

**AGENDA**  
**SAN ELIJO JOINT POWERS AUTHORITY**  
**MONDAY JANUARY 10, 2011 AT 9:00 AM**  
**SAN ELIJO WATER RECLAMATION FACILITY – CONFERENCE ROOM**  
**2695 MANCHESTER AVENUE**  
**CARDIFF BY THE SEA, CALIFORNIA**

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1. CALL TO ORDER
2. ROLL CALL
3. PLEDGE OF ALLEGIANCE
4. ORAL COMMUNICATIONS (NON-ACTION ITEM)
5. PRESENTATION OF AWARDS  
  
None
6. \* **CONSENT CALENDAR**
7. \* APPROVAL OF MINUTES FOR THE DECEMBER 13, 2010 MEETING
8. \* APPROVAL FOR PAYMENT OF WARRANTS AND MONTHLY INVESTMENT REPORTS
9. \* SAN ELIJO WATER RECLAMATION FACILITY TREATED EFFLUENT FLOWS – MONTHLY REPORT
10. \* SAN ELIJO JOINT POWERS AUTHORITY RECYCLED WATER PROGRAM – MONTHLY REPORT
11. \* ITEMS REMOVED FROM CONSENT CALENDAR

*Items on the Consent Calendar are routine matters and there will be no discussion unless an item is removed from the Consent Calendar. Items removed by a "Request to Speak" form from the public will be handled immediately following adoption of the Consent Calendar. Items removed by a Board Member will be handled as directed by the Board.*

**REGULAR AGENDA**

12. ELECTION OF OFFICERS AND SCHEDULE OF BOARD MEETINGS

It is recommended that the Board of Directors:

1. Discuss and take action as appropriate.

Staff Reference: General Manager Michael Thornton

13. DISCUSSION ON FUNDING OTHER POST EMPLOYMENT BENEFITS

It is recommended that the Board of Directors:

1. Return this item for discussion after the June 30, 2011 actuarial is performed; and
2. Discuss and take action as appropriate.

Staff Reference: Director of Finance/Administration Greg Lewis

14. RECOMMENDATION FOR MICROFILTRATION MEMBRANE SYSTEM – RECYCLED WATER DEMINERALIZATION PROJECT

It is recommended that the Board of Directors:

1. Award Microfiltration Membrane Selection for the San Elijo Water Reclamation Demineralization Project to Pall Corporation; and
2. Discuss and take action as appropriate.

Staff Reference: General Manager Michael Thornton

15. GENERAL MANAGER'S REPORT

Informational report by the General Manager on items not requiring Board action.

16. GENERAL COUNSEL'S REPORT

Informational report by the General Counsel on items not requiring Board action.

17. BOARD MEMBER COMMENTS

This item is placed on the agenda to allow individual Board Members to briefly convey information to the Board or public, or to request staff to place a matter on a future agenda and/or report back on any matter. There is no discussion or action taken on comments by Board Members.

18. CLOSED SESSION

None

A closed session may be held at any time during this meeting of the San Elijo Joint Powers Authority for the purposes of discussing potential or pending litigation or other appropriate matters pursuant to the "Ralph M. Brown Act".

19. ADJOURNMENT

The next regularly scheduled San Elijo Joint Powers Authority Board Meeting will be February 14, 2011 at 9:00 a.m.

NOTICE:

The San Elijo Joint Powers Authority's open and public meetings meet the protections and prohibitions contained in Section 202 of the Americans With Disabilities Act of 1990 (42 U.S.C Section 12132), and the federal rules and regulations adopted in implementation thereof. Any person with a disability who requires a modification or accommodation, including auxiliary aids or services, in order to participate in a public meeting of the SEJPA Board of Directors may request such modification or accommodation from Michael T. Thornton, General Manager, (760) 753-6203 ext. 72.

The agenda package and materials related to an agenda item submitted after the packet's distribution to the Board is available for public review in the lobby of the SEJPA Administrative Office during normal business hours. Agendas and minutes are available at [www.sejpa.org](http://www.sejpa.org). The SEJPA Board meetings are held on the second Monday of the month, except August.

AFFIDAVIT OF POSTING

I, Michael T. Thornton, Secretary of the San Elijo Joint Powers Authority, hereby certify that I posted, or have caused to be posted, a copy of the foregoing agenda in the following locations:

San Elijo Water Reclamation Facility, 2695 Manchester Avenue, Cardiff, California  
City of Encinitas, 505 South Vulcan Avenue, Encinitas, California  
City of Solana Beach, 635 South Highway 101, Solana Beach, California

The notice was posted at least 72 hours prior to the meeting, in accordance with Government Code Section 54954.2(a).

Date: January 5, 2011



Michael T. Thornton, P.E.  
Secretary / General Manager.

SAN ELIJO JOINT POWERS AUTHORITY  
MINUTES OF THE BOARD MEETING  
HELD ON DECEMBER 13, 2010  
AT THE  
SAN ELIJO WATER RECLAMATION FACILITY

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Maggie Houlihan, Chair

Tom Campbell, Vice Chair

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A Meeting of the Board of Directors of the San Elijo Joint Powers Authority (SEJPA) was held Monday, December 13, 2010, at 9:00 a.m., at the San Elijo Water Reclamation Facility at 2695 Manchester Avenue, Cardiff by the Sea, California.

1. CALL TO ORDER

Chair Houlihan called the meeting to order at 9:00 a.m.

2. ROLL CALL

*Directors Present:*

Teresa Barth  
Thomas Campbell  
Maggie Houlihan  
Dave Roberts

*Others Present:*

General Manager  
Director of Finance/Administration  
Director of Operations  
Administrative Assistant  
Accounting Technician  
Safety/HR Administrator

Michael Thornton  
Greg Lewis  
Christopher Trees  
Monica Blake  
Carrie Cook  
Marisa Buckles

*SEJPA Counsel:*

Procopio, Cory, Hargreaves & Savitch

Greg Moser

City of Encinitas,

Director of Public Works

Larry Watt

City of Encinitas,

Public Works Management Analyst

Bill Wilson

City of Solana Beach,

Director of Engineering/Public Works

Mohammad "Mo" Sammak

3. PLEDGE OF ALLEGIANCE

Board Member Roberts led the Pledge of Allegiance.

4. ORAL COMMUNICATIONS

None

5. PRESENTATION OF AWARDS

None

6. CONSENT CALENDAR

Board Member Barth requested Item Number 9 be removed from the Consent Calendar with approval from the Board.

Moved by Board Member Roberts and seconded by Vice Chair Campbell to approve the Consent Calendar with unanimous vote of approval.

Consent Calendar:

- |                    |  |
|--------------------|--|
| Agenda Item No. 7  | Approval of Minutes for the November 8, 2010 meeting                     |
| Agenda Item No. 8  | Approval for Payment of Warrants and Monthly Investment Report           |
| Agenda Item No. 10 | San Elijo Joint Powers Authority Recycled Water Program – Monthly Report |

11. ITEMS REMOVED FROM CONSENT CALENDAR

- |                   |  |
|-------------------|--|
| Agenda Item No. 9 | San Elijo Water Reclamation Facility Treated Effluent Flows – Monthly Report |
|-------------------|--|

General Manager Michael Thornton gave an overview of an event that occurred on October 19, 2010, where the City of Escondido exceeded their flow capacity to the ocean outfall. The SEJPA has been in contact with the City and is working with City staff to identify the cause of the peak flow and solutions to mitigating future events. The City reported that they had a programming error coupled with a data input error. General Manager Michael Thornton reported that no violations occurred because of this incident and he has requested that the City submit a written report on this incident.

