lists a larger project cost. For example, the 2010 application listed the project cost as \$530 million and a 2012 application listed it as \$780 million. Current press reports based on the SDCWA's own cost estimates peg the project at between \$870 million to \$970 million with financing costs added in, just shy of a \$1 billion cost estimate.^{xxviii}

These estimates do not include indirect costs of relining one of the two requisite pipelines that will connect the desalinated water from its production site to its distribution site, as well as operations and maintenance or treatment plant inefficiencies at the distribution facility.^{xxix} When these additional expenses are added together, the project easily tops the \$1 billion mark.

The SDCWA and the ratepayers should question why the cost of Poseidon's Carlsbad Desalination Plant has soared over a relatively short period of time from a \$250 million project to an almost \$1 billion project with no clear end in sight.

5. A contract requiring the SDCWA to buy water at all times, even when it is not needed, as opposed to enabling water purchases only when necessary guarantees a strong profit to Poseidon and its investors, but places the ratepayers at substantial financial risk.

In other places, such as Tampa Bay^{xxx} and Sydney^{xxxi}, water agencies have decided to let their expensive desalination plants sit idle instead of running them because of the high operational costs. Under the Water Purchase Agreement with Poseidon, the desalination plant will never be shut down, even when the water is not needed.

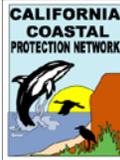
If Poseidon's Carlsbad Desalination Plant is truly a sound investment, ratepayers should be able to purchase Poseidon's desalinated water only when they need it.

6. The State Water Resources Control Board (SWRCB) is in the process of amending the California Ocean Plan to include provisions and restrictions for ocean desalination facilities, and it is possible that those changes will place additional obligations on Poseidon's Desalination Plant^{xxxii} - changes that the SDCWA has not factored in to the true cost of the water.

Poseidon originally proposed "co-locating" the desalination facility with the Encina Power Station to utilize the cooling water discharge both as "source water" intake for the desalination facility, as well as "dilution water" for the brine discharge. Since then, the State Water Resources Control Board (SWRCB) has adopted a Policy on Cooling Water Intakes that undermines the pre-conceived benefits of co-location.^{xxxiii}

Further, the SWRCB is currently developing an amendment to the Ocean Plan to set standards for seawater desalination intake technology and brine discharges that will have to be incorporated into the existing Regional Water Quality Control Board's NPDES permit.^{xxxiv} Expert panels assembled to inform and guide the SWRCB have studied these issues and provided "findings and recommendations" for possible amendments to the Ocean Plan. The expert reports have been criticized by consultants hired by Poseidon. Nonetheless, should the recommendations submitted by the expert panels be adopted by the SWRCB, it will result in significant costs not currently under consideration or accounted for.

For more information, contact: Marco Gonzalez: marco@cerf.org, or Julia Chunn-Heer: julia@surfridersd.org



Poseidon Water Purchase Agreement: *Private Profit, Public Risk*

In the interest of full disclosure and transparency, the Water Purchase Agreement should include an analysis of the costs associated with meeting the yet-to-be adopted SWRCB Ocean Plan amendment. The analysis should include an assumption that the recommendations of the expert panels will be adopted. This will ensure that reasonably foreseeable costs associated with design changes or retrofitting of the desal facility required as a result of the Ocean Plan amendment are fully understood and considered by participating agencies and ratepayers..

7. Shifting responsibility for the ownership and construction of the pipeline to connect the Poseidon Desalination Plant increases the SDCWA's financial exposure and makes the SDCWA liable for fulfilling all of Poseidon's Coastal Commission permit obligations.^{xxxv}

The conveyance pipeline which will connect the desal facility in Carlsbad with the SDCWA aqueduct will be owned by SDCWA.^{xxxvi} If Poseidon defaults, the SDWCA may be left paying \$150 million for this “pipeline to nowhere.” In addition, SDCWA will have to rehabilitate one of its existing pipelines to get the desalinated water up to the Twin Oaks treatment facility in San Marcos. This relining and rehabilitation project, which would otherwise be unnecessary, will cost an additional \$50-56 million and require \$10-12 million in modifications to the Twin Oaks Valley Water Treatment Plant.^{xxxvii} If Poseidon defaults, ratepayers will have unnecessarily spent an additional \$60-\$68 million on these improvements.

Further, because Poseidon's CDP was issued jointly for both the desalination facility and the “pipeline to nowhere,” once the SDCWA assumes ownership of this pipeline it becomes jointly liable for all the permit conditions. This includes the GHG Plan and a Marine Life Mitigation Plan that requires at least 66 acres of mitigation.

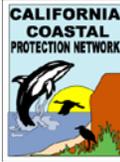
Thus, even if SDCWA never receives a drop of desalinated water, it may be required to fulfill (and finance) Poseidon's CDP mitigation requirements, in addition to expending hundreds of millions of dollars for pipeline construction and improvements.

8. Before the SDWCA commits ratepayers to paying at least \$3.5 billion for desalinated water, we should compare this with the cost of other alternatives.

