

NIPOMO COMMUNITY SERVICES DISTRICT

DECEMBER 7, 2012

1:00 P.M.

SPECIAL MEETING NOTICE & AGENDA

SUPPLEMENTAL WATER ALTERNATIVES EVALUATION COMMITTEE

APPOINTED COMMITTEE MEMBERS

MICHAEL K. NUNLEY, CHAIRMAN (NON-VOTING)
PETER V. SEVCIK, VICE CHAIRMAN (NON-VOTING)
DAN GARSON (VOTING)
DENNIS GRAUE (VOTING)
KATHIE MATSUYAMA (VOTING)
ROBERT MILLER (VOTING)
DAVE WATSON (VOTING)
DAN WOODSON (VOTING)

PRINCIPAL STAFF

MICHAEL S. LEBRUN, GENERAL MANAGER
LISA BOGNUDA, ASST GM/FINANCE DIRECTOR

MEETING LOCATION - District Board Room
148 S. Wilson Street, Nipomo, California

1. CALL TO ORDER, FLAG SALUTE AND ROLL CALL

2. GENERAL MANAGER'S REPORT

RECOMMENDATION: Receive updates and reports from the General Manager on items relevant to the Committee's work.

3. REVIEW DRAFT MINUTES FROM NOVEMBER 15, 2012, COMMITTEE MEETING

RECOMMENDATION: Provide revisions or corrections to meeting minutes from the November 15, 2012, Committee meeting. Accept minutes as revised.

4. DISCUSS NOMINATION OF COMMITTEE MEMBER

RECOMMENDATION: Establish process for nominating a new Committee member and an alternate for consideration by the Board of Directors.

5. DISCUSS SUBCOMMITTEE PROGRESS

RECOMMENDATION: Review progress submittals provided by subcommittees and discuss.

6. DEVELOP RANKING CRITERIA

RECOMMENDATION: Discuss Committee members' individual lists of ranking criteria and establish uniform criteria to be used by the entire Committee in their evaluation.

7. DISCUSS NEED FOR SPOKESPERSON TO PROVIDE UPDATE TO THE BOARD

RECOMMENDATION: Discuss whether an update should be provided by the Committee to the Board. Nominate a voting member of the committee to serve as spokesperson for an upcoming Board meeting, if desired.

8. PRESENT REFERENCE DOCUMENTS FOR REVIEW AND ACCEPTANCE

RECOMMENDATION: Identify and propose reference documents to be used by Committee members in the evaluation. Approve or reject these documents as acceptable reference materials for conducting the evaluation.

9. SET NEXT COMMITTEE MEETING DATE AND TIME

10. ADJOURN

TO: EVALUATION COMMITTEE

FROM: MICHAEL K. NUNLEY, PE *MKN*
CHAIRMAN

DATE: December 4, 2012



GENERAL MANAGER'S REPORT

ITEM

Nipomo CSD General Manager, Michael LeBrun, will provide an update to the Committee on activities relevant to the Committee's work.

BACKGROUND

The General Manager will present updates relevant to the Committee's work and will also respond to questions posed by the Committee to District staff at prior meetings. This is a standing item for each Committee meeting.

RECOMMENDATION

Receive the report from the General Manager

ATTACHMENT

NONE

TO: EVALUATION COMMITTEE

FROM: MICHAEL K. NUNLEY, PE *MKN*
CHAIRMAN

DATE: December 4, 2012



**REVIEW DRAFT MINUTES FROM NOVEMBER 15, 2012,
COMMITTEE MEETING**

ITEM

Review the Draft Meeting Minutes from the November 15, 2012, Supplemental Water Alternatives Evaluation Committee (Committee) meeting.

BACKGROUND

According to the Bylaws, the Committee must approve the meeting minutes. Draft minutes are to be posted online. If revised by the Committee during the approval process, final minutes will be posted to replace the draft minutes.

RECOMMENDATION

Provide revisions or corrections to the meeting minutes from the November 15, 2012, Committee meeting. Accept minutes as revised.

ATTACHMENT

DRAFT SWAEC Meeting Minutes – November 15, 2012

NIPOMO COMMUNITY SERVICES DISTRICT

NOVEMBER 15, 2012

1:00 P.M.

MEETING MINUTES

SUPPLEMENTAL WATER ALTERNATIVES EVALUATION COMMITTEE

APPOINTED COMMITTEE MEMBERS

MICHAEL K. NUNLEY, CHAIRMAN (NON-VOTING)
PETER V. SEVCIK, VICE CHAIRMAN (NON-VOTING)
CRAIG ARMSTRONG (VOTING)
DAN GARSON (VOTING)
DENNIS GRAUE (VOTING)
KATHIE MATSUYAMA (VOTING)
ROBERT MILLER (VOTING)
DAVE WATSON (VOTING)
DAN WOODSON (VOTING)

PRINCIPAL STAFF

MICHAEL S. LEBRUN, GENERAL MANAGER
LISA BOGNUDA, ASST GM/FINANCE DIRECTOR

MEETING LOCATION - District Board Room
148 S. Wilson Street, Nipomo, California

1. **CALL TO ORDER, FLAG SALUTE AND ROLL CALL**

Chairman Nunley called the Special meeting of November 15, 2012, to order at 1:04 PM. and led the flag salute. At roll call, all Committee members were present except Member Woodson. Member Armstrong attended the meeting but sat in the audience. Chairman Nunley noted that Member Armstrong had stepped down from the Committee since he was no longer eligible due to his selection to serve on the District Board of Directors.

2. **GENERAL MANAGER'S REPORT**

General Manager Michael LeBrun provided an update to the Committee on items relevant to their work. In the District election on November 6, two new Directors were selected – Bob Blair and Craig Armstrong. They will take office on Friday, December 7th, and will be sworn into office on December 12th. Current Director Michael Winn had decided not to run and Director Eby was not reelected.

On November 14, the Board of Directors approved releasing the prequalification package for the horizontal directional drilling component of the Santa Maria Waterline Intertie Project. Initiating this process would not require the District to authorize a budget amendment since the engineering work is included in the existing design budget. The Board also approved a budget amendment of \$32,000 for right-of way-negotiation. Right-of-way acquisition is required prior to bidding the project. General Manager LeBrun noted that the project alignment had not changed, but additional right-of-way coordination and updated appraisals may be required because the last set of appraisals may not represent current market conditions.

He also provided an update of the District's conservation program to the Board on December 14th. He noted the District is in compliance with the Department of Water Resources' grant eligibility requirements (related to conservation) and also with the best management practices recommended by the California Urban Water Conservation Council.

General Manager LeBrun noted that both Director-Elects attended the Board meeting on December 14th. Director-Elect Blair stated that he and County Supervisor Texeira had been working on a solution to the Mesa's supplemental water needs and he hoped to bring information to the December 12th Board meeting. General Manager LeBrun has asked that he bring his information to the SWAEC.

Member Matsuyama asked if Supervisor Texeira had told the Board or District staff about his solution and the General Manager responded that he had not.

Member Garson asked how the District would fund the Santa Maria Waterline Intertie Project if the Board proceeds with construction in the spring of 2013. General Manager LeBrun responded that the District had estimated the Phase I project would be approximately \$13M, and he expected to have a \$3.5 M funding "gap" after including \$2.3 M in grant funding which is at risk if the District cannot move forward before the money is allocated by the County to another project. The funding source is Supplemental Water fees that had been charged for several years. The District would look to the other partners or possibly an interfund loan from designated reserves to make up the shortfall.

Member Garson asked if there would be a rate increase if the District proceeds with the project in the spring. The General Manager noted the District had not determined how to repay an interfund loan, if required, but a rate increase would be an option. He speculated that the Board may want to go out to bid to determine the "real" construction cost before deciding how to move forward with funding the project.

There was no public comment.

3. REVIEW DRAFT MINUTES FROM NOVEMBER 1, 2012, COMMITTEE MEETING

Chairman Nunley introduced the item. He noted that one revision had already been submitted:

P. 2, Paragraph 6 – Vice Chair Sevcik had stated the stories about an existing tee on the Central Coast Water Authority pipeline within the District service area were only rumors and it had been confirmed that there was no tee.

Member Graue requested a change:

P. 5, last paragraph – Note that Member Graue had estimated 1.6 square miles would be required for solar distillation of 2500 acre-feet per year (AFY) of seawater.

The Committee voted to revise the draft notes as requested.

4. DISCUSS CHANGES TO COMMITTEE MEMBERSHIP AS A RESULT OF THE NOVEMBER 6 ELECTION

Chairman Nunley presented this item.

Member Miller said he would like for the Committee to replace Member Armstrong, and noted that some prior applicants such as Sam Saltoun had been regularly attending Committee meetings.

Kathy Matsuyama noted that she was concerned that an even number of Committee members could create an issue since there would be no tiebreaker for future decisions or motions.

Member Graue asked if background information was available for past applicants. General Manager LeBrun said he could provide this information and that the selection committee had recommended alternate members. However, that list of alternate members was only intended for use in the initial selection process and was not intended to address replacement of outgoing members.

Member Garson asked if the Committee would need to delay work to select a replacement member. He expressed concerns that the selection process could delay the overall evaluation. Chairman Nunley responded that the Committee did not need to replace any outgoing members per the Bylaws, and that the priority is to proceed with the analysis as quickly as possible.

Member Matsuyama noted that Member Armstrong had contributed much to the subcommittee and would be missed. He would like the Committee to reach out to Margaret Lange and see if she is interested in being involved.

Member Watson asked if the Committee would be able to identify and select a candidate in time to propose them to the Board at their next meeting.

Chairman Nunley noted that having a tiebreaker may not be an issue since the Committee is not taking an action, and could note any unresolved issues among the Committee members when providing their final report to the Board.

Member Matsuyama said her major concern was having sufficient resources to complete the analysis, particularly if another member needed to vacate their seat before February. She would like to find a replacement as soon as possible. Member Miller agreed, and noted that his priorities would be finding someone who had been involved in the work to date and who had the right qualifications. He suggested the Committee set up a special meeting to identify a candidate prior to the next Board meeting on the 12th.

General Manager said the Board could ratify the Committee's recommendation for a new member at their meeting on December 12th, and that prospective member could get involved earlier with little risk that the Board would not ratify that recommendation. He noted that Chairman Nunley would be the tiebreaker per the Bylaws if a tie vote occurs.

Member Watson suggested that the Committee notify the Board that they would like to replace Member Armstrong and that District staff reach out to the public and past applicants to gauge interest. General Manager LeBrun said that staff could reach out to those past applicants, but going back through a larger outreach effort would take longer than a month. He noted there are no constraints on the Committee's replacement process – for example, the Committee could identify someone in the meeting audience today.

Member Miller recommended that staff reach out to past applicants and gauge interest, in addition to providing their application information to the Committee for consideration at their next meeting.

Member Woodson joined the Committee meeting during this item.

Public Comment:

George Dubois, Nipomo Resident, stated he was an applicant and was still interested in serving on the Committee.

Sam Saltoun, Nipomo Resident, stated he was an applicant and was still interested in serving on the Committee.

Member Matsuyama asked District staff to ask Margaret Lange if she was interested in serving since she had been regularly attending Committee meetings.

The Committee voted to direct District staff to provide information on the prior applicants to the Committee for consideration, review, and nomination at the next meeting. In addition, staff was directed to reach out and gauge interest among the past applicants.

5. DISCUSS SUBCOMMITTEE PROGRESS

Chairman Nunley introduced the item.

Conservation/Graywater – Member Matsuyama presented an update and slide presentation to the Committee. This presentation was not part of the Committee packet.

Member Watson noted that the Urban Water Management Plan had identified 10-year per capita usage of approximately 240 gpcd starting in '95/'96 down to 174 gpcd in 2010. He said the difference could be due to conservation as well as climate conditions. He asked if there was a 20% reduction goal from the state, and what opportunities there would be to realistically reduce the District's consumption below current levels.

Member Matsuyama noted there was a mandate from the state to reduce water usage by 20%.

Member Watson noted that irrigation of yards could account for 40-60% of water demands, and he thought that graywater could be essential to addressing that demand. Member Matsuyama said that harvesting rainwater could also help. She noted that Santa Barbara County is a leader in water conservation and graywater practices.

Member Woodson asked which conservation measures are mandated by code. Member Matsuyama noted that Regional Water Quality Control Board policy is motivating and/or requiring the County of SLO to look at more low-impact development and other practices to reduce runoff and conserve water. She noted it is against the law in some municipalities, and within the state, to waste water. Member Woodson said that low-flow toilets and fixtures had been mandated by agencies in San Luis Obispo County.

Member Matsuyama said she was working with Margaret Lange on recommendations.

Chairman Nunley noted that it would be interesting to see which conservation measures the District can require with their limited authority, versus which measures must be directed by the County as the lead planning agency. Member Matsuyama discussed various measures instituted by the City of Santa Barbara including producing public outreach and education materials.

Member Miller noted that it would be interesting to talk with the City of Santa Barbara's water conservation program manager to discuss their practices and policies. He also said that guidelines for conservation had been developed for Los Osos. Member Matsuyama discussed cost savings for various retrofit programs.

State Water – Member Armstrong presented the update. Chairman Nunley noted that SLO County Flood Control & Water Conservation District and Santa Barbara County Flood Control & Water Conservation District would need to transfer Table A water in order for

Nipomo CSD to purchase Table A water from current State Water customers in Santa Barbara County.