Vice Chair Campbell requested that the SEJPA send a letter to the Escondido City Council to ensure that they are kept abreast of the incident.

Moved by Board Member Roberts and seconded by Vice Chair Campbell to approve Consent Calendar Number 9.

Motion carried with unanimous vote of approval.

12. APPOINTMENT OF SAN ELIJO JOINT POWERS AUTHORITY AUDITOR

General Manager Michael Thornton stated that the SEJPA engaged Mayer Hoffman McCann P.C. to perform financial audit services for the SEJPA for Fiscal Year 2009-10. The SEJPA felt their audit was satisfactory, but lacked the quality the SEJPA desired. Based on an examination of the quantity and quality of work performed by the audit team, coupled with an evaluation of the firm's responsiveness and ability to meet deadlines, the SEJPA management team rated the audit team's performance as marginal. Therefore, the SEJPA is recommending that Leaf & Cole, L.L.P. be engaged to perform audit services for the Fiscal Year 2010-11.

Board Member Roberts requested that the senior auditor and field auditors be different from previous years when Leaf & Cole, L.L.P. is appointed.

Moved by Board Member Roberts and seconded by Board Member Barth to:

1. Authorize the Chair to appoint Leaf & Cole, L.L.P. as SEJPA auditor for the fiscal year ending June 30, 2011 with the clarification that a different senior auditor and field auditor will be assigned.

Motion carried with unanimous vote of approval.

13. AMENDMENT REQUEST NO. 1 FOR FINAL DESIGN OF THE RECYCLED WATER DEMINERALIZATION PROJECT FOR THE SAN ELIJO WATER RECLAMATION FACILITY

In 2009, the SEJPA began design efforts on new demineralization treatment for the recycled water program. The first phase, the preliminary design report (PDR), was completed in November 2009. The SEJPA Board of Directors accepted the PDR in December 2009 and authorized a final design contract with Kennedy/Jenks in January 2010.

The Final Design of the project includes geotechnical investigations of the construction site, development of construction drawings, preparation of contract documents, and technical specifications, and the development of a detailed construction cost estimate. The contract includes professional engineering services for preparing the Final Design, permitting assistance, construction contract bidding services, and funding assistance as part of the SEJPA's effort for securing a low-interest state loan. The negotiated contract fee with Kennedy/Jenks is \$399,000 for this scope of work.

General Manager Michael Thornton stated that the original equipment layout in the PDR met the project design criteria, after further examination, SEJPA began considering the needs of the Recycled Water Demineralization Project (RWD) that could be imposed by changes in the recycled water quality requirements and by needs associated with the new NPDES ocean discharge permit. As part of the Final Design of the RWD project, Kennedy/Jenks has proposed that the layout of the equipment and appurtenances be refined in order to add value to the project by providing greater flexibility for future conditions. SEJPA has also identified additional permitting support work to be completed

by Kennedy/Jenks to meet funding agency requirements for the CEQA permit and Coastal Development Permit that was not specified in the original scope of work.

In support of these changes, Kennedy/Jenks has developed a scope of work and Amendment Request for an additional \$51,800 to complete the additional work.

Moved by Board Member Roberts and seconded by Board Member Barth to:

1. Authorize the Chair to execute Amendment No. 1 with Kennedy/Jenks Consultants for Final Design of the Recycled Water Demineralization Project for the San Elijo Water Reclamation Facility; and
2. For the SEJPA Staff to return to the Board with an alternative financing analysis for this project.

Motion carried with unanimous vote of approval.

14. GENERAL MANAGER'S REPORT

General Manager Michael Thornton reported that the SEJPA has engaged Dr. Michael Welch as the lead technical author to develop a plan for the new NPDES permit compliance, which is due by March 8, 2011.

The SEJPA received a letter from the California Regional Water Quality Control Board stating that the 12-month average for SEJPA exceeded allowed TDS levels as required by Order No. R9-2000-0010. A response has been submitted referring to the intent to construct the Recycled Water Demineralization Project that will assist the SEJPA in complying with this order.

The North San Diego County Cooperative Demineralization Project has been approved for a \$1 million grant. It now goes to the California Department of Water Resources for approval.

The SEJPA staff submitted comments to CalTrans in regard to the draft EIR I-5 widening project.

15. GENERAL COUNSEL'S REPORT

General Counsel Greg Moser stated that the Gessner lawsuit was dismissed for the SEJPA. Mr. Moser stated that he is working for the 22<sup>nd</sup> Agriculture District in regard to the sale of the Del Mar Fairgrounds.

16. BOARD MEMBER COMMENTS

Board Member Roberts reported that he and Michael Thornton attended a dinner with the Climate Club on Water Energy Series, regarding the region's available water and recycled water supplies and pricing. There has been progress made on the Marine Life Protection Act Initiative update and it needs to be a future agenda item.



17. CLOSED SESSION

None

18. ADJOURNMENT

The Board of Directors adjourned at 9:56 a.m. The next Board of Directors meeting will be held on January 10, 2011.