Approximately 61 percent of the County Water Authority's water goes to residential use. About 60 percent of that water is used outdoors, primarily for irrigation. This outdoor water use will account for about 311,000 acre-feet per year in 2030.^{xxxviii} The County Water Authority's modeling predicts a shortage of 111,000 acre-feet in an “uncertainty scenario” which is used to justify the need for Poseidon's project.^{xxxix} By simply reducing outdoor irrigation by one-third this gap can be filled. Instead, to obtain half that amount, or 56,000 acre feet ratepayers will pay over \$115 million annually. In contrast, conservation comprised only \$10 million of the SDCWA's 2010-2011 budget, but resulted in 67,000 acre-feet of conserved water. As a “take or pay” contract, Poseidon's Water Purchase Agreement actually disincentivizes conservation because ratepayers will pay for this water regardless of how much they use, or conserve.

The City of San Diego and other SDCWA member agencies are considering building their own local, reliable water supply by turning wastewater into drinking water. Environmentalists, businesses, ratepayer advocates, and various agencies support this water supply option because it is less energy-intensive, less expensive and environmentally superior.^{xl} In the first phase alone the City of San Diego's Indirect Potable Reuse project could provide 100 million gallons per day^{xli} (twice the output of the Carlsbad facility).

For more information, contact: Marco Gonzalez: marco@cerf.org, or Julia Chunn-Heer: julia@surfridersd.org



Poseidon Water Purchase Agreement: *Private Profit, Public Risk*

The County Water Authority is also considering its own desalination plant at Camp Pendleton.^{xiii} This facility would be a publicly owned and operated desal plant, which could be designed to avoid the marine life impacts and reduce greenhouse gas emissions associated with Poseidon's project. With the County Water Authority running the plant, it could be used as a supply of last resort and scaled appropriately to meet our water needs.

The SDCWA needs to carefully consider the cost and reliability of a range of water supply options before it commits its member agencies and its ratepayers to an expensive source of water that it is required to buy even when it is not needed.

ⁱ *No guarantees for Carlsbad Desal plant*, David Rosenfeld, April 6th, 2011

<http://www.dcbureau.org/20110406178/natural-resources-news-service/no-guarantees-for-carlsbad-desal-plant.html>

ⁱⁱ Recommended Findings – Coastal Development Permit Application E-06-013 Poseidon Resources (Channelside) LLC November 2, 2007 – Page 17 of 88

ⁱⁱⁱ Incorporating Carlsbad Seawater Desalination Project into SDCWA Rates and Charges, Administrative & Finance Committee Meeting, August 23, 2012

(http://sdcwa.org/sites/default/files/files/board/2012_presentations/presentations_2012_08_23.pdf)

^{iv} *San Diego's Water Sources: Assessing the Options*, Equinox Center and Fermanian Business & Economic Institute, July 2010

^v *An Investigation of the Marginal Cost of Seawater Desalination in California*, James Fryer, March 18, 2010

^{vi} <http://www.sdcwa.org/water-authority-takes-steps-advance-carlsbad-desalination-project>

^{vii} “The stakes in the litigation are estimated at between \$1.3 billion and \$3 billion over a 45-year period.”

<http://www.sdcwa.org/mwdrate-challenge>

^{viii} General Manager's Budget Message, SDCWA Adopted Budget for Fiscal Years 2012 & 2013, p.1

^{ix} General Manager's Budget Message, SDCWA Adopted Budget for Fiscal Years 2012 & 2013, p.1, Capital Improvement Program, pp. 106-07.

^x *San Diego's Water Sources: Assessing the Options*, Equinox Center and Fermanian Business & Economic Institute, July 2010

^{xi} http://www.sdcwa.org/sites/default/files/files/board/2012_presentations/presentations_2012_07_26.pdf

^{xii} *San Diego's Water Sources: Assessing the Options*, Equinox Center and Fermanian Business & Economic Institute, July 2010, Executive Summary

^{xiii} *San Diego's Water Sources: Assessing the Options*, Equinox Center and Fermanian Business & Economic Institute, July 2010

^{xiv} <http://www.utsandiego.com/news/2010/dec/18/puc-approves-sdgc-rate-increase-plus-gives-it-a/>

^{xv} http://www.sdcwa.org/sites/default/files/files/board/2012_presentations/presentations_2012_07_26.pdf (Historic Energy Prices)

^{xvi} http://www.nctimes.com/blogsnew/business/energy/energy-navy-opposes-sdg-e-rate-increase/article_1e850c8a-7b0d-56e4-bff3-d45a3b08585e.html and <http://www.ocregister.com/articles/sdg-347338-costs-county.html>

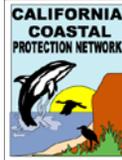
^{xvii} Personal communication with Coastal Commission staff.