Member Watson asked for clarification regarding CCWA's lack of pipeline capacity to deliver San Luis Obispo County's full allocation of Table A water. Member Armstrong noted there was one section of pipe to Lopez Lake that delivers San Luis Obispo County water; and another section south of Lopez Lake that only delivers water to CCWA members. CCWA manages both sections. Chairman Nunley said that the section of pipeline south of Devil's Den, as well as Polonio Pass Water Treatment Plant, was only designed to deliver the quantity of water requested by the member agencies and a fraction of SLO County's full Table A water. CCWA performed an analysis to determine if there was pipeline capacity above the initial design flows, and CCWA members were determining who "owns" or "can use" that excess capacity. Negotiation is required with both CCWA and SLO County to acquire and deliver State Water.

Surface Water – Members Miller and Watson presented the update.

Member Garson asked for confirmation that none of the surface water sources described in the update would constitute "new water" and Member Miller agreed that was his understanding as well. Member Graue noted that if Oso Flaco originates from a spring it is considered groundwater. He and other members mentioned the water in Oso Flaco was contaminated.

Member Garson asked if water from Lopez Dam would be a physical solution or a legal solution. Member Watson noted it would be more of a legal solution. He discussed various options utilizing recycled water or Lopez water being considered in South County in order to address local groundwater issues and seawater intrusion, and how Nipomo CSD could benefit. Participating in raising Lopez Dam, for example, may provide "credit" for those participants in recharging the overall groundwater basin. Members Graue and Watson discussed how this might work, but Member Watson noted this would require coordination with Zone 3 of the SLO County Flood Control & Water Conservation District. Member Woodson asked if groundwater from the Five Cities area was flowing toward Nipomo. Member Graue said that it was. Member Watson noted that increasing yield of Lopez water to increase groundwater recharge could result in reducing the number of new pipelines to convey water around and to the Mesa, but requires more analysis.

Recycled Wastewater from Municipal Facilities – Members Miller and Watson presented the update.

Member Garson discussed benefits for importing recycled water from Five Cities and providing to Phillips 66 to offset their groundwater usage, and wondered if existing oil/gas pipelines could be utilized. Member Miller noted that several efforts had been conducted to convey water through petroleum pipelines but he had not seen any that were successful. He asked for clarification regarding delivered water costs in the recycled water studies conducted in Five Cities. Chairman Nunley cited costs of \$1800-2100/AF from the Santa Maria Waterline Intertie Project for 3000 AFY delivered water from the 2007 Constraints Analysis, for comparison to the numbers in the recycled water studies. Members Miller and Graue discussed use of reverse osmosis for removing salts from wastewater for reuse, and also discussed use of this technology for both industrial and wastewater applications in the Orcutt area. Member Garson mentioned a cost projection of \$5000/AF at Pebble Beach golf course to apply recycled water.

Chairman Nunley and Member Graue discussed the need for intake facilities, disposal systems, and permitting associated with use of seawater as a water supply as compared to use of desalination technologies to treat water from petroleum operations. The example of Cambria CSD's multi-decade process to develop desalination project was discussed by Member Miller and Chairman Nunley.

Member Watson discussed the advantages of a network of various water supplies (including recycled water and other supplies) that together could meet the future water needs on the Mesa. Various members discussed resource agencies' preferential treatment for projects that desalinate water for recycling versus projects that desalinate seawater.

Public Comment:

General Manager LeBrun stated that the District is only responsible for 25% of the water extracted from the Nipomo Mesa Management Area (NMMA). He noted that he would be interested in finding out about any conservation requirements applied to the other purveyors within the NMMA. He said that some are just starting to install water meters.

He discussed the District's turf replacement program which refunded \$500 per customer, and noted that the program had some complications and was discontinued. He said that graywater recovery required a level of operation and maintenance that would not be viable for some households. He questioned some of the definitions limiting graywater reuse that were presented in the update, which were different than he had seen before – for example, the statement that kitchen sink water was unacceptable for reuse. He noted that he reuses graywater at home, and it requires attention for proper operation that some customers cannot provide. In addition, sandy soils on the Mesa result in a high capture rate of rainwater and transfer back to the groundwater basin.

Member Matsuyama noted that using the same water twice is the benefit of graywater harvesting and reuse, and discussed how cultural change could occur to encourage users to participate in this program. General Manager LeBrun noted that he could not impose water conservation on individuals in the ways that cities and other planning agencies can do so.

He also said that in a discussion with the Cambria CSD General Manager and District Engineer, he was told that the first question from the Coastal Commission if a desalination project is proposed would be if the agency had pursued other alternatives first.

Director Jim Harrison asked the Committee to clarify the typical water usage from Phillips 66. He also asked about reuse of Southland WWTF effluent.

Member Miller responded that he thought it was approximately 1000 AFY. Member Matsuyama provided the correction that usage was 1200 AFY as stated by Jim Anderson. Chairman Nunley noted the discharge was approximately 360 AFY but P66 evaporates some of the water they withdraw prior to discharge.

General Manager LeBrun said that Southland WWTF was being upgraded and the water is already going to the groundwater basin. Member Miller said it would be more difficult for Nipomo CSD to highly treat their Southland WWTF effluent since they cannot dispose of brine as easily as South County Sanitation District or City of Pismo Beach. Member Watson said the District should take credit for future wastewater discharge in recharging the aquifer by comparing future discharges to current levels. Member Armstrong noted that more discharge would be associated with more groundwater pumping, so it would not qualify as a new source. General Manager LeBrun noted that new water must be imported to be able to

count the treatment plant discharge as additional water. Vice Chair Sevcik said the cost to upgrade Southland WWTF to full tertiary with disinfection would be approximately \$4-5M for 600 AFY, not including transmission costs or salt removal. The Chairman and Vice Chair discussed the water quality benefit of importing water from Santa Maria to reduce salt levels in wastewater treatment plant discharge.

There was no public comment.

Member Miller asked if a meeting had been set up with the County Public Works Director, Paavo Ogren. Chairman Nunley asked the members to provide questions for the meeting with the County by Wednesday, November 21st.

6. DISCUSS NEED FOR SPOKESPERSON TO PROVIDE UPDATE TO THE BOARD

Chairman Nunley presented the item. The Committee deferred this item to the next Committee meeting.

7. PRESENT REFERENCE DOCUMENTS FOR REVIEW AND ACCEPTANCE

Chairman Nunley presented the item.

The Committee voted to add the San Luis Obispo County Master Water Report (May 2012) and the San Luis Obispo County Conservation Manual to the list of approved reference documents.

8. DEVELOP RANKING CRITERIA

Chairman Nunley presented this item.

Members Woodson and Miller discussed adding a criterion for “probability of success” including public opposition, third party approval, or other issues outside the control of the District. Chairman Nunley noted that institutional constraints are addressed in the evaluation itself. Members Miller and Matsuyama discussed a “risk” criterion and Member Garson mentioned a possible “barriers to success” criterion. Member Miller suggested using the term “viability” and keeping the definition broad for now.

Chairman Nunley proposed drafting a list of criteria for consideration by the Committee at the next meeting.

Member Matsuyama and other members discussed adding energy usage or “environmental” as a ranking criteria. Member Miller recommended using the term “environmental” and defining it.

Member Graue recommended each member bring back a list of criteria and definitions to share with the Committee at the next meeting. Member Watson suggested developing and applying a multiplier to assist in the ranking process.

The Committee voted to direct all Committee members to develop a list of possible evaluation criteria and bring it to the next meeting for discussion.

9. SET NEXT COMMITTEE MEETING DATE AND TIME

The Committee voted to schedule the next meeting for December 7 at 1:00 PM.

There was no public comment.

10. ADJOURN

Chairman Nunley adjourned the meeting at 3:37 PM.

DRAFT

TO: EVALUATION COMMITTEE

FROM: MICHAEL K. NUNLEY, PE
CHAIRMAN *MKN*

DATE: December 4, 2012

AGENDA ITEM

#4

DECEMBER 7, 2012

DISCUSS NOMINATION OF COMMITTEE MEMBER

ITEM

Review options for nominating a new member to fill the open Committee seat. If desired by the Committee, nominate an individual and an alternative for consideration by the Board of Directors at their next meeting (December 12, 2012).

BACKGROUND

Section 5.h. of the Committee Bylaws states that, "The replacement for any seat vacated by resignation or dismissal may be nominated by the voting members of the Committee, and ratified by the Board; but the Committee shall continue its work whether or not this is done."

At the November 15, 2012, Committee meeting, the Committee directed staff to reach out to prior applicants and also to Margaret Lange, an interested party who had been regularly attending Committee meetings. The Committee is not bound to consider prior applicants and the Bylaws do not establish the Committee's selection process. Four prior applicants expressed interest in being considered for this position, as did Margaret Lange.

Background information is provided for the following individuals:

George DuBois
Margaret Lange
Vince McCarthy
Bill Petrick
Sam Saltoun

As the Committee members know, time is of the essence in conducting the analysis and schedule is very important to the Board. The Committee can vote and nominate a potential member and alternate at this meeting; or may elect to establish a selection process and convene a future meeting to select a nominee and an alternate. During the November 15 meeting, the Committee members discussed the advantages of selecting an individual who had been attending meetings regularly and could get up to speed quickly, but this was not established as a "selection criteria".

During the original voting and selection process by the Nominating Committee, a series of "straw votes" were required to develop consensus among the members. A similar process could be conducted at this meeting, if desired by the Committee, and could consist of the following steps.

- 1) Each Committee member to write their recommendation on a piece of paper with their own name and provide it to the Chair.
- 2) Chair to read each Committee member's name and their recommendation. Chair to provide summary of the number of votes received per individual.

- 3) Committee to make a motion to recommend nominating the individual with the most votes for membership and the individual with the second highest number of votes as the alternate.
- 4) If consensus cannot be reached in the first round, narrow the selection set to only those individuals who received a recommendation in the first round and conduct steps 1 and 2 again.

However, this is only a recommendation and the Committee members are welcome to establish their own process.

RECOMMENDATION

Nominate an individual and an alternate for consideration by the Board of Directors at their next meeting (December 12, 2012).

ATTACHMENT

Applications from DuBois, Lange, McCarthy, Petrick, and Saltoun

Supplemental Water Alternatives Evaluation Committee Member Application

(Approved by NCS D BOD, July 11, 2012)
(electronic (MS Word) version available)

Name Margaret Lange	
Contact	
e-mail NOT SHOWN Phone	
Desired Position (May Check More Than One)	
<input type="checkbox"/> Engineering/Water Resources Management <input type="checkbox"/> Finance <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Citizen-at-Large	
Qualifications (Fill in response in this column.)	
Education	
<ul style="list-style-type: none"> •College(s) •Degree(s), Year(s) •Major/minor/specialty 	Allan Hancock Community College A.A., 1978 Music
Additional training/certifications	Sawyer College of Business; Institute of Children's Literature; Courses from Cuesta College: Business Writing, Editing, Technical Writing, Spanish
Applicable Experience	
<ul style="list-style-type: none"> •Employment 	Administrative positions within engineering environments for 20+ years; previously employed with Lockheed, Mafi Trench, and Earth Systems. Currently self-employed providing technical writing, copywriting, editing, graphic arts and marketing services.
<ul style="list-style-type: none"> •Specific to potential alternatives 	Familiarity with geotechnical, geologic and hydrogeologic sciences through extensive work with geotechnical engineering firm.
<ul style="list-style-type: none"> •Alternatives analysis & evaluation 	Developed evaluation criteria and selected content based on such for a county-wide poetry reading series, student poetry publications, and annual county poetry festival.

<ul style="list-style-type: none"> •Advisory committee participation 	<p>Served as a founding member of poetry reading series, and as a member of the board of the county annual poetry festival. Coordinated activities with the SLO Arts council.</p>
<p>Familiarity with government policies, regulations, and approval processes</p>	<p>Some familiarity from producing Standard Forms 330 for architects and engineers for procurement of federal and state projects.</p>
<p>Additional Information (Attach additional materials as needed)</p>	<p>Nipomo resident for 12 years; life-long resident of the Central Coast. Knowledgeable of native plants and resource-conscious landscaping. Community service experience through the Arts Council, California Poets in the Schools, and California Rare Fruit Growers.</p>

Supplemental Water Alternatives Evaluation Committee

Member Application

(Approved by NCS D BOD, July 11, 2012)

(electronic (MS Word) version available)

Name Vincent McCarthy	
Contact e-mail Not Shown Phone	
Desired Position (May Check More Than One) <input checked="" type="checkbox"/> Engineering/Water Resources Management <input checked="" type="checkbox"/> Finance <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Citizen-at-Large	
Qualifications (Fill in response in this column.)	
Education • College(s) • Degree(s), Year(s) • Major/minor/specialty	Cogswell Polytechnical Cupertino, Calif. Electronic Engineering 30Yrs Business Administration 30Yrs
Additional training/certifications	
Applicable Experience • Employment • Specific to potential alternatives	U.S Air Force. Worked on missile assembly systems pressure, flow, and electronic systems.