Respectfully submitted,



Michael T. Thornton, P.E.  
General Manager

PAYMENT OF WARRANTS

11-01

31-Dec-10

VENDOR	DESCRIPTION OF EXPENSE	AMOUNT
<b>11-01 Warrants</b>		
AG Tech, LLC	Biosolids hauling - November	\$5,910.38
AT&T	Phone service - 10/13/10 - 11/12/10	\$357.86
AT&T	Phone service - 11/13/10 - 12/12/10	\$398.59
AT&T	Alarm service	\$380.31
AT&T - Eden Garden	Phone service - 10/20/10 - 11/19/10	\$87.31
AT&T - Eden Garden	Phone service - 11/20/10 - 12/19/10	\$70.05
Abcana Industries	Hydrochloric acid - plant	\$326.74
Action Chemical Co.	Boiler treatment - plant	\$276.00
Airgas West	Gas detector parts - all pump stations	\$449.14
Applied Industrial Tech	Elastomeric coupling - chopper pump - Olivenhain P.S.	\$172.40
Aquatic Bioassay	Lab testing	\$960.00
Arrowhead	Kitchen and lab supplies	\$260.55
Atlas Pumping Service	Grease and scum pumping - November	\$1,028.91
Atlas Pumping Service	Grease and scum pumping - December	\$554.88
Atlas Pumping Service	Grit and screening	\$1,216.31
Barracuda Networks, Inc.	Network back-up - December	\$50.00
Barracuda Networks, Inc.	Network back-up - January	\$50.00
Best Best & Krieger	SRF Legal Opinion	\$5,042.60
Blake, Monica	Expense report - mileage	\$31.36
Blake, Monica	Expense report - mileage	\$23.70
Blue Skies Landscape	Landscape service - November	\$1,200.00
Blue Skies Landscape	Landscape service - December	\$1,200.00
Brenntag Pacific, Inc.	Sodium hydroxide - odor control	\$1,957.52
Brithinee Electric	Motor 60 HP 1800RPM TEFC - Olivenhain P. S.	\$3,587.66
CDM, Inc.	Electrical upgrades - project #76443	\$5,149.00
CSRMA	Workers' compensation	\$2,414.00
CWEA	Membership - K. James	\$132.00
CWEA - TCP	Certificate renewal - J. Hernandez	\$152.00
CWEA - TCP	Certificate renewal - M. Dietrich	\$76.00
CWEA - TCP	Certificate renewal - K. Regnier	\$71.00
Cashier - Monica Blake	Replenish petty cash	\$148.14
Coast Waste Management	Grit and screening - stormdrains	\$108.88
Complete Office	Office supplies - November	\$83.84
Complete Office	Office supplies - December	\$190.46
Conocophillips Fleet	Vehicle fuel - November	\$674.78
Cordata Records Mgmt., Inc.	Record storage - November	\$141.31
Covad	T-1 service - December	\$34.11
DC Frost Associates, Inc.	Plastic bags for heliclean - plant	\$470.88
D&H Water Systems	Mirco 2000 chlorine analyzers - water reclamation	\$7,523.75
Del Mar Blue Print	Bond paper - water reclamation	\$19.58
EDCO	Trash service - November	\$184.01
Fleet Services	Fuel - November	\$118.88
Flo-Systems, Inc.	Fronthead and impeller - Solana Beach P. S.	\$11,241.49
GFOA	Membership - G. Lewis	\$50.00
Green Valley Landscape	Trim trees - plant	\$3,745.00
Golden State Overnight - GSO	Mailing lab samples	\$25.53
Golden State Overnight - GSO	Mailing compliance reports	\$33.54
Harrington Industrial Plastics	Plumbing supplies - plant	\$176.96
Heartland Automotive Services	Vehicle maintenance	\$121.31
Hernandez, Joe	Expense report - acrylic glass and drill bits - plant	\$507.09

PAYMENT OF WARRANTS

11-01

31-Dec-10

VENDOR	DESCRIPTION OF EXPENSE	AMOUNT
Hirsch Pipe & Supply	Plumbing supplies - water reclamation	\$153.45
Home Depot	Office supply	\$27.17
Horizon Health EAP	EAP - December	\$351.12
Hutchinson, Todd	Expense report - printing monthly log sheets	\$17.95
Industrial Chem Labs	Lift station degreaser - Coast Blvd. P. S.	\$74.75
Jani-King	Janitorial service - December	\$882.64
Jani-King	Janitorial supplies	\$350.19
Kenndy/Jenks Consultants	Recycled water demineralization	\$5,967.56
Konica	Monthly copier maintenance	\$143.78
Larsen, Casey	Memory chips for SCADA - plant	\$173.98
Lewis, Greg	Expense report - front gate keypad - plant	\$657.99
Lewis, Greg	Expense report - Annual employee recognition lunch	\$479.10
Lomas Santa Fe Country Club	Deposit for 2011 Recognition Lunch	\$100.00
Marine Taxonomic Services	Ocean offshore monitoring - December - outfall	\$740.00
McMaster-Carr Supply Co.	Batteries and stainless steel chain - plant	\$256.82
McMaster-Carr Supply Co.	Parts for the digester's waterline - plant	\$208.64
Met Life SBC	Dental insurance	\$1,548.10
Met Life SBC	Dental insurance	\$1,618.70
Mutual of Omaha	Life and disability insurance	\$1,624.37
Mutual of Omaha	Life and disability insurance	\$1,666.95
Napa Auto Parts	Vehicle maintenance	\$87.50
Nash Fabricators	Sludge conveyer sprocket - plant	\$129.00
OMWD	Manchester - 10/11/10 - 11/08/10	\$35.83
Olin Corp - Chlor Alkali	Sodium hypochlorite - water reclamation	\$3,437.19
One Source Distributors, Inc.	Electrical supplies - Coast Blvd. P. S.	\$252.20
One Source Distributors, Inc.	Electrical supplies - Coast Blvd. P. S.	\$803.05
PERS - Health	Health - December	\$14,252.79
PERS - Health	Health - January	\$16,445.00
PERS - Retirement	Retirement premium - 12/03/10	\$13,791.18
PERS - Retirement	Retirement premium - 12/17/10	\$13,991.42
PERS - Retirement	Retirement premium - 12/31/10	\$13,864.28
PERS - Retirement	Employer's rate adjustment	\$257.41
Piper, Michael	Expense report - safety boots	\$67.14
Preferred Benefit Insurance	Vision insurance - December	\$374.17
Probuild	Repairs, shop and field supplies - November	\$615.17
Procopio Cory Hargreaves	General - November - legal service	\$2,337.00
Procopio Cory Hargreaves	Bradley & Debra Gessner v. San Elijo JPA	\$12.06
Rohan & Sons, Inc.	HVAC diagnostic for lunch room - plant	\$246.55
SCAP	Annual meeting	\$35.00
SWRCB Fees	Annual permit - plant	\$12,441.00
SWRCB Fees	Annual permit - stormwater	\$8,769.00
Sage Software, Inc.	Annual software maintenance and support	\$625.21
San Diego Gas and Electric	Gas and electric - 11/05 - 12/07	\$33,871.68
San Diego Gas and Electric	Gas and electric - 11/08 - 12/08 - Cardiff P. S.	\$1,371.52
San Diego Gas and Electric	Gas and electric - 11/08 - 12/10 - Valley	\$1,993.71
San Dieguito Water District	2710 Manchester - 09/27/10 - 11/22/10	\$205.39
San Dieguito Water District	Manchester - 09/27/10 - 11/22/10	\$149.81
San Dieguito Water District	Manchester - 09/27/10 - 11/22/10	\$173.27
San Dieguito Water District	Manchester - 10/28/10 - 11/30/10	\$4,049.84
San Dieguito Water District	Manchester - 10/28/10 - 11/30/10	\$161.20
San Dieguito Water District	Manchester - 10/28/10 - 11/30/10	\$818.40
San Dieguito Water District	Manchester - 10/28/10 - 11/30/10	\$376.96