^{xviii} California Coastal Commission, Carlsbad Seawater Desalination Project, Energy Minimization and Greenhouse Gas Reduction Plan. Final Adopted Plan, September 2009

^{xix} Coastal Commission staff report, February 9, 2010, <http://documents.coastal.ca.gov/reports/2010/2/W6a-2-2010.pdf>

^{xx} These figures come from the final approved GHG Plan and represent both Poseidon's and Coastal Commission staff's best estimate of the amount of energy the desalination plant will use in a given year, and the anticipated amount of associated GHG emissions. The actual amount of energy used, its associated emission factor and GHG

For more information, contact: Marco Gonzalez: marco@cerf.org, or Julia Chunn-Heer: julia@surfridersd.org



Poseidon Water Purchase Agreement: *Private Profit, Public Risk*

emissions generated will not be known for certain until after the first year of operation, at which time adjustments will be made as needed to the amount of carbon offsets required for the following year. This protocol of annual adjustments is further detailed in the final approved GHG plan.

^{xxi} As stated in Poseidon's approved GHG Plan, the automatic credit for reduction in imports from the State Water Project is 67,506 MtCO_{2e}. If Poseidon's desalinated water does not replace imported water, as recently acknowledged, Poseidon will now have to account for these 67,506 MtCO_{2e}. At a price of \$10 per MtCO_{2e}, the cost per acre foot can be attained as follows:

67,506 tons per year X \$10 per ton = \$675,060 / 56,000 acre-feet per year = \$12 per acre-foot

^{xxii} Developing Dimension: State of the Voluntary Carbon Markets 2012. A Report by Ecosystem Marketplace & Bloomberg Energy Finance. May 31, 2012.

http://www.foresttrends.org/publication_details.php?publicationID=3164

^{xxiii} *Poseidon asks to sell up to \$780M in tax-exempt state bond*, North County Times, December 8, 2011

<http://www.nctimes.com/business/73cc7198-61a1-5d18-ab6b-358556498de6.html>

^{xxiv} www.ibank.ca.gov/res/docs/pdfs/2010.../Minutes_04-27-10_Final.pdf

^{xxv} UTILITIES: Desal project would raise average water bills 7 percent,

http://www.nctimes.com/business/utilities-desal-project-would-raise-average-water-bills-percent/article_70060da2-6c48-54d2-a0c6-2a1ab2594103.html

^{xxvi} http://www.nctimes.com/business/poseidon-asks-to-sell-up-to-m-in-tax-exempt/article_73cc7198-61a1-5d18-ab6b-358556498de6.html

^{xxvii} “The San Diego County Water Authority (SDCWA) is continuing to work on the project details with the project sponsor, Poseidon. Mr. Papanian stated that the project proponents are expecting to have two related bonds, a governmental purpose bond to be issued on behalf of the SDCWA and a private activity bond to be issued on behalf of Poseidon. Both bonds are expected to come through CPCFA in an amount close to \$750 million.” Minutes, California Pollution Control Financing Authority, April, 17, 2012

www.treasurer.ca.gov/cpcf/minutes/2012/20120417.pdf

^{xxviii} <http://www.utsandiego.com/news/2012/jun/15/carlsbad-desal-plant-pipe-costs-near-1-billion/>

^{xxix} http://sdcwa.org/sites/default/files/files/board/2012_presentations/presentations_2012_06_14.pdf (pp. 11-12 of second presentation)

^{xxx} <http://www2.tbo.com/weather/weather/2010/dec/15/tampa-bay-water-idle-desal-plant-saves-money-ar-23284/>

^{xxxi} <http://www.abc.net.au/news/2012-06-26/sydney-desalination-plant-to-switch-off/4092482?section=nsw>

^{xxxii} http://www.waterboards.ca.gov/water_issues/programs/ocean/desalination/

^{xxxiii} http://www.swrcb.ca.gov/water_issues/programs/ocean/cwa316/

^{xxxiv} http://www.waterboards.ca.gov/water_issues/programs/ocean/desalination/

^{xxxv} Personal communication with Coastal Commission staff.

^{xxxvi} Special Desalination Board Workshop, June 14, 2012,

http://sdcwa.org/sites/default/files/files/board/2012_presentations/presentations_2012_06_14.pdf

^{xxxvii} http://sdcwa.org/sites/default/files/files/board/2012_presentations/presentations_2012_06_14.pdf

^{xxxviii} <http://www.sdcwa.org/2010-urban-water-management-plan>

^{xxxix} http://www.sdcwa.org/sites/default/files/files/board/2012_agendas/2012_08_12_Board%20Packet.pdf

^{xl} <http://www.equinoxcenter.org/assets/files/pdf/AssessingtheOptionsfinal.pdf>

^{xli} <http://www.sandiego.gov/water/waterreuse/pdf/news/2012/waterreusescheme120525.pdf>;

<http://www.sandiego.gov/water/waterreuse/pdf/recycledfinaldraft120510.pdf>

^{xlii} <http://www.sdcwa.org/desalination>

For more information, contact: Marco Gonzalez: marco@cerf.org, or Julia Chunn-Heer: julia@surfridersd.org