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NIPOMO COMMUNITY
SERVICES DISTRICT

<ul style="list-style-type: none"> • Alternatives analysis & evaluation • Advisory committee participation 	<p>Worked on percision test equipment. Evaluating and writing procedures for pressure flow and electronic systems</p> <p>Member of the South Coast Advisory Council - 12 yrs.</p>
<p>Familiarity with government policies, regulations, and approval processes</p>	<p>Working with Advisory council exposed me to a great deal of SLO County rules and policies. Worked on joint sponsored projects to fine solutions to find water for Nipomo Community.</p>
<p>Additional Information (Attach additional materials as needed)</p>	<p>U.S Air Force contractor. Including repairing systems, engineering modifications, writing and evaluating new operating procedures.</p>

Supplemental Water Alternatives Evaluation Committee

Member Application

(Approved by NCSD BOD, July 11, 2012)
(electronic (MS Word) version available)

Name	Samuel Saltoun		
Contact	Not Shown		
	e-mail		
	Phone		
Desired Position (May Check More Than One)	<input checked="" type="checkbox"/> Engineering/Water Resources Management <input type="checkbox"/> Finance <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Citizen-at-Large		
	See Additional Information		
Qualifications	(Fill in response in this column.)		
Education •College(s) •Degree(s), Year(s) •Major/minor/specialty	1967	B.S. Civil Engineering, Clarkson College of Technology (later renamed Clarkson University)	
	1974	M.Eng. Civil Engineering and Construction Management, Rensselaer Polytechnic Institute	
	1998 – 2005	Graduate coursework under the GI Bill – University of California, San Diego, and George Mason University, Virginia	
Additional training/certifications	1982	Professional Engineer, State of New York, License Number: 59209	
	1974 – 1995	Warranted Contracting Officer – Department of Navy, Naval Facilities Engineering Command. Federal contracting authority for award of construction, architect-engineering (A-E) services, and Naval Construction Force procurements.	
Applicable Experience •Employment •Specific to potential alternatives	Employment:		
	1966 – 1995	U.S. Navy, Civil Engineer Corps. Retired rank: Captain (O-6.) Positions held include Commanding Officer, Officer in Charge of Construction, Public Works Officer, Program Director, Executive Officer, Department Head, Company Commander.	
	1996 – 2001	Private practice engineering and management consultant – California	
	1996 – 2001	Community action volunteer at local schools, in community organizations, and as a Home Owner's Association Board President, Eastlake Greens – California	
	2004 – 2008	Science Instructor, George Mason University, Lifelong Learning Institute - Virginia	

Samuel Saltoun (continued)

<p>•Alternatives analysis & evaluation</p> <p>•Advisory committee participation</p>	<p>Specific to Potential Alternatives:</p> <p>I directed public works operations, and supervised construction contract administration and oversight at Navy bases and major Naval industrial complexes world-wide. I also served with the Naval Construction Forces (Seabees), and commanded a Construction Battalion Center.</p> <p>My experience most applicable to supplemental water alternatives for Nipomo includes executive level responsibilities for:</p> <ul style="list-style-type: none"> • Management of multi-discipline engineering departments providing facilities planning and design services. This included preparation of technical studies, EIS submissions, drawings, specifications, and contract bidding documents either by in-house engineers, under supervised A-E contracts, or as a professional consultant. • Operation of potable water distribution systems supporting industrial and residential uses including reservoir and wellfield management, purification, desalination (cogeneration / MSF-vacuum distillation), pumping, tank storage, controls, metering, and compliance testing. • Construction, upgrade and maintenance of distribution piping systems including potable and non-potable water, steam, petroleum products, natural gas, and compressed air; collection systems for storm drainage, sanitary sewer, and wastewater treatment. <p>Alternatives analysis & evaluation / Advisory committee participation:</p> <p>Illustrative example: While stationed at Naval Air Warfare Center, China Lake, CA in the early 1980's, I was on the review team for development of the Coso Range geothermal field. Of the alternatives considered, construction of a geothermal steam power plant larger than that needed for Navy use could attract private investment. By creating a public-private partnership, a 270-MW facility was constructed, and is still in service.</p> <p>This endeavor had some parallels to a brackish water desalination alternative for Nipomo. In addition to the funding challenges, it involved processing a high mineral content water source, drilling extraction and reinjection wellfields, and permitting reviews by Federal and State agencies.</p>
<p>Familiarity with government policies, regulations, and approval processes</p>	<p>I have had long experience in working with complex government contracting and environmental regulations at Federal and State levels, which may translate well into California specific policies, regulations, and processes.</p>
<p>Additional Information (Attach additional materials as needed)</p>	<p>I have been a Nipomo Mesa Woodlands resident for about two years. I have studied our water issues and become well informed on the challenges we face. However, as a relatively new resident, my contribution may be greater as an engineer than as "Citizen-at Large". I am available to serve in either capacity.</p> <p>References provided separately.</p>

JUL 20 2012

NIPOMO COMMUNITY SERVICES DISTRICT

Supplemental Water Alternatives Evaluation Committee Member Application

(Approved by NCS D BOD, July 11, 2012)
(electronic (MS Word) version available)

Name	GEORGE DUBOIS
Contact	Not Shown
e-mail	
Phone	
Desired Position (May Check More Than One)	
<input checked="" type="checkbox"/> Engineering/Water Resources Management <input type="checkbox"/> Finance <input checked="" type="checkbox"/> Environmental <input checked="" type="checkbox"/> Citizen-at-Large	
Qualifications (Fill in response in this column.)	
Education	
• College(s)	M.I.T.
• Degree(s), Year(s)	1972 BS Chemistry
• Major/minor/specialty	Chemistry
Additional training/certifications	RI Boiler License expired MA WASTE WATER CLASS III
Applicable Experience	
• Employment	ENVIRONMENTAL CONSULTING WATER TREATMENT, INCOMING + WASTE
• Specific to potential alternatives	

<ul style="list-style-type: none"> • Alternatives analysis & evaluation • Advisory committee participation 	<p>VARIOUS WATER ANALYSES FTIR, GC, HPLC, IODOMETRIC ETC.</p> <p>NARRAGANSETT COUNCIL BSA, EXECUTIVE BOARD MEMBER ALUMNI FUND BOARD MEMBER (MIT)</p>
<p>Familiarity with government policies, regulations, and approval processes</p>	<p>TIER II, TRI-ME, AIR REPORTS, WASTE WATER COMPLIANCE TO POTW, ETC.</p>
<p>Additional Information (Attach additional materials as needed)</p>	<p>RESUME ATTACHED</p>

George E. Dubois

Not Shown

•QUALIFICATIONS

Chemist(various disciplines), Quick Basic, Lotus, Access ,Word , Excel, Powerpoint, Visual Basic, Open Office etc.
Excellent investigative, problem solving, instructive, negotiating and people skills.

•WORK

2002-PRESENT JED DELTA CORP., PRESIDENT

CONSULTING:

Antimicrobial work- preventing staining of quaternary cationic versions, stabilization of peroxide based systems
Troubleshooting and improving chemical production and syntheses in Shaoxing (Zhejiang Province, China)- effected production line resumption for dmbs synthesis.
Design, Installation and programming of controls for pressurized dye kettles/reactors for North Carolina and New Jersey facilities
Environmental Remediation Waste Water for Dye Houses in New England Region 1
Sulfide reduction, auxiliary chemical usage reduction
Design and construction of a 4 lb/day Ozone generator for ground perchloroethylene remediation in RI.
Ongoing research for human color deficiency remediation/improvement- calculation of lense requirements and proof of feasibility studies ongoing

2004 – JULY 2011 - EASTERN COLOR & CHEMICAL, TECHNICAL DIRECTOR, CHEMICAL DIVISION

Chemical formulations and developments for the textile, paper, metal, environmental industries. Esterifications mostly for the antistatic and lubricant fields. Further studies for potential replacements of fluorocarbons in water and oil repellancy and soil release applications.
Coatings, Adhesives, flame retardants, water repellents, soil releases, defoamers etc.
Extensive Trouble Shooting customer application issues and customizing for specific application requirements.

2004 – MAY 2011 UNIVERSITY OF RHODE ISLAND ADJUNCT PROFESSOR

Course TMD113 - Color Science – Lecture Series – How and why you see color and what we can do with that. (50+ students average)
Course TMD313 Textile testing – Lab course – performance testing for the Textile Industry to meet customer specifications etc (58-60 students average). AATCC and ASTM test methods.

1991-2002 SEVILLE DYEING CO., INC., TECHNICAL DIRECTOR,

Oversaw and developed new chemical and dye selection. Oversaw development and testing laboratories.
Problem Investigation and Solutions. Handled environmental issues internally and with regulating authorities. C.O.D. testing and managing for sewer discharge permit. V.O.C. management program for Air Consent agreement. Purchase of all chemicals and dyes, budget \$6m/year. Advised ownership on all strategic aspects.
Major participant in liquidation, cleanup, and environmental issues.

Started, developed and directed a chemical formulation division for internal consumption.
Savings of ~\$1.5m /year. Sewer loading brought down to 500nm COD from 1500nm

for savings of \$.5m/year.

Decreased reject rate from 8% to < 1% by computerizing the reactors using commonly available I/O boards in floor model PC computers. Programmed in Quick Basic to give non English fluent operators control of process without management losing absolute control. Capital savings of \$1.1m and operational savings of \$1.2m/year by taking reject rate of 8% to .63%.

Developed a method of dulling the surface of acetate fiber through an in bath process for aesthetic marketing advantage in women's gown trade. Processed ~ 40m yards in such manner.

Outsourced and assisted in developing an inventory control and ordering package.

Implemented environmental reporting for compliance with VOC regulations. Used same in negotiations with EPA Region 1 for Consent agreements. Water 8 and 9 calculations.

Developed daily usage reporting of dyes and chemicals included as a projected % of sales, crucial in rapid evaluation of profitability keeping Seville alive during very difficult times.

Designed and presented for approval by DEM a color removal system to allow issuance of permits. Initial results positive and acceptable to DEM. Negotiated with City officials for sewerage permitting. Negotiated with EPA for air permitting.

Minimized the discharge of Nitrogen from the primary process (D&D Black for acetate) allowing the continued use of the process giving superior wash fastness and cost savings of \$.08/yard at ~10m yards/year or \$.8m/ year. Competitors in this and other regions of the country were restricted from using this process by environmental restrictions.

1972 - 2005 **JED DELTA CORP., VICE PRESIDENT THEN PRESIDENT
SKEIN AND PACKAGE DYEING OPERATIONS 1972-1990:**

Responsible for production scheduling, purchasing, all technical specifications, sales and marketing for a 65 employee, \$2m/ year family owned dyeing operation.

RENTAL OPERATIONS 1990-2005:

Assisted in the orderly liquidation of machinery and settling of accounts.

Recruited and retained tenants and provided technical support to same.

Improved and maintained properties.

Oversaw and overseeing the environmental cleanup necessary (asbestos, lead paint, leaking underground oil (#6) storage tank. Implemented use of oil scavenging enzymes for final elimination of contamination.

Negotiated and maintained distribution account for Highpoint Chemical, division of KAO

Negotiated and executed sale of property to developer for 63 condominium units.

•EDUCATION

1972

B.S. CHEMISTRY, MASSACHUSETTS INSTITUTE OF TECHNOLOGY

Worked for John Edmond (respected early carbon cycle oceanography chemist warning of warmings in the 1970's.) Monitored, under his direction with our developed methods , boron concentrations in sea water samples from the Antarctic through the Marianas trench and northward.

CIBA - GEIGY

During my undergraduate years I worked during the summers at Ciba/Geigy on process improvement in the synthesis of Hygraton and Butazoladein. The first a diuretic and the second a pain killer for horses.

•INTERESTS & ACTIVITIES

- Gardening, canoeing, various technical projects, magazines and books
Color vision improvement research and development.

LECTURES & PRESENTATIONS:

- NE Regional Technical Conference, Chatham Bars, MA 1993: Computerized controls using readily available input output boards

- AATCC Conference (American Association of Textile Chemists and colorists), Myrtle Beach SC 1998: Processing of Acetate and Acetate Blends, a Mill Perspective
- University of Rhode Island
 - Course TMD113 Color Science Spring 2004 – present
 - Course TMD413 Dyeing and Finishing Fall 2004
 - Course TMD313 Textile Testing Spring 2006 - present

•AFFILIATIONS

- Chairperson NE Regional Technical Symposium (AATCC) 2001 Mystic Connecticut
- Moderator of Dyeing Session for the International Conference and Exhibition, AATCC, Greenville S.C. 2001, Judge Student Presentation 2006 Boston Massachusetts
- Chairman RI Section American Association of Textile Chemists and Colorists (AATCC) 1997-9, Vice Chairman 1995-97
- Technical Chairperson NE Regional Technical Symposium (AATCC) 1994 Samoset, Maine and 1995 Conway New Hampshire
- former Member Executive Board Narragansett Council, Boy Scouts of America
- Museum of Work and Culture, (Merci Box Car restoration project)- Restoration of the WWI and WWII French railcar filled with presents and given in gratitude in 1948 to each of the states by the French people for the war and post war relief efforts.
- MIT Educational Council member (1978-present)- recruit & interview applicants from 4 area towns for admissions
- MIT Alumni Class fund member- Sit on board annually to determine recipients of grant funds from class funds , usually ~ .5m/year.
- Member, Rotary Club of Nipomo, CA

•REFERENCES UPON REQUEST

RECEIVED

JUL 20 2012

NIPOMO COMMUNITY SERVICES DISTRICT

Supplemental Water Alternatives Evaluation Committee

Member Application

(Approved by NCSD BOD, July 11, 2012)
(electronic (MS Word) version available)

Name William Petrick P.E. <i>William Petrick 7/21/2012</i>	
Contact e-mail Not Shown Phone Not Shown	
Desired Position (May Check More Than One) <input checked="" type="checkbox"/> Engineering/Water Resources Management <input checked="" type="checkbox"/> Finance <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Citizen-at-Large	
Qualifications (Fill in response in this column.)	
Education • College(s) • Degree(s), Year(s) • Major/minor/specialty	MIT, Stanford, U of Santa Clara BS, MS, MBA Chemistry, Nuclear Engineering, Business
Additional training/certifications	Registered Profession Engineer (CA) (NU 1465) GRA Workshop on Water Modeling (Former) member of GRA and CWEMF
Applicable Experience • Employment • Specific to potential alternatives	31 years as business owner (Capri Technology Inc.) See DWR participation below.