PAYMENT OF WARRANTS

11-01

31-Dec-10


VENDOR	DESCRIPTION OF EXPENSE	AMOUNT
San Dieguito Water District	Manchester - 10/28/10 - 11/30/10	\$748.96
San Dieguito Water District	S. Coast Highway 101 - 09.27.10 - 11.22.10	\$33.72
San Elijo Payroll Account	Payroll - 12/03/2010	\$75,796.23
San Elijo Payroll Account	Payroll - 12/17/2010	\$75,689.40
San Elijo Payroll Account	Payroll - 12/31/2010	\$72,454.74
Santa Fe Irrigation District	Lomas Santa Fe Dr. - 09/20/10 - 11/17/10	\$1,796.31
Santa Fe Irrigation District	Valley - 10/28/10 - 11/30/10	\$143.86
Sloan Electric Company	Shipping charge for soft start - plant	\$157.60
Smart & Final	Office and kitchen supplies	\$101.86
Sprint	Cellular phone service - Oct/Nov	\$665.47
Sprint	Cellular phone service & equipment - Nov/Dec	\$842.13
State of California	Loan No.: 003-07-ECC	\$64,237.99
Sunbelt Rentals	Propane - plant	\$31.32
Terminix	Pest control - December	\$81.00
Terra Renewal, LLC	Biosolids hauling - November	\$6,125.53
Test America	Lab testing	\$178.00
Tri-City Medical Center	Flu vaccine	\$300.00
Trussell Technologies, Inc.	Demineralization design support - #8	\$1,634.00
Trussell Technologies, Inc.	Desal membrane selection - agreement #9	\$3,298.00
Trussell Technologies, Inc.	Desal membrane selection - agreement #9	\$1,358.00
UPS	Mailing	\$21.47
U.S. Postal Service	Stamps	\$375.20
Underground Service Alert	Dig alert - November	\$73.50
Unifirst Corporation	Uniform service - November	\$157.36
Unifirst Corporation	Uniform service - December	\$399.29
VWR International, Inc.	BDH buffer, broth azide, and broth lauryl - lab	\$168.10
VWR International, Inc.	Brain heart, green bile, broth azide and buffer - lab	\$539.37
VWR International, Inc.	Filters, tubes and tape salmon - lab	\$652.01
VWR International, Inc.	Cap membrane - lab	\$70.34
VWR International, Inc.	Pipet, potass iodide, and inoculating loop - lab	\$500.35
VWR International, Inc.	Inoculating loop, gloves, brass loop holder, and tubes	\$513.97
Video Surveillance	Surveillance equipment - plant	\$3,413.80
WateReuse Association	Membership - agency	\$669.50
Wonderware West	SCADA upgrade - plant and water reclamation	\$12,832.54
<b>Total 11-01 Warrants</b>		<b><u>\$548,330.92</u></b>

SAN ELIJO JOINT POWERS AUTHORITY  
PAYMENT OF WARRANTS SUMMARY

31-Dec-10

PAYMENT OF WARRANTS		\$548,330.92
Reference Number	11-01	

I hereby certify that the demands listed and covered by warrants are correct and just to the best of my knowledge, and that the money is available in the proper funds to pay these demands. The cash flows of the SEJPA, including the Member Agency commitment in their operating budgets to support the operations of the SEJPA, are expected to be adequate to meet the SEJPA's obligations over the next six months. I also certify that the SEJPA's investment portfolio complies with the SEJPA's investment policy.

  
\_\_\_\_\_  
Gregory Lewis *for*  
Director of Finance/Administration  
Treasurer

STATEMENT OF FUNDS AVAILABLE FOR PAYMENT OF WARRANTS  
AND INVESTMENT INFORMATION  
AS OF

31-Dec-10

<u>FUNDS ON DEPOSIT WITH</u>	<u>AMOUNT</u>
<b>LOCAL AGENCY INVESTMENT FUND</b> <i>(SEPTEMBER 2010 YIELD 0.50%)</i>	
SELF INSURANCE RESERVE	\$ 300,000.00
RESTRICTED SRF RESERVE	\$ 630,000.00
UNRESTRICTED DEPOSITS	\$ 5,897,165.44
 <b>CALIFORNIA BANK AND TRUST</b> <i>(SEPTEMBER 2010 YIELD 0.10%)</i>	
REGULAR CHECKING	\$ 5,580.26
PAYROLL CHECKING	\$ 5,000.00
 TOTAL RESOURCES	 \$ 6,837,745.70

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SAN ELIJO JOINT POWERS AUTHORITY  
MEMORANDUM

January 10, 2011

TO: Board of Directors  
San Elijo Joint Powers Authority

FROM: General Manager

SUBJECT: SAN ELIJO WATER RECLAMATION FACILITY TREATED EFFLUENT FLOWS –  
MONTHLY REPORT

RECOMMENDATION

No action required. This memorandum is submitted for information only.

DISCUSSION

Monthly Treatment Plant Performance and Evaluation

Wastewater treatment for the San Elijo Joint Powers Authority (SEJPA) met all NPDES ocean effluent limitation requirements for the month of November 2010. The primary indicators of treatment performance include the removal of Carbonaceous Biochemical Oxygen Demand (CBOD) and Total Suspended Solids (TSS). The SEJPA is required to remove a minimum of 85 percent of the CBOD and TSS from the wastewater. Treatment levels for CBOD and TSS were 97.4 percent and 95.2 percent, respectively, for November (as shown in Figure 1 and Figure 2).

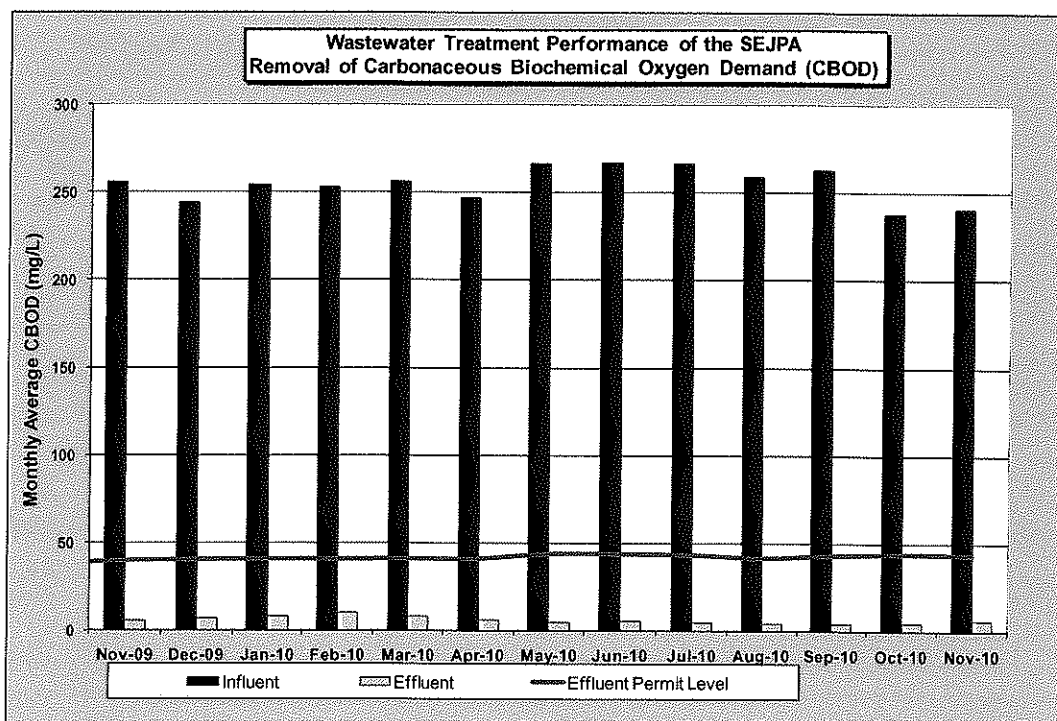


FIGURE 1

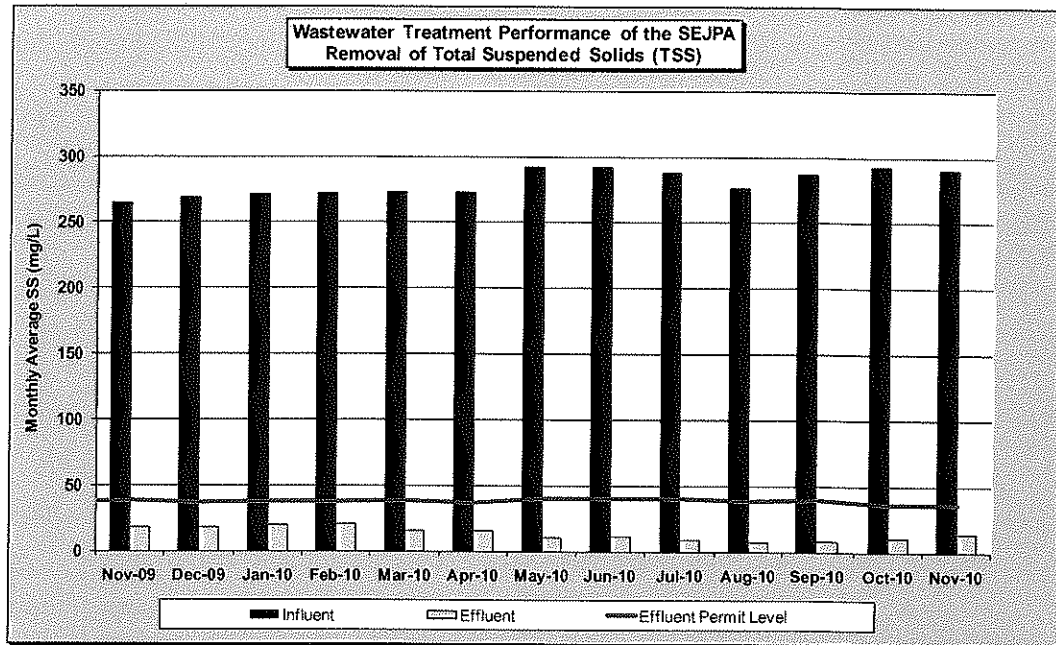


FIGURE 2

### Member Agency Flows

Presented below are the influent and effluent flows for the month of November. Average daily influent flows were recorded for each Member Agency. Total effluent flow was recorded for the San Elijo Water Reclamation Facility.

	November	
	<u>Influent (mgd)</u>	<u>Effluent (mgd)*</u>
Cardiff Sanitary Division	1.399	1.090
City of Solana Beach	1.297	1.011
Rancho Santa Fe SID	<u>0.117</u>	<u>0.091</u>
<b>Total San Elijo WRF Flow</b>	<b>2.813</b>	<b>2.192</b>

Notes: As of July 1995, Rancho Santa Fe Community Services District (CSD) combined SID #2 and SID #3 into one Sewer Improvement District (SID).

\* Effluent is calculated by subtracting the recycled water production from the influent wastewater.

Table 1 (attached) presents the historical average, maximum, and unit influent and effluent flow rates per month for each of the Member Agencies. It also presents the number of connected Equivalent Dwelling Units (EDUs) for each of the Member Agencies during this same time period.

Figure 3 (attached) presents the historical average daily flows per month for each Member Agency. This is to provide a historical overview of the average treated flow by each agency. As shown in the figure, the average treated flow typically ranges between 2.9 and 3.1 million gallons per day (mgd). Also shown in Figure 3 is the total wastewater treatment capacity of the plant, 5.25 mgd, of which each Member Agency has the right to 2.5 mgd, and Rancho Santa Fe Community Service District has the right to 0.25 mgd.



City of Escondido Flows

The average and peak flow rate from the City of Escondido's Hale Avenue Resource Recovery Facility, which discharges through the San Elijo Ocean Outfall, is reported below. The following flows are reported by the City of Escondido for the month of November:


	<b>November (mgd)</b>
Escondido (Average flow rate)	9.5
Escondido (Peak flow rate)	18.5

Connected Equivalent Dwelling Units

The number of EDUs connected for each of the Member Agencies for the month of November is as follows:

	<b>November (EDU)</b>
Cardiff Sanitary Division	8,209
Rancho Santa Fe SID	478
City of Solana Beach	7,428
San Diego (to Solana Beach)	300
<b>Total EDUs to System</b>	<b>16,415</b>

Respectfully submitted,



Michael T. Thornton, P.E.  
General Manager

Attachments: Table 1: SEWRF Monthly Report – Flows and EDUs  
Figure 3: Average Daily Flow