<ul style="list-style-type: none"> • Alternatives analysis & evaluation • Advisory committee participation 	<p>Many years of alternatives analysis for computer systems and software</p> <p>Member of DWR SWAN Advisory Group Contributed to California Water Plan 2009</p>
<p>Familiarity with government policies, regulations, and approval processes</p>	<p>I have made many presentations to</p> <p>NCS County BOS Homeowners associations</p> <p>I know how the system works.</p>
<p>Additional Information (Attach additional materials as needed)</p>	<p>I have published the website, www.nipomowaterfacts.com, to provide information to the Mesa residents</p> <p>A more complete resume is online at www.capritechnology.com</p>

TO: EVALUATION COMMITTEE

FROM: MICHAEL K. NUNLEY, PE
CHAIRMAN *MKN*

DATE: December 4, 2012



DISCUSS SUBCOMMITTEE PROGRESS

ITEM

Subcommittees to present a progress report on development of their alternative evaluations.

BACKGROUND

The subcommittees provided updates to the Chairman on December 3, 2012, for discussion with the full Committee at this meeting. The Chairman collected the notes in one slide presentation to aid in this discussion.

Please note that the presentation format has been revised to more closely resemble the outline for the final evaluation approved by the Committee during the October 2, 2012, Committee meeting.

Each subcommittee will present updates to their prior work, in order to share information and receive feedback from the other Committee members and the public.

RECOMMENDATION

Review and discuss the updated progress report.

ATTACHMENT

Updated subcommittee progress report

Progress Report by Subcommittees

Supplemental Water Alternatives
Evaluation Committee

December 7, 2012



State Water Project

TBD

Dennis Graue

Kathie Matsuyama

2a - State Water Project Description

State Water Project (SWP) Options

- Acquire unused or excess Table A amounts
- Purchase Table A amounts from CCWA participants (i.e., Santa Maria)
 - County has unused Table A amounts. Sufficient Polonio Pass WTF and pipeline capacity would be available except in years when approximately 95% of Table A amounts (excluding drought buffers and turn back sales) is delivered (95% is based on Polonio Pass WTF capacity).
 - Per discussion with Bill Brennan of CCWA, a possible option would be to acquire excess pipeline capacity from CCWA and Table A amounts from SLOCFC& WCD. Mr. Brennan stated that there could be additional costs associated with buying some of the available capacity on the section of pipeline from Devils Den to Polonio Pass WTF.

2a - State Water Project Description (Cont'd)

- Directly participate in SWP/CCWA.
- Acquire “other” water through participants in SWP (Santa Maria pipeline)
- Reactivate 3,000 AF desal plant in Santa Barbara and exchange for SWP water

2a - State Water Project Description (Cont'd)

- Purchase Table A amounts from CCWA participants (i.e., Santa Maria)

County has unused Table A amounts. Sufficient Polonio Pass WTF and pipeline capacity would be available except in years when approximately 95% of Table A amounts (excluding drought buffers and turn back sales) is delivered (95% is based on Polonio Pass WTF capacity).

Per discussion with Bill Brennan of CCWA, a possible option would be to acquire excess pipeline capacity from CCWA and Table A amounts from SLOCFC& WCD. Mr. Brennan stated that there could be additional costs associated with buying some of the available capacity on the section of pipeline from Devils Den to Polonio Pass WTF.

2b – State Water Project Supply

- SLO County has 17,530 AF in excess Table A amounts (per Boyle Tech Memo #1, page 4-3). Table A amounts are the number of acre feet each entity has agreed to purchase and is the basis for allocating actual water deliveries.
- Pending Questions
 - Do any of the SLO agencies using SWP water have efforts in progress to acquire a larger share of SWP water delivered by SLOCFC& WCD?
 - Is SLOCFC& WCD open to NCSD (1) acquiring unused or excess Table A amounts, (2) purchasing Table A amounts from SWP participants, or (3) directly participating in SWP?

2c – State Water Project Quality

2d – State Water Project Reliability

- Long term SWP delivery reliability through 2029 is 61% of Table A amounts. You would need 5,000 AF in Table A amounts to get 3,000 AF and 10,300 AF in Table A amounts to get 6,200 AF.

2e – State Water Project Required Facilities

2f – State Water Project Constraints

- Institutional
 - Any option involving state water (except the Santa Maria pipeline) would be subject to approval by various local and state agencies.
 - Reactivating 3,000 AF desal plant in Santa Barbara and exchange for SWP is not an option.
 - Rebecca Bjork in Santa Barbara advised that the city considers the plant to be part of its drought buffer and therefore would not be interested in reactivating its desalination plant and entering into a water exchange agreement.

2f – State Water Project Constraints (Cont'd)

- Further, delivery of Santa Barbara water in SLO County would conflict with the requirement that state water cannot be delivered in a county different than which originally contracted for the water.
- Legal
 - Mr. Brennan stated that state water purchased by a contractor cannot be delivered outside of the boundary /service area of that contractor (e.g., water purchased by city of Santa Maria cannot be delivered directly to Nipomo via a turn-out from the SWP).

2f – State Water Project Constraints (Cont'd)

- Regulatory
- Capacity
 - Design capacity of Polonio Pass WTF is 43,900 AF. There is a possible 5,000 AF in excess capacity (per Boyle Tech Memo #1, page 4-9). Bill Brennan of CCWA confirmed excess capacity is available.
 - The SWP pipeline has 3,900 AF in unused capacity and up to 5,600 AF in excess capacity for a total of 9,500 AF (per Boyle Tech Memo #1, page 4-9). Bill Brennan of CCWA confirmed excess capacity is available.

2f – State Water Project Constraints (Cont'd)

- Available capacity would be higher in those years when SWP is delivering less than 100% of Table A amounts.

2g – State Water Project Implementation Schedule

- 1000 AFY delivery
- 3000 AFY delivery
- 6200 AFY delivery

2h – State Water Project Cost Range

- Capital Cost
- Operating or ongoing cost

Demand Management - Conservation/Graywater

Dan Garson

Dennis Graue

Kathie Matsuyama

3a – Demand Management

Description

- Current District conservation efforts/policies
 - Maintained compliance with CA Urban Water Conservation Council req'ts and Best Management Practice recommendations
 - Public outreach and education
 - Responded to 1,300 calls from customers with questions about saving water/money
 - Distributed “Water Ways” newsletter to all 3-6 grade teachers in area schools
 - Presented training to twelve classes, approximately 340 students
 - Participated with Countywide Partners for Water Conservation to implement County website to aid homeowners in plant selection and water conservation practices (www.slowaterlandscaping.com)

3a – Demand Management Description (Cont'd)

- Advertising
 - Maintained active reminders in billing, lobby area, and Adobe Press. Included seasonal reminders on irrigation practices and conservation-oriented bill inserts in two of six 2012 water bills
- Workshops
- Technical assistance (leak detection and water audits)
 - Each month, staff reviews water meter data and contacts owners if usage is abnormally high – 270 notifications this yr
 - 103 service calls to investigate leak reports/high water use as of October 16, 2012
- Conservation-based, four-tiered water rate structure
- Clothes washer rebates
 - 22 rebates issued through September 2012; 209 issued over life of program (>\$15k)

3a – Demand Management Description (Cont'd)

- 2013 Conservation Program Direction
 - Developing tracking system to capture customer-staff interactions related to water conservation
 - Improving ongoing leak detection and tracking/reporting efforts
 - Will review, improve, and more aggressively promote water audit (exterior and interior) program
 - Five-year formal review of District's Water Conservation Program will be undertaken by April 2013
 - Hiring Assistant Engineer to provide technical support for administering conservation program
 - Hiring Public Information Assistant to focus on conservation-related outreach
- Options considered/evaluated

CONSERVATION REBATES -- HOW THEY STACK UP

SANTA CRUZ

Toilets: \$150 for 1.28 gallon flush or dual flush, \$200 for commercial

Energy Star washing machine: \$100 for residential and \$400 for commercial

Turf replacement: 50 cents per square foot up to \$250 for single-family residential customers, \$1,000 for multifamily and commercial

Rain barrels: During the rainy season, the city offers 65-gallon rain barrels at a discount, which in the past has been about \$50 for a barrel that retails for \$149.

Pressurized water broom: \$50 for commercial

X-Ray film processor re-circulation system: \$2,000 for commercial

Cooling tower conductivity controller: \$900 or \$1,200 for commercial

SOQUEL CREEK

Toilets: \$150 for 1.28 gallon flush or dual flush

Energy Star washing machine: \$100 for residential, \$200 for commercial

Hot-water recirculation system: \$75

Graywater to landscape: \$75 per connection, up to three connections

Irrigation parts: \$5 per part, maximum of \$50 for residential and \$250 for large sites

Drip irrigation retrofit: \$20 per 100 square feet converted

Rain catchment system: \$25 for 40-200 gallons, max \$750 for 3,000 gallons

Weather-based irrigation controller: \$75-\$125

Turf replacement: \$1,000 max for single-family home, \$3,000 for nonsingle family; covers 50 percent of materials cost up to \$1 per square foot of turf removed.

SOURCE: City of Santa Cruz, Soquel Creek Water District

TOILETS AND WASHING MACHINES

The city of Santa Cruz has offered rebates for toilet retrofits since 1995 and washing machines since 2000, reporting at least 11,000 and 7,200, respectively. Soquel Creek Water District issued an estimated 3,700 toilet rebates from 1997-2011, 4,915 washing machine rebates from 1999-2011 and directly installed 3,452 toilets from 2003 until 2010 when it stopped that program.

SOURCE: City of Santa Cruz, Soquel Creek Water District

Santa Cruz Statements

Goddard, the conservation director, said the desalination plant's environmental impact report will provide details about how much conservation there might be left. As part of updating its 10-year conservation plan, the department also will hire a consultant to survey households to determine how much untapped savings remains.

But Ricker, the county's water resources director, cautioned conservation has a limit.

"There has been a lot of wishful thinking that we could solve more problems by doing more conservation," he said. "Realistically, that just isn't there."

"I don't think we are going to come up with alternatives that are going to be cheaper than desal," Jan Bentley, retired Santa Cruz superintendent of water production. "But to utilize all the alternatives takes a policy decision and a commitment to do that."

"Desal is still the most expensive source of water," said Tom Luster, the state Coastal Commission's pointman on desalination, adding that any municipality will need to demonstrate it has exhausted its options. "Why go there if you have these far less expensive sources that aren't going to cause coastal impacts?"

3b – Demand Management Goals

3c – Demand Management Institutional Requirements

3d – Demand Management Legal Requirements

3e – Demand Management Cost Range & Responsibility

Agricultural and Industrial Reuse

Dennis Graue

Kathie Matsuyama

4a – Agricultural and Industrial Reuse Description

- Options considered/evaluated

4b – Agricultural and Industrial Reuse Supply

4c – Agricultural and Industrial Reuse Quality

4d – Agricultural and Industrial Reuse Reliability

4e – Agricultural and Industrial Reuse Required Facilities

4f – Agricultural and Industrial Reuse Constraints

- Institutional
- Legal
- Regulatory
- Capacity

4g – Agricultural and Industrial Reuse Implementation Schedule

- 1000 AFY delivery
- 3000 AFY delivery
- 6200 AFY delivery

4h – Agricultural and Industrial Reuse Cost Range

- Capital cost
- Operating or ongoing cost

Santa Maria Waterline Intertie Project

Rob Miller

Dave Watson

Dan Woodson

5a – Santa Maria Waterline Intertie Project Description

- Options considered/evaluated
 - Full 3000 AFY delivery
 - Phased delivery

5b – Santa Maria Waterline Intertie Project Supply

- The City must maintain a blend of at least 50% State Water to meet water quality requirements at their wastewater treatment facility.
 - In order for the City to supply NCSD with 2,500-3,000 AFY, additional State Water Allocation must be acquired. It is estimated that this will take about 18 months for the City to complete.
 - The City can "bank" or carry over in one year up to 8,500 AF of unused water supplies, to improve reliability of City supplies and by extension, the Intertie water deliveries.