**SAN ELLIJO WATER RECLAMATION FACILITY MONTHLY REPORT - FLOWS AND EDUS**

MONTH	AVERAGE DAILY INFLUENT FLOW RATE (MGD)			AVERAGE DAILY EFFLUENT FLOW RATE (MGD)			TOTAL PLANT			CONNECTED EDUS			AVERAGE UNIT INFLUENT FLOW RATE (GAL/EDU/DAY)			TOTAL PLANT
	CSD	RSF	SB	CSD	RSF	SB	CSD	RSF	SB	CSD	RSF	SB	CSD	RSF	SB	
Jan-06	1.515	0.139	1.310	1.410	0.129	1.219	2.758	8.044	423	7,669	16,126	188	329	171	184	
Feb-06	1.499	0.139	1.313	1.268	0.118	1.111	2.497	8.044	423	7,659	16,126	186	329	171	183	
Mar-06	1.542	0.144	1.309	1.475	0.137	1.252	2.864	8.044	424	7,659	16,127	192	340	171	186	
Apr-06	1.523	0.139	1.288	1.400	0.128	1.184	2.712	8.044	424	7,728	16,196	189	328	167	182	
May-06	1.480	0.134	1.299	0.979	0.089	0.859	1.927	8.086	429	7,728	16,223	183	312	168	180	
Jun-06	1.471	0.130	1.350	0.762	0.068	0.699	1.529	8.080	430	7,728	16,238	182	302	175	182	
Jul-06	1.490	0.135	1.436	0.719	0.065	0.693	1.477	8.087	431	7,728	16,246	184	313	186	188	
Aug-06	1.456	0.144	1.392	0.748	0.074	0.715	1.537	8.088	432	7,728	16,248	180	333	180	184	
Sep-06	1.403	0.138	1.327	0.744	0.072	0.704	1.520	8.092	432	7,728	16,252	173	319	172	176	
Oct-06	1.414	0.132	1.286	0.943	0.088	0.857	1.888	8.092	432	7,728	16,252	175	306	166	174	
Nov-06	1.408	0.135	1.284	1.100	0.105	1.003	2.208	8.092	434	7,728	16,256	174	311	166	174	
Dec-06	1.429	0.138	1.275	1.296	0.126	1.156	2.578	8.099	436	7,728	16,263	176	317	165	175	
Jan-07	1.419	0.128	1.282	1.205	0.109	1.089	2.403	8.100	441	7,728	16,269	175	290	166	174	
Feb-07	1.425	0.129	1.277	1.284	0.116	1.150	2.550	8.106	443	7,728	16,277	176	291	165	174	
Mar-07	1.421	0.118	1.285	1.014	0.095	0.914	2.016	8.112	444	7,728	16,284	175	266	166	173	
Apr-07	1.366	0.122	1.267	0.868	0.076	0.794	1.738	8.115	447	7,728	16,290	171	273	164	170	
May-07	1.411	0.106	1.281	0.763	0.058	0.693	1.514	8.116	448	7,728	16,292	174	237	166	172	
Jun-07	1.438	0.104	1.304	0.697	0.051	0.632	1.390	8.117	449	7,728	16,294	177	232	169	175	
Jul-07	1.461	0.109	1.364	0.657	0.049	0.613	1.319	8.119	450	7,728	16,297	180	242	177	180	
Aug-07	1.442	0.110	1.365	0.571	0.044	0.541	1.156	8.120	450	7,728	16,298	178	244	177	179	
Sep-07	1.470	0.107	1.278	0.596	0.046	0.537	1.179	8.124	452	7,728	16,303	174	237	164	171	
Oct-07	1.335	0.096	1.222	0.777	0.056	0.712	1.545	8.124	452	7,728	16,303	164	213	158	163	
Nov-07	1.430	0.113	1.235	1.122	0.088	0.969	2.179	8.138	453	7,728	16,318	176	250	160	170	
Dec-07	1.443	0.143	1.225	1.380	0.137	1.171	2.688	8.144	453	7,728	16,324	177	316	159	172	
Jan-08	1.491	0.144	1.268	1.488	0.144	1.266	2.898	8.146	454	7,728	16,327	183	318	164	178	
Feb-08	1.620	0.162	1.355	1.499	0.150	1.254	2.903	8.150	456	7,728	16,334	199	356	175	192	
Mar-08	1.569	0.149	1.365	1.261	0.119	1.097	2.477	8.151	456	7,728	16,335	192	326	177	189	
Apr-08	1.487	0.136	1.339	1.154	0.097	1.019	2.270	8.151	456	7,728	16,335	183	274	171	180	
May-08	1.649	0.131	1.270	0.647	0.052	0.498	1.197	8.153	456	7,728	16,337	182	299	173	181	
Jun-08	1.713	0.131	1.324	0.722	0.055	0.558	1.335	8.161	456	7,728	16,345	202	288	164	187	
Jul-08	1.582	0.125	1.483	0.608	0.048	0.577	1.233	8.163	456	7,728	16,347	210	288	171	194	
Sep-08	1.547	0.121	1.378	0.813	0.064	0.724	1.601	8.165	457	7,728	16,350	191	274	192	194	
Oct-08	1.478	0.111	1.319	0.671	0.051	0.599	1.321	8.170	460	7,728	16,354	189	264	178	186	
Nov-08	1.511	0.118	1.329	1.080	0.084	0.950	2.114	8.171	462	7,728	16,361	185	256	172	181	
Dec-08	1.580	0.156	1.362	1.446	0.143	1.246	2.835	8.172	462	7,728	16,367	186	338	176	189	
Jan-09	1.522	0.141	1.354	1.256	0.116	1.117	2.489	8.177	462	7,728	16,368	193	306	175	184	
Feb-09	1.599	0.145	1.330	1.408	0.128	1.171	2.707	8.179	462	7,728	16,369	196	314	172	188	
Mar-09	1.510	0.124	1.307	1.030	0.085	0.892	2.007	8.180	463	7,728	16,371	185	268	169	180	
Apr-09	1.463	0.116	1.262	0.731	0.058	0.630	1.419	8.183	463	7,728	16,374	179	251	163	174	
May-09	1.465	0.117	1.247	0.712	0.057	0.606	1.375	8.185	464	7,728	16,377	179	252	161	173	
Jun-09	1.479	0.115	1.319	0.712	0.056	0.635	1.403	8.185	465	7,728	16,378	181	248	171	178	
Jul-09	1.437	0.109	1.376	0.599	0.045	0.573	1.217	8.186	467	7,728	16,381	176	234	178	178	
Aug-09	1.431	0.113	1.419	0.598	0.047	0.598	1.248	8.186	467	7,728	16,381	175	242	184	181	
Sep-09	1.404	0.108	1.346	0.690	0.053	0.661	1.404	8.187	468	7,728	16,383	171	242	174	174	
Oct-09	1.375	0.108	1.332	0.744	0.058	0.721	1.523	8.187	468	7,728	16,383	168	231	172	172	
Nov-09	1.366	0.111	1.323	0.843	0.069	0.816	1.728	8.189	469	7,728	16,386	167	237	171	171	
Dec-09	1.401	0.127	1.322	1.149	0.104	1.084	2.337	8.193	469	7,728	16,390	171	271	171	174	
Jan-10	1.532	0.155	1.372	1.271	0.126	1.138	2.537	8.196	472	7,728	16,396	187	329	178	187	
Feb-10	1.487	0.148	1.382	1.371	0.136	1.274	2.781	8.197	474	7,728	16,399	181	313	179	184	
Mar-10	1.455	0.145	1.398	1.108	0.110	1.064	2.282	8.198	474	7,728	16,400	177	306	181	183	
Apr-10	1.451	0.137	1.391	1.058	0.100	1.014	2.172	8.198	474	7,728	16,400	177	289	180	182	
May-10	1.379	0.128	1.385	0.672	0.063	0.675	1.410	8.201	474	7,728	16,403	168	270	179	176	
Jun-10	1.437	0.122	1.453	0.650	0.055	0.657	1.362	8.202	474	7,728	16,403	175	258	188	184	
Jul-10	1.375	0.119	1.466	0.694	0.061	0.740	1.495	8.204	475	7,728	16,407	168	251	190	180	
Aug-10	1.366	0.125	1.451	0.585	0.053	0.621	1.259	8.205	475	7,728	16,408	166	263	188	179	
Sep-10	1.346	0.114	1.342	0.627	0.053	0.626	1.306	8.205	475	7,728	16,410	164	240	174	171	
Oct-10	1.413	0.123	1.311	1.177	0.102	1.092	2.371	8.207	477	7,728	16,412	170	258	170	171	
Nov-10	1.399	0.117	1.297	1.090	0.091	1.011	2.192	8.209	478	7,728	16,415	172	245	168	171	

**TABLE 1**

RSF: Chertif Sanitary Division  
 RSF CSD: Ranch Santa Fe Community Service District  
 SB: Solana Beach  
 EDU: Equivalent Dwelling Unit

ASSUMPTIONS: SB average flow includes San Elijo Hills flow of .131 mgd  
 SB Connected EDUs includes 300 EDUs for the City of San Diego

# SEJPA AVERAGE DAILY INFLUENT FLOW

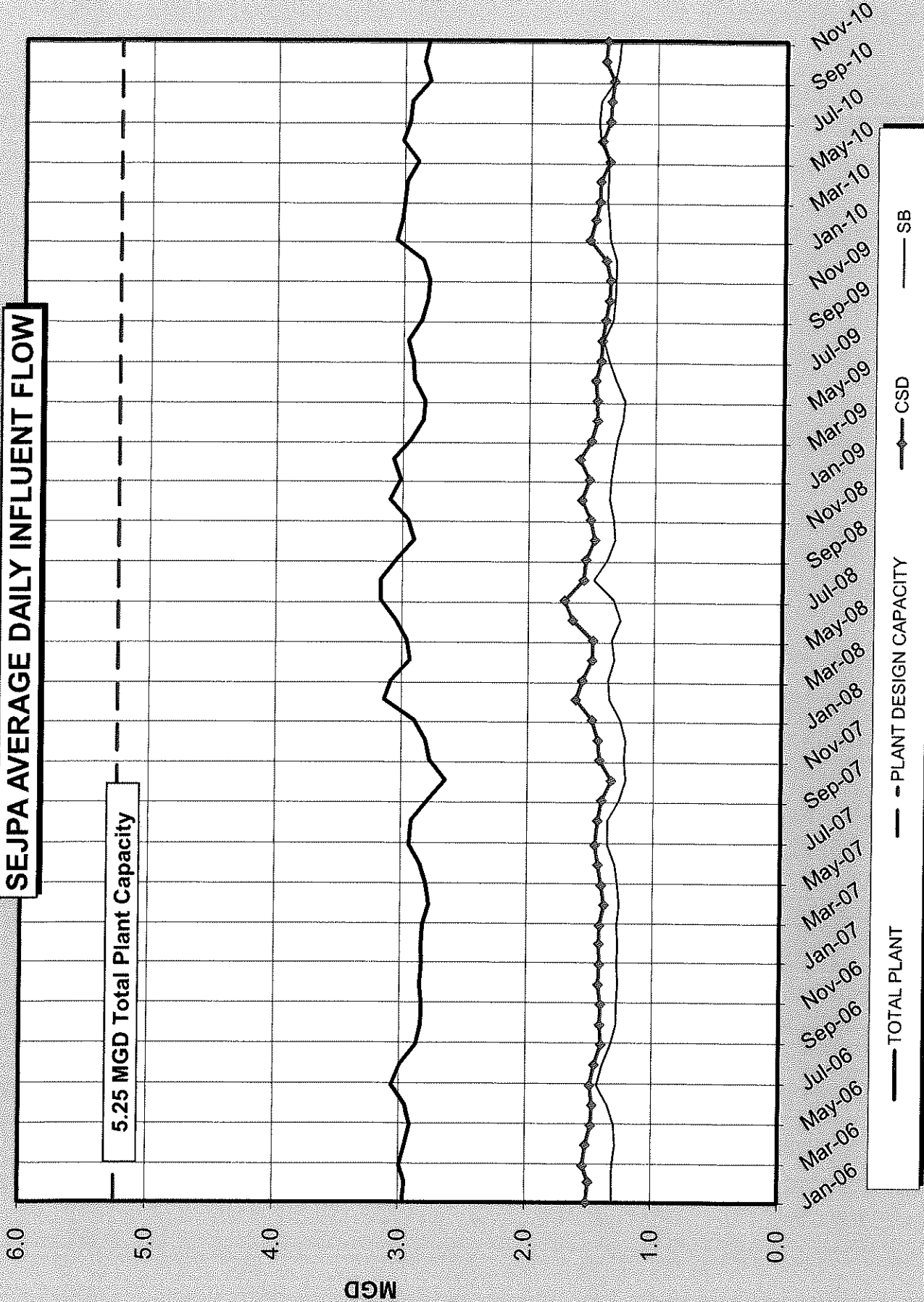


FIGURE 3

\*

AGENDA ITEM NO. 10

SAN ELIJO JOINT POWERS AUTHORITY  
MEMORANDUM

January 10, 2011

TO: Board of Directors  
San Elijo Joint Powers Authority

FROM: General Manager

SUBJECT: SAN ELIJO WATER RECLAMATION PROGRAM – MONTHLY REPORT

RECOMMENDATION

No action required. This memorandum is submitted for information only.

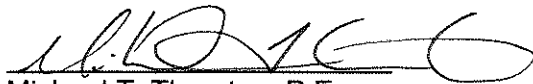
DISCUSSION

*Recycled Water Production*

For the month of November 2010, recycled water demand was 48.99 acre-feet (AF), which was met using 48.99 AF of recycled water and 0.00 AF of supplementation with potable water. This equates to a blend mix for November of 100.00 percent recycled water and 0.00 percent potable water supplementation.

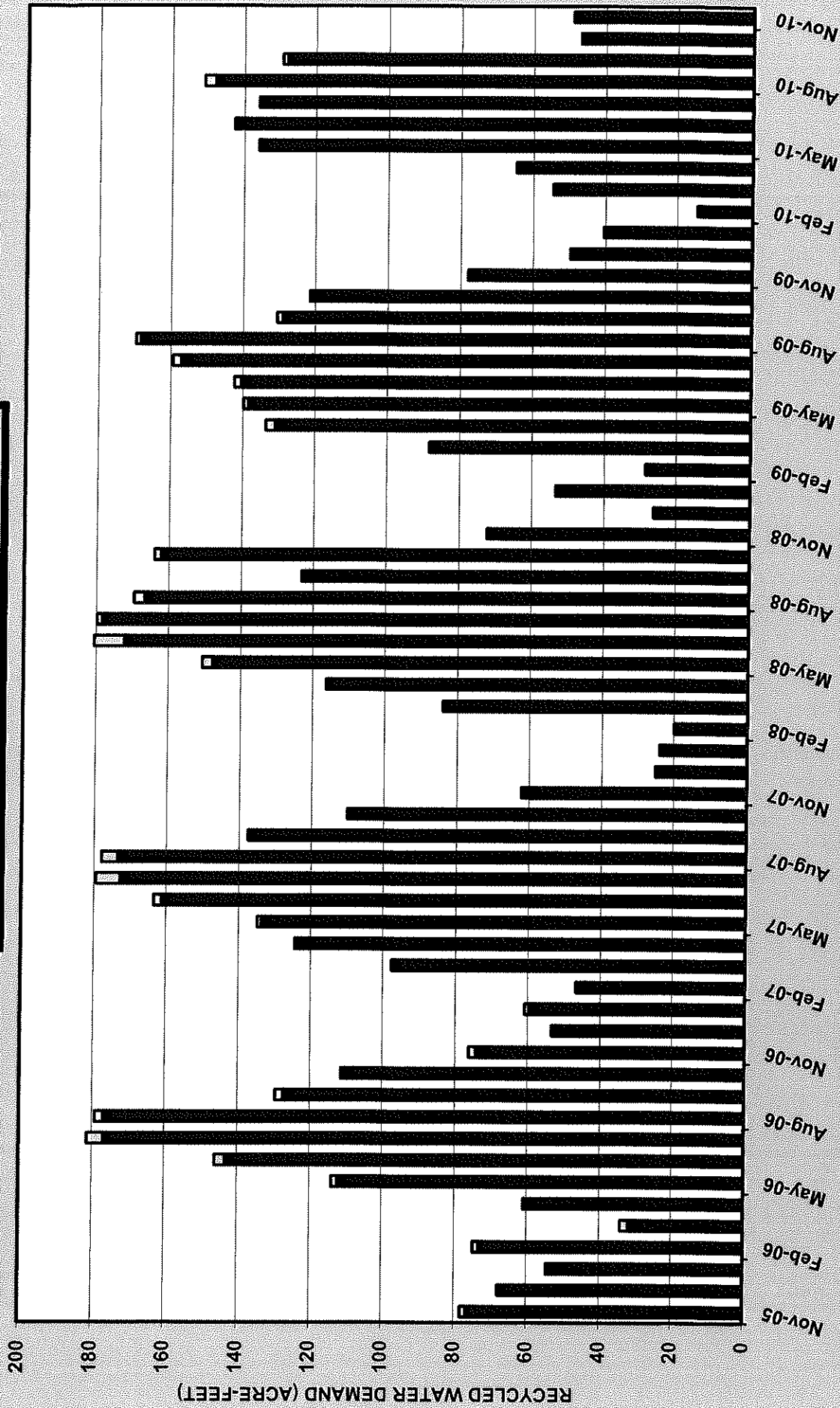
Figure 1 (attached) provides monthly supply demands for recycled water over the last five years. Figure 2 (attached) provides a graphical view of annual recycled water demand spanning the last ten fiscal years. Recycled water demand can fluctuate from year to year, which is typically a function of weather. For example, Fiscal Year 2003-04, an unusually dry year, resulted in increased recycled water demand; and Fiscal Year 2004-05, an unusually wet year, resulted in lower recycled water demand.