5c – Santa Maria Waterline Intertie Project Quality

5d – Santa Maria Waterline Intertie Project Reliability

5e – Santa Maria Waterline Intertie Project Required Facilities

5f – Santa Maria Waterline Intertie Project Constraints

- Institutional
- Legal
- Regulatory
- Capacity

5g – Santa Maria Waterline Intertie Project Implementation Schedule

- 1000 AFY delivery
- 3000 AFY delivery
- 6200 AFY delivery

5h – Santa Maria Waterline Intertie Project Cost Range

- Capital cost
- Operating or ongoing cost

Recycled Wastewater from Municipal Facilities

Rob Miller

Dave Watson

Dan Woodson

6a – Recycled Wastewater from Municipal Facilities

Description

- Options considered/evaluated
 - Recycled water delivered from SSLOCSD and/or Pismo Beach
 - Delivery/User options:
 - Groundwater recharge via percolation
 - Phillips 66 direct reuse.
 - Agricultural use
 - Golf course use
 - Additional applications to parks, landscaping and Caltrans Hwy 1 and 101 parkways
 - Groundwater recharge from Pismo or SSLOCSD along the coast would be beneficial in managing saltwater intrusion impacts.
 - Can Nipomo receive credit for groundwater recharge applications of recycled water in the Santa Maria or Northern Cities areas?

6b – Recycled Wastewater from Municipal Facilities Supply

- SSLOCSD has the potential for up to 2,250 AFY available
- Pismo has the potential for up to 1,450 AFY available.
 - Pismo has plans to reuse as much recycled water as possible, with the balance conveyed to the joint outfall with SSLOCSD for discharge to the ocean. Recycled water from Pismo can be made available at Oceano.

6c – Recycled Wastewater from Municipal Facilities

Quality

- Water quality is a constraint for both SSLOCS and Pismo Beach WWTF sources, due to high chloride and sodium levels, and therefore reverse osmosis treatment is likely.
- Groundwater recharge for purposes other than disposal may require advanced treatment including demineralization and advanced oxidation.
- Phillips 66 Refinery - Water quality would need to be the same as they have now. P66 treats the water for use in boilers, so it has to be of good quality, or additional treatment would be necessary.

6d – Recycled Wastewater from Municipal Facilities Reliability

6e – Recycled Wastewater from Municipal Facilities Required Facilities

6f – Recycled Wastewater from Municipal Facilities

Constraints

- Institutional
 - Groundwater recharge via percolation may be viable in the area of Mesa and Eucalyptus Roads, but the community opposition to this 24 acre site is expected to be substantial.
 - Golf course use is viable with demineralization, but the overall demand is limited (three courses)
 - Agricultural use is allowable, but based on local experience, may take years to develop willing users.
- Legal
- Regulatory
- Capacity

6g – Recycled Wastewater from Municipal Facilities

Implementation Schedule

- 1000 AFY delivery
- 3000 AFY delivery
- 6200 AFY delivery

6h – Recycled Wastewater from Municipal Facilities

Cost Range

Capital Cost and O&M

- SSLOCSD WWTF - The capital cost at the treatment plant, including demineralization, is on the order of \$15 to \$20M, not including any distribution piping. Costs per ac-ft are in the range of \$4,000 to \$6,000, depending on the final use. The costs are reported in 2008 dollars.
- Pismo Beach WWTF - The capital cost at the treatment plant for irrigation-ready applications is on the order of \$4M, not including any distribution piping. Costs per ac-ft are in the range of \$2,750 plus piping costs. The costs are reported in 2012 dollars.
- Additional input from the industrial group is needed on the Phillips 66 direct reuse option, which was estimated to cost \$4,000 per acre-ft in 2008.

Local Groundwater

Dan Garson

Dennis Graue

Kathie Matsuyama

7a – Local Groundwater Description

- This topic should allow us to conserve water and lessen tendencies for seawater encroachment, but it does not meet the criterion of adding to water supplies.
- Options considered/evaluated
 - Dana wells
 - Local shallow aquifer
 - Riverside wells

7b – Local Groundwater Supply

- Past groundwater studies have been piecemeal, although helpful
- A state-of-the-art modeling study of the entire aquifer must be carried out to determine the water supply under various scenarios that include
 - More wells
 - Various pumping rates
 - Various distributions of well locations
 - Various rainfall amounts
 - Injection near the sea-water interface
 - Increased or decreased water pumping by neighbors in the aquifer

7b – Local Groundwater Supply (2)

- A concerted effort must be funded and implemented to acquire any data that would be particularly valuable in the model study. Based on the answers of Dr. Newton to our questions, data are very sparse and may be inadequate to enable a model to tell us what we need to know.

7c – Local Groundwater Quality

7d – Local Groundwater Reliability

7e – Local Groundwater Required Facilities

- Based on the information the Woodlands has received from Cleath on shallow groundwater as a source, one would need numerous low volume wells rather than one or two large wells to avoid creating depressions (this may be fine for small producers and a valuable resource, but probably not worthy of NCSD - discussion).

7f – Local Groundwater Constraints

- Institutional
- Legal
 - Riverside wells may not be an available water source
 - Dana wells are not a new water supply
 - Local shallow groundwater is already included in the groundwater budget used in the stipulation
- Regulatory
- Capacity

7g – Local Groundwater Implementation Schedule

- 1000 AFY delivery
- 3000 AFY delivery
- 6200 AFY delivery

7h – Local Groundwater Cost Range

- Capital cost
- Operating or ongoing cost

Surface Water

Rob Miller

Dave Watson

Dan Woodson

8a – Surface Water Description

- Options considered/evaluated
 - Oso Flaco Lake
 - Santa Maria River
 - Lopez Reservoir

Surface waters presently released from Lopez Lake into Arroyo Grande creek could be partially offset by recycled water in the South County, thereby generating new water resources. At present, 4,200 AFY are released from Lopez Lake to meet contractual obligations of the Flood Control District.

8b – Surface Water Supply

- Study is underway for expansion of the capacity of Lopez reservoir. Potential ranges of yield could be _____ to _____ AFY. (range TBD)

8c – Surface Water Quality

- Oso Flaco Lake water quality – the source would likely require advanced treatment, such as reverse osmosis, which would give rise to the same brine management challenges as desalination. The brine waste stream may contain contaminants besides salts that could limit discharge options.

8d – Surface Water Reliability

- Santa Maria River - Flows that are in excess of environmental demands will be highly transient in nature (not yearly) and do not represent a viable surface water supply. In addition, the amount of storage necessary to impound the short term flows would be excessive.

8e – Surface Water Required Facilities

8f – Surface Water Constraints

- Institutional
- Legal
 - Existing water rights should be considered for any surface water supplies.
 - Santa Maria River - Surface water from normal Santa Maria River flows percolates into the basin and does not represent a supplemental supply.
 - Lopez Reservoir
 - Lopez supplies are not available to NCSD. Agreements for participation in either of these projects would need to be negotiated with the Flood Control District Zone 3 participants.
 - Additional Lopez reservoir supplies would need to be "wheeled" to NCSD via the SWP pipeline (to keep delivery infrastructure costs down), necessitating CCWA agreement to such a concept.

8f – Surface Water Constraints (Cont'd)

- Regulatory

- Santa Maria River - Surface water from high flow events will be subject to environmental demands, including steelhead/salmon recovery planning that is on-going. (<http://swr.nmfs.noaa.gov/recovery/>)
- Oso Flaco Lake
 - If reverse osmosis is required, the brine waste stream may contain contaminants besides salts that could limit discharge options.
 - Snowy Plover habitat and Coast Commission jurisdiction would be barriers to viability.
- Lopez Reservoir - Completion of the County's HCP for the Lopez-Arroyo Grande Creek and Oceano Flooding projects is needed before determining quality parameters and what potential yield from substituting recycled water for downstream releases is possible.

8f – Surface Water Constraints (Cont'd)

- Capacity

8g – Surface Water Implementation Schedule

- 1000 AFY delivery
- 3000 AFY delivery
- 6200 AFY delivery

8h – Surface Water Cost Range

- Capital cost
- Operating or ongoing cost

Seawater

Dennis Graue

Kathie Matsuyama

Major Considerations

- Nipomo's proximity to seawater and brackish water
- Insolation of south SLO County
- Size of Santa Maria Basin aquifer
- Rainfall volumes in the future
- Price of purchased energy in the future
- Availability of land for processes requiring a lot of it, like solar distillation

Other Considerations

- Future rainfall volumes influence the availability of water from the aquifer and from the California Water Project
- Operating costs of membrane separation methods and most distillation methods are very sensitive to energy costs
- Amount of crude oil produced nearby as an energy source

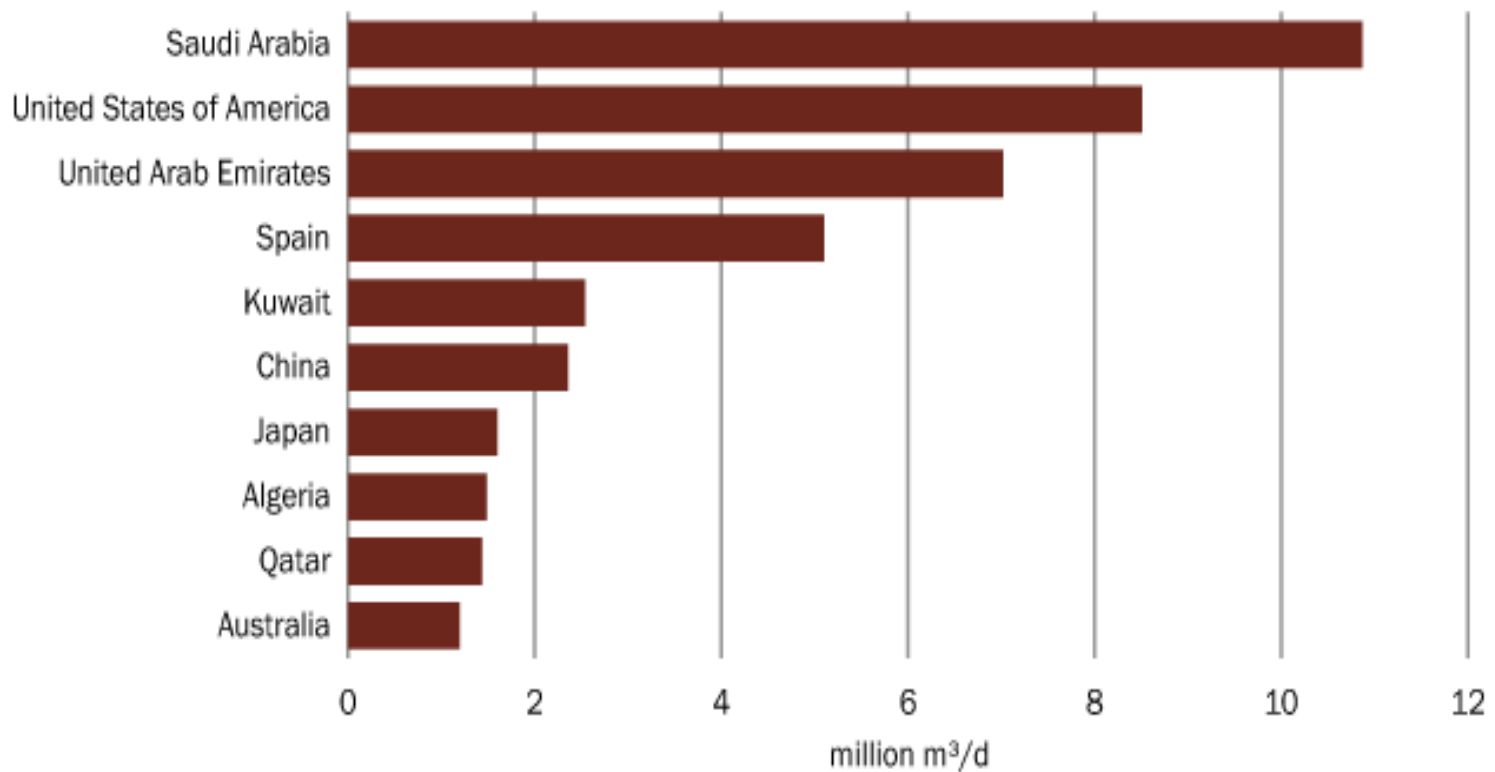
From Wikipedia

Water Desalination Methods: DESWARE.net Encyclopedia of Desalination and Water Resources

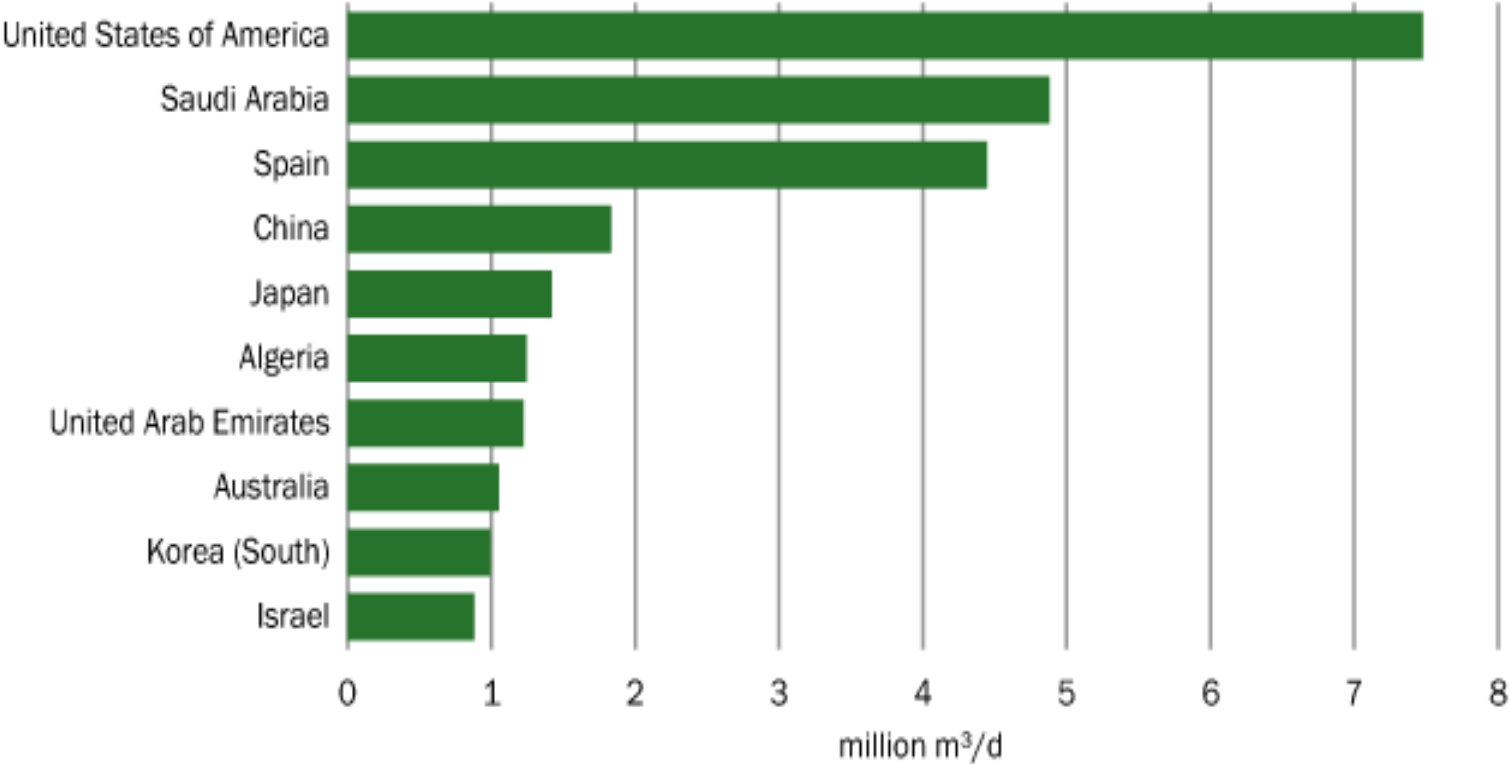
Methods

- Distillation
 - [Multi-stage flash distillation](#) (MSF)
 - **Multiple-effect distillation** (MED|ME)
 - [Vapor-compression](#) (VC)
- [Ion exchange](#)
- [Membrane processes](#)
 - [Electrodialysis reversal](#) (EDR)
 - [Reverse osmosis](#) (RO)
 - [Nanofiltration](#) (NF)
 - [Membrane distillation](#) (MD)
- [Freezing desalination](#)
- [Geothermal desalination](#)
- [Solar desalination](#)
 - [Solar humidification](#)-Dehumidification (HDH)
 - [Multiple-effect humidification](#) (MEH)
- [Methane hydrate](#) crystallization
- High grade [water recycling](#)
- [Seawater greenhouse](#) Copy of document found at www.NoNewWipTax.com
Possibly liquid-liquid extraction

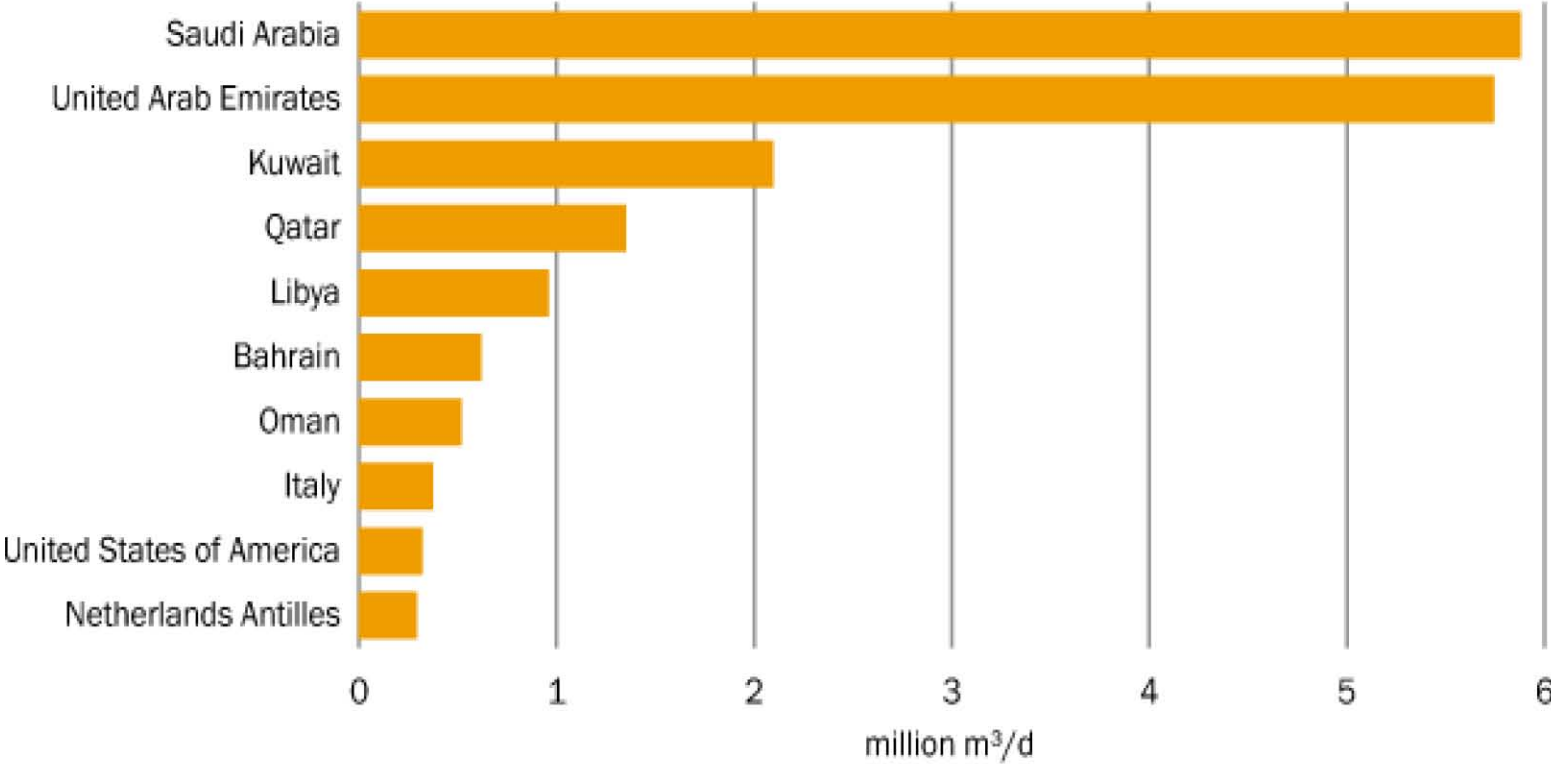
Top 10 countries by total installed capacity since 1945 - DesalData.com



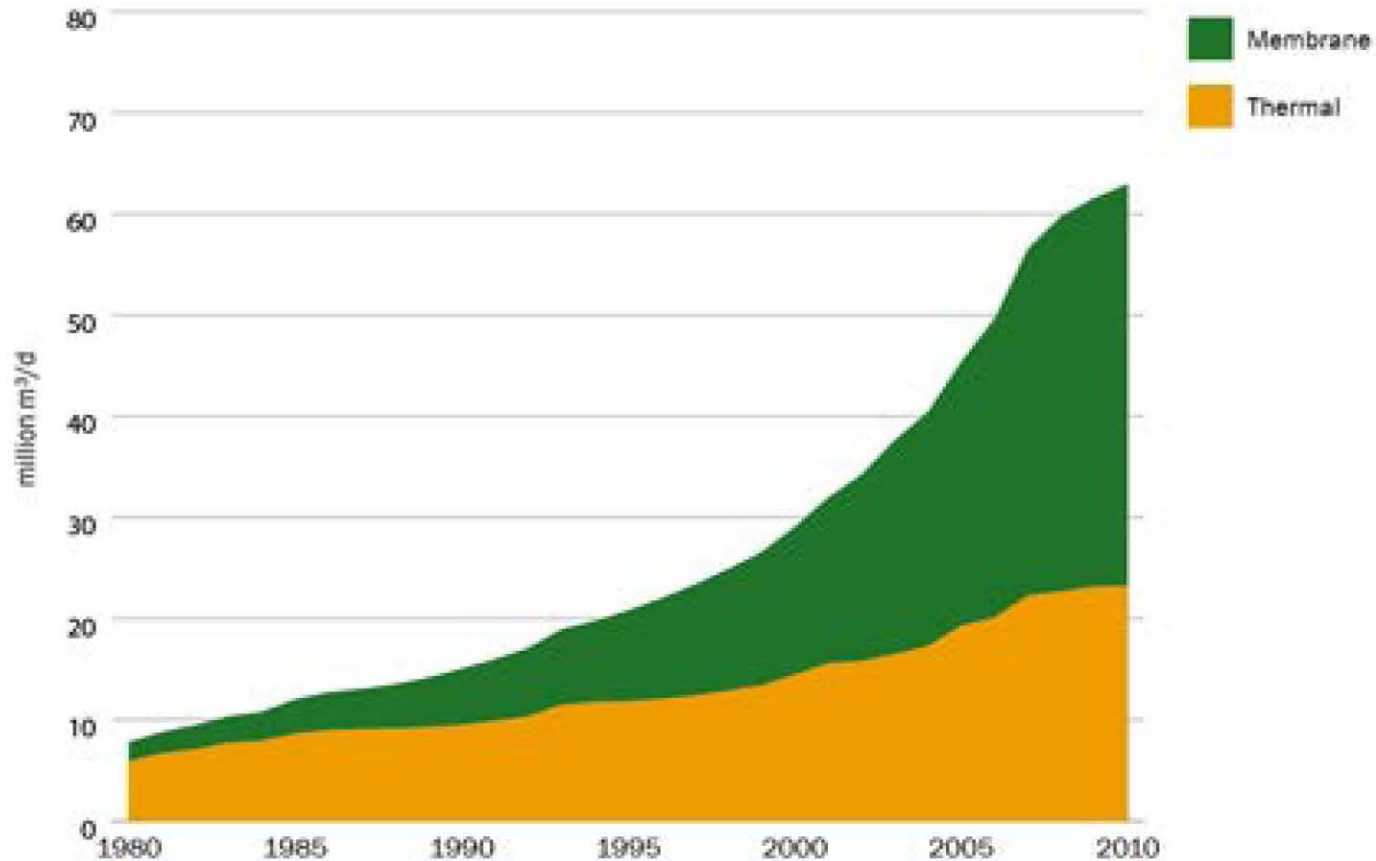
The US has led the membrane market, while Saudia Arabia and the United Arab Emirates have led the thermal market



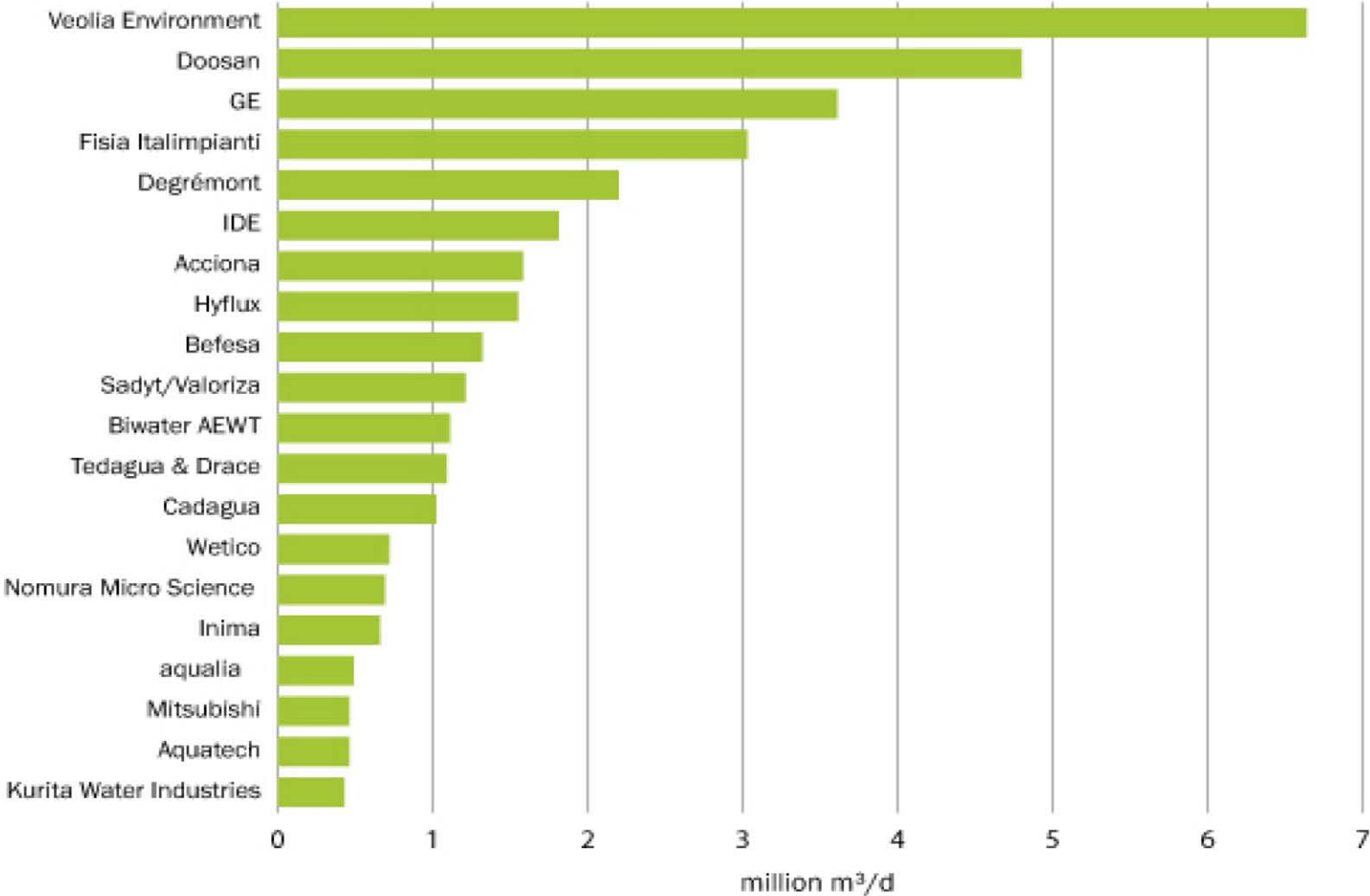
Top 10 countries by total installed thermal capacity since 1945 - DesalData.com



Installed membrane and thermal capacity, 1980-2010 (cumulative) - DesalData.com

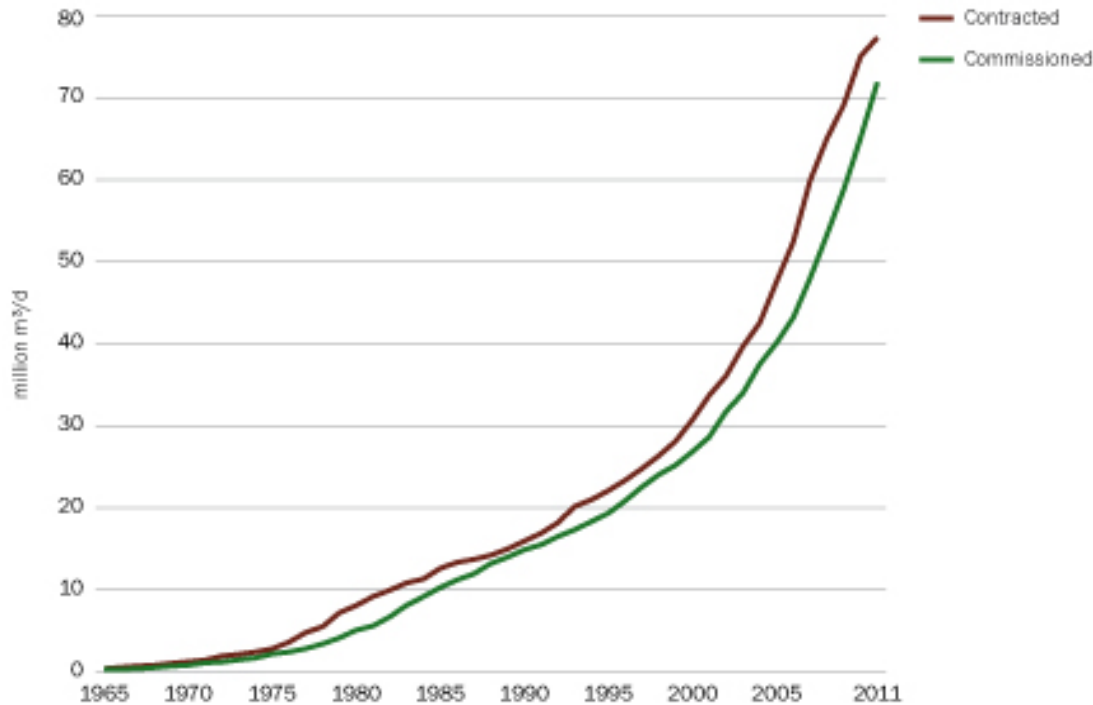


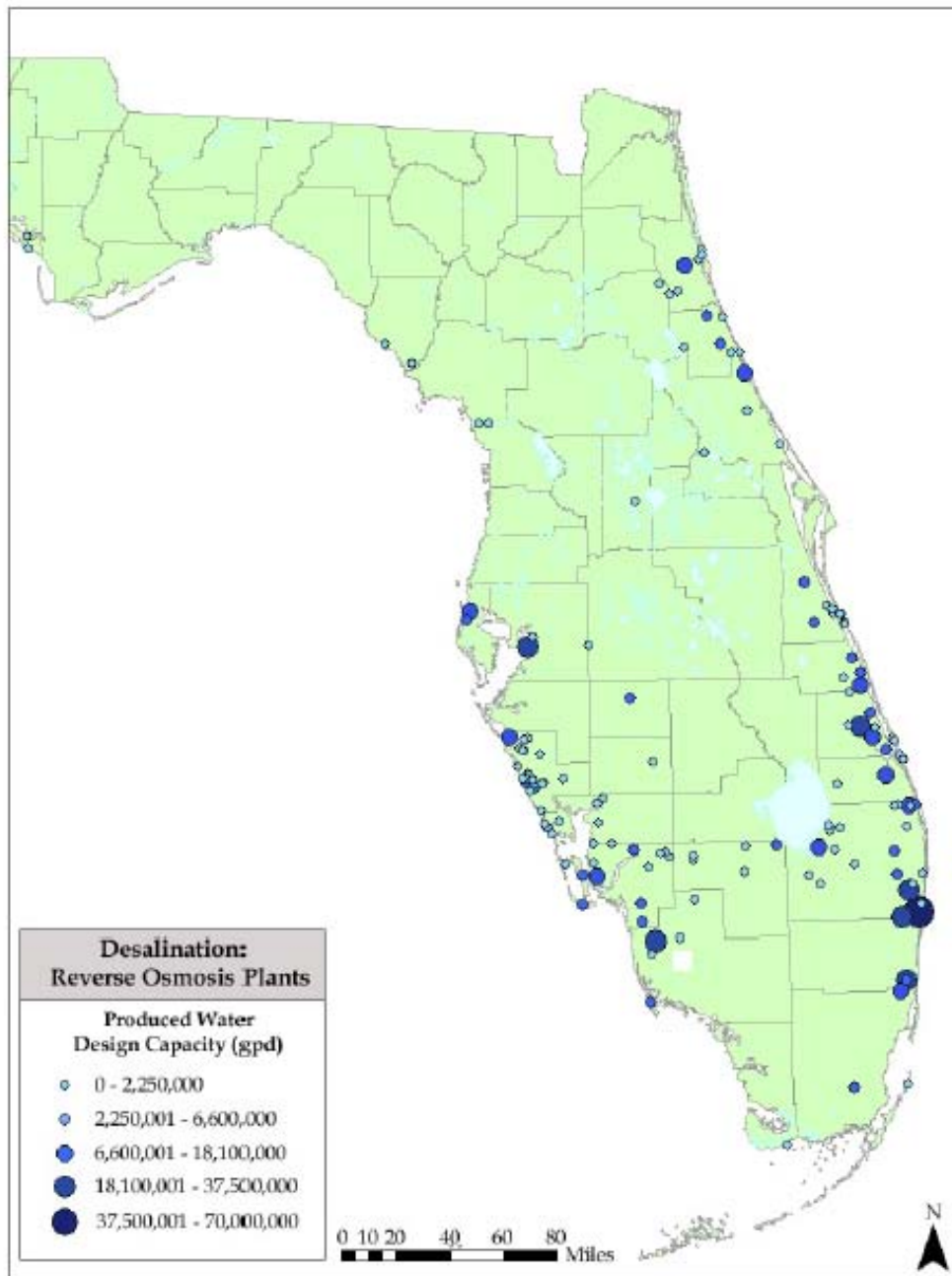
Desalination plants as created by engineering, procurement and construction (EPC) contractors.



Background on Reverse Osmosis

- To date over 16,000 reverse osmosis plants have been built in the world, capable of producing more than 17 million AFY of fresh water – DesalData.com





Copy of document found at www.NoNewWipTax.com
Figure 1-4. Desalination Facilities in Florida (FDEP, 2009)

Possible Ways to Implement Desalination in Nipomo

1. Thermal using waste heat from Phillips 66 refinery – a possible 900 AFY – probably too costly and too complicated to integrate with the refinery
2. A reverse osmosis process may desalinate the effluent brine from the refinery – a possible 300 AFY
3. Other thermal applications using 1- solar distillation or 2- purchased energy (gas) to generate the heat
4. Larger scale conventional Reverse Osmosis, like Santa Barbara
5. Enhanced Reverse Osmosis using VSEP technology – a possible 170 AFY from 6 idle units in Orcutt Oil Field
6. A newer technology: liquid-liquid extraction of water from brine is unproven at industrial scale
7. DJG discussion with a Pacific Coast Energy representative suggested the possibility of purchasing 6 slightly used VSEP RO units for a possible gain of 170 AFY at lower cost

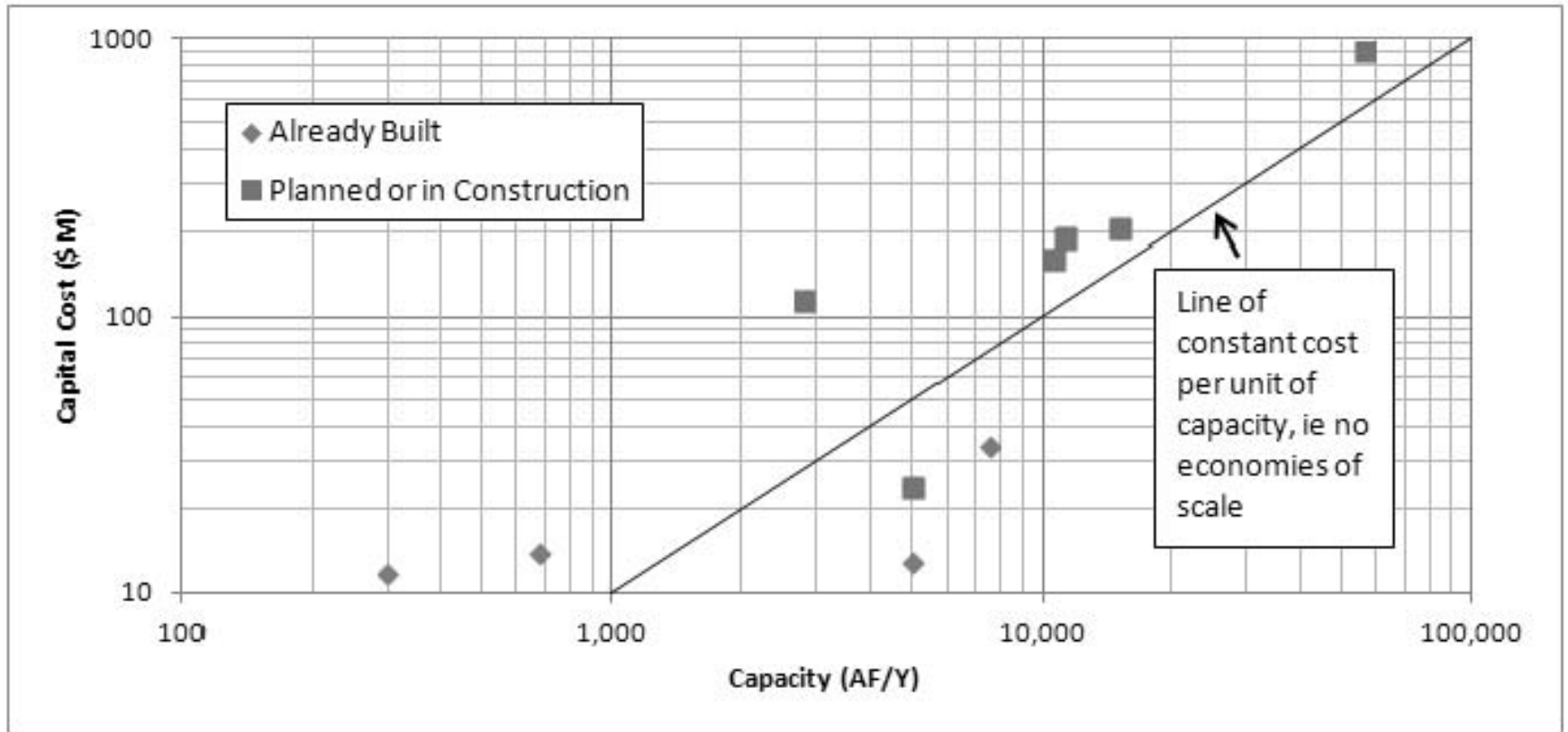
Needed for Evaluation

1. Discussion with experts (such as Veolia) to narrow the evaluation of thermal and membrane methods and solar distillation
2. Discussion with Poseidon, Chula Vista and Monterey representatives and with experts to narrow the evaluation of membrane methods, especially RO and Membrane Distillation

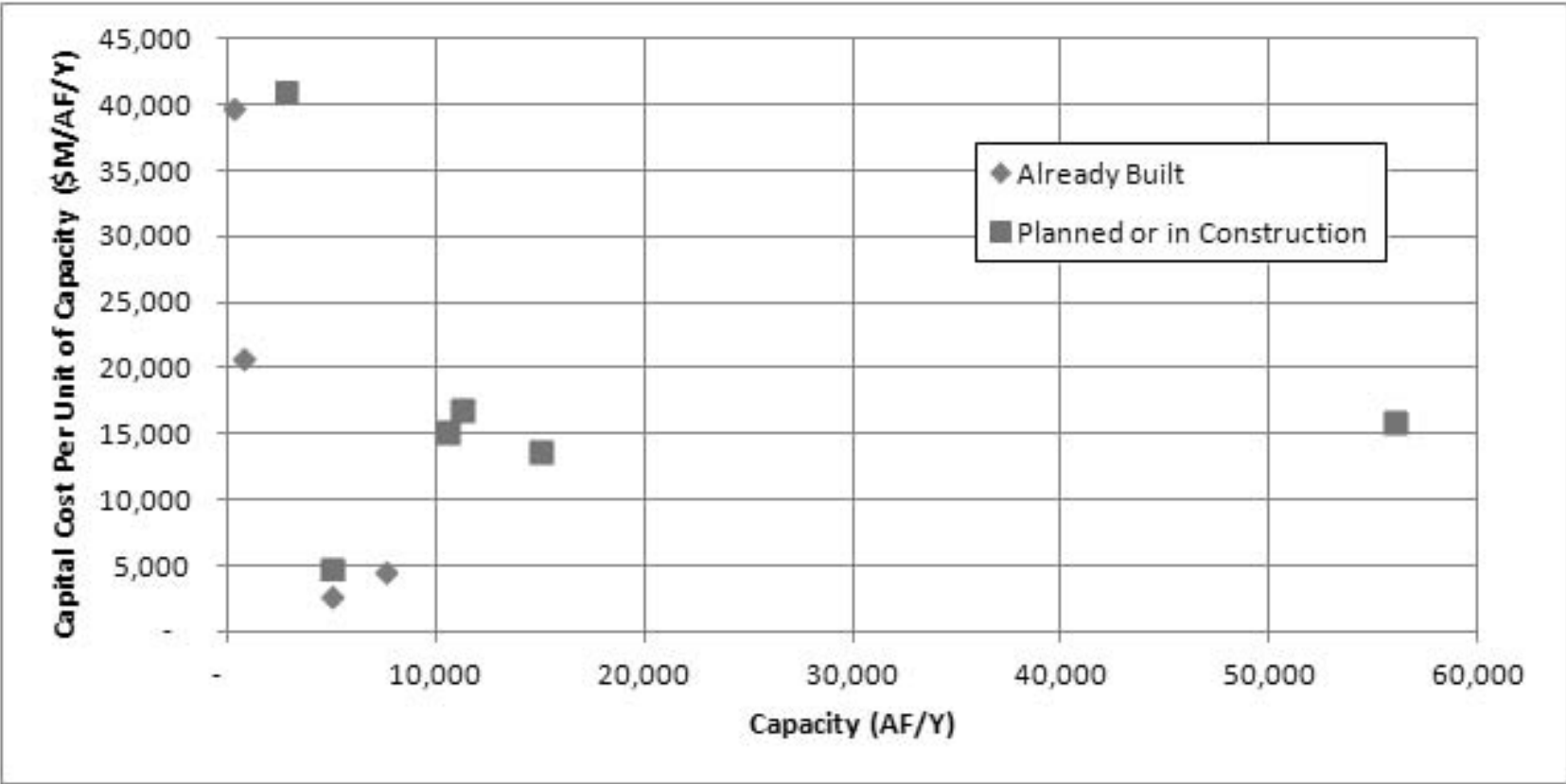
Capital & Operating Costs

Reverse Osmosis		AFY	Mgpd	\$M	\$/AFY	\$/AF	US\$/M ³	Comment
Santa Barbara, CA	1991	7,500	6.7	34	4,533	1,918	1.55	
Chula Vista Sweetwater I, CA	1999	5,000	4.5	13	2,600	700	0.57	
Monterey - Marina	2006	673	0.6	14	20,815			
Sand City, CA	2010	300	0.3	12	39,667			
Carlsbad - Poseidon	2012	56,048	50.0	900	16,058	2,290	1.86	
Chula Vista Sweetwater II, CA	2013	5,000	4.5	24	4,800			
Santa Cruz Soquel Creek	2016	2,802	2.5	115	41,036	3,300	2.68	
Monterey - North Marina	2017	15,000	13.4	207	13,800	3,250	2.63	est by Separation Processes Inc
Monterey Regional Deep Water Project	2018	10,500	9.4	160	15,238	3,120	2.53	est by Separation Processes Inc
Monterey Moss Landing Peoples, CA	2019	11,210	10.0	190	16,950	2,980	2.42	est by Separation Processes Inc

Capital Costs in US RO Plants



Economy of Scale



Conclusions

- Based on information reported in October and November by Chula Vista and Monterey projects based on RO, the capital costs could vary from \$5,000/AFY to \$25,000/AFY
- From the above sources RO process operating costs could be ~\$3,000/AF
- RO desal permitting is a long and difficult process requiring demonstrating to the Coastal Zone Commission that all alternatives had been evaluated and desalination was the best process
- Solar distillation is worth evaluating further

Persons Interviewed

- Mr. Dick Hart, Pacific Coast Energy Company
- Mr. Pete Corboy, New Logic
- Mr. Clay Bradfield, Cannon Engineering
- Mr. James Anderson, Phillips 66 Refinery
- VSEP RO devices they have as surplus
- Capacity and operating characteristics of VSEPs
- Learned that Cannon has no experience with solar distillation
- Phillips is interested in cooperating with NCSD

TO: EVALUATION COMMITTEE

FROM: MICHAEL K. NUNLEY, PE
CHAIRMAN

DATE: December 4 , 2012

AGENDA ITEM

#6

DECEMBER 7, 2012

DEVELOP RANKING CRITERIA

ITEM

Committee will begin developing criteria for use in ranking the supplemental water alternatives.

BACKGROUND

The Bylaws established the Committee and tasked it with evaluating and ranking supplemental water alternatives. At the September 24 meeting, the Committee established an evaluation process that included detailed evaluation of alternatives by subcommittees; development of ranking criteria by the full Committee; and ranking of alternatives by the full Committees after the subcommittees complete their studies.

Some ranking criteria that have been discussed at prior meetings and have been addressed by the District in the past are listed below:

- Schedule – Critical milestones are 1000 AFY delivery by June 2015 and 3000 AFY delivery as soon as possible. Regulatory, legal, and institutional constraints would affect schedule.
- Reliability – Ability to deliver 3000 AFY water consistently around the year and into the future. Also could consider likelihood of contamination or damage during a seismic event, among other aspects of reliability.
- Optional Phasing – Project investment could be lower initially to deliver a smaller quantity of water, but could be phased to 3000 AFY and ultimately to 6200 AFY.
- Lifecycle Cost and/or Capital Cost
- Water Quality – Since all supplies must meet state and federal drinking water standards, other quality issues to be considered could include dissolved solids (salts) and constituents such as chlorine and sodium, which impact wastewater discharge and reuse options.
- Feasibility – Various outside factors (including permitting requirements or public perception) could make projects less feasible due to cost or schedule issues.
- Power Usage – Different projects will have different energy requirements and will have a different carbon “footprint”.

In addition to selecting the ranking criteria, some questions that must be addressed include:

- Will the Committee decide to rank each alternative according to each criterion, or assign points with a weighting factor for some criteria that outweigh others?
- Should alternatives be paired or grouped together to meet the delivery goals established in the Bylaws? If so, would these be ranked separately or as an “alternative”?

At the November 15 meeting, the Committee voted to direct each member to develop a list of ranking criteria for discussion and consideration at this meeting.

RECOMMENDATION

Discuss each Committee member's list of ranking criteria. Establish a list of ranking criteria for consideration by the full Committee and perform further refinement as the subcommittee members complete their evaluations.

ATTACHMENT

NONE

TO: EVALUATION COMMITTEE

FROM: MICHAEL K. NUNLEY, PE
CHAIRMAN

DATE: December 4, 2012

AGENDA ITEM

#7

DECEMBER 7, 2012

DISCUSS NEED FOR SPOKESPERSON TO PROVIDE UPDATE TO THE BOARD

ITEM

If determined appropriate by the Committee, identify and select a member of the Committee to serve as a spokesperson for the Committee at an upcoming Board meeting.

BACKGROUND

Paragraph 7A of the Bylaws requires that "The Committee will provide written reports and oral presentations to the NCSD Board of Directors". The Chairman's and Vice Chair's responsibilities do not include regular reporting and correspondence with the Board. The Committee can select a Spokesperson from among the voting members to represent them before the Board. The Spokesperson's responsibilities may include:

- Providing updates to the Board of Directors at major milestones in the evaluation process; and
- Leading the presentation of the findings of the Committee.

At the September 24, 2012, Committee meeting, the Committee decided to select a spokesperson on an "as-needed" basis, depending on whether an update should be provided to the Board at an upcoming meeting. A different Spokesperson could be selected for each update or presentation, if desired. This discussion and selection will be a standing item at each Committee meeting.

If the Committee recommends a nominee to fill the open seat, it would be appropriate to present this change to the Board since the Bylaws require that the Board ratify the selection of new members.

RECOMMENDATION

Discuss whether an update should be provided by the Committee to the Board. Nominate a voting member of the Committee to serve as Spokesperson, if desired by the Committee.

ATTACHMENT

NONE

TO: EVALUATION COMMITTEE

FROM: MICHAEL K. NUNLEY, PE
CHAIRMAN

MKN

DATE: December 4, 2012

AGENDA ITEM

#8

DECEMBER 7 2012

PRESENT REFERENCE DOCUMENTS FOR REVIEW AND ACCEPTANCE

ITEM

Identify and propose reference documents to be used by Committee members in the evaluation.

BACKGROUND

The Bylaws list the following "primary" reference documents to be used in the Committee evaluation:

- 2010 Santa Maria Urban Water Management Plan
- 2010 NCSD Urban Water Management Plan
- 2010 CCWA Urban Water Management Plan
- 2007 Boyle Alternatives Analysis
- 2011 NMMA TG Annual Report
- 2009 NCSD Supplemental Water Project EIR
- 2005 Stipulation
- 2008 Court Order

The Bylaws also state that, "Other published technical analyses may be used if the SWAEC finds them to be rigorously accurate." The list was amended at prior Committee meetings to include the following documents:

- 2011 Northern Cities Management Area Monitoring Report
- 2011 Santa Maria Valley Management Area Monitoring Report
- Final Supplemental Water Project Phasing Study (August 8, 2012)
- Nipomo CSD Water Conservation Program (February, 2008)
- City of Arroyo Grande Recycled Water Distribution System Conceptual Plan – City of Pismo Beach WWTP (Wallace Group - June, 2010)
- City of Arroyo Grande Recycled Water Distribution System Conceptual Plan – South SLO County Sanitation District WWTP (Wallace Group - June, 2010)
- South SLO County Sanitation District Water Recycling Update Report (Wallace Group - January, 2009)
- Sweetwater Authority Groundwater Desalination Facility Brochures (provided by Director Eby at November 1, 2012, Committee Meeting)
- San Luis Obispo County Master Water Plan – May 2012
- San Luis Obispo County Conservation Manual

As discussed in our September 5, 2012, meeting, Committee members are encouraged to bring documents to Committee meetings for their consideration as additional reference documents. The Committee would need to determine that the documents are "rigorously accurate" as required in the Bylaws.

It is assumed this will be a standing item for each Committee meeting.

RECOMMENDATION

Identify, discuss, and vote on documents presented by Committee members for use as reference materials in the Committee's evaluation.

ATTACHMENT

NONE

TO: EVALUATION COMMITTEE

FROM: MICHAEL K. NUNLEY
CHAIRMAN



DATE: December 4, 2012

AGENDA ITEM

#9

DECEMBER 7, 2012

SET NEXT COMMITTEE MEETING DATE AND TIME

ITEM

Committee members to set the next meeting date and time.

BACKGROUND

As directed by the Board, the Committee is directed to meet as needed to perform the Supplemental Water Alternatives Evaluation in an efficient and thorough manner.

The next Nipomo Mesa Management Area Technical Group meeting is on December 19, 2012, at 10 AM. Dr. Brad Newton will be attending. Since the Committee had invited Dr. Newton to present at one of the SWAEC meetings, it might be appropriate to schedule a meeting for that afternoon since he will be in the area.

RECOMMENDATION

Recommend that the Committee members schedule the next meeting on December 19, 2012, if possible.

ATTACHMENT

NONE