Respectfully submitted,



Michael T. Thornton, P.E.  
General Manager

# MONTHLY RECYCLED WATER DEMAND



□ Potable Water    ■ Recycled Water

Figure 1

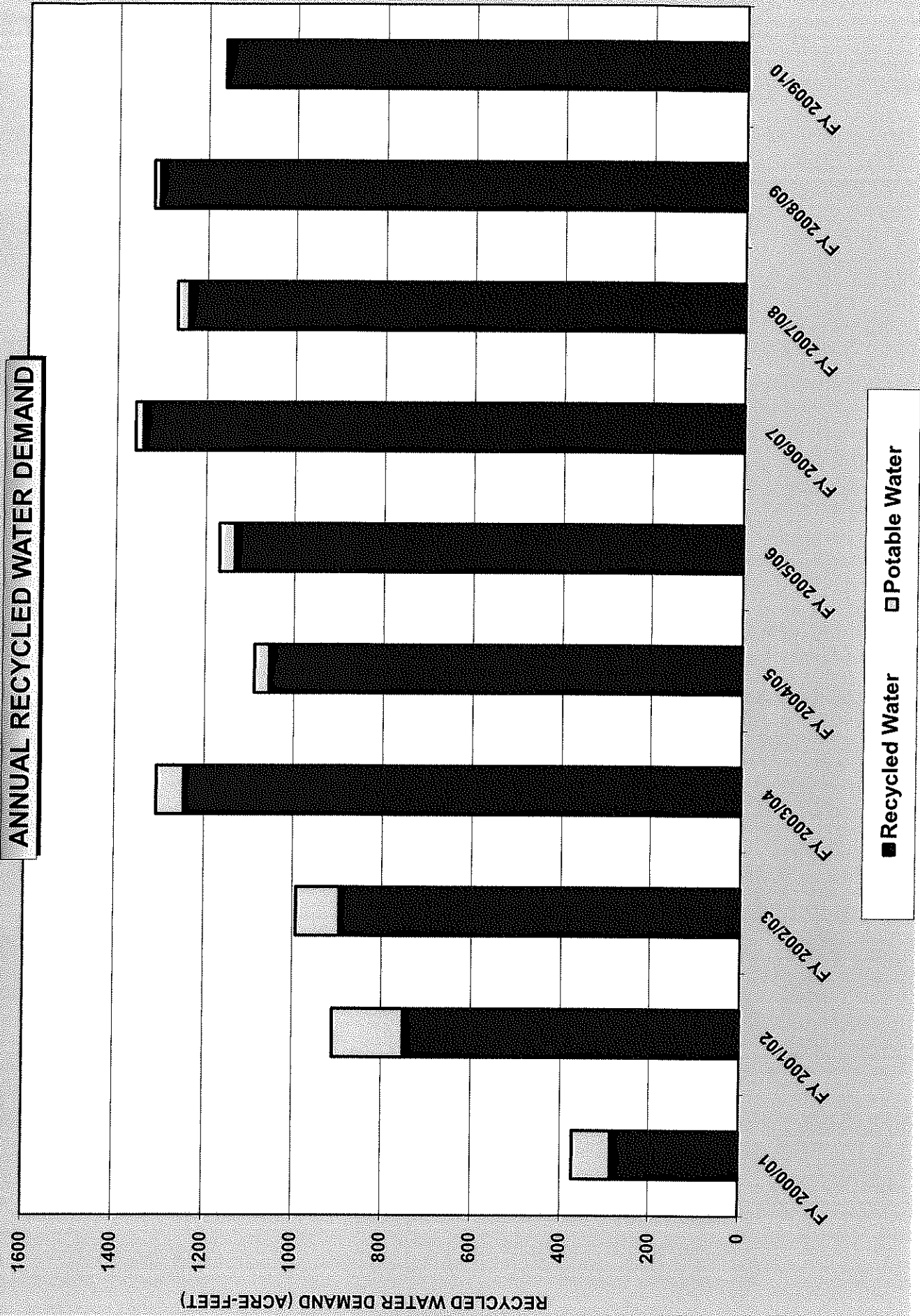


Figure 2

SAN ELIJO JOINT POWERS AUTHORITY  
MEMORANDUM

January 10, 2011

TO: Board of Directors  
San Elijo Joint Powers Authority

FROM: General Manager

SUBJECT: ELECTION OF OFFICERS AND SCHEDULE OF BOARD MEETINGS

RECOMMENDATION

It is recommended that the Board of Directors:

1. Discuss and take action as appropriate.

DISCUSSION

The Member Agencies have assigned their representatives to the San Elijo Joint Powers Authority (SEJPA) Board. The SEJPA Board of Directors must now confirm the agency's officers for 2011. The SEJPA's regular meeting schedule has been generally set as 9:00 a.m. on the second Monday of each month, with no meeting in August. Should this be acceptable, the proposed listing of scheduled meetings for 2011 is attached.

It is therefore recommended that the Board of Directors:

1. Discuss and take action as appropriate.

Respectfully submitted,

  
Michael T. Thornton, P.E.  
General Manager

Attachment: Proposed 2011 Board Meeting Dates

**BOARD OF DIRECTORS**  
San Elijo Joint Powers Authority

**PROPOSED**  
**2011 BOARD MEETING DATES**

January 10  
February 14  
March 14  
April 11  
May 9  
June 13  
July 11  
August – No Meeting  
September 12  
October 10  
November 14  
December 12





SAN ELIJO JOINT POWERS AUTHORITY  
MEMORANDUM

January 10, 2011

TO: Board of Directors  
San Elijo Joint Powers Authority

FROM: Director of Finance/Administration

SUBJECT: DISCUSSION ON FUNDING OTHER POST EMPLOYMENT BENEFITS

RECOMMENDATION

It is recommended that the Board of Directors:

1. Return this item for discussion after the June 30, 2011 actuarial is performed; and
2. Discuss and take action as appropriate.

BACKGROUND

GASB 45, *Accounting and Financial Reporting by Employers for Postemployment Benefits Other Than Pensions*, was prompted by the Governmental Accounting Standards Board (GASB) in response to the growing concern over the potential employer obligations for other post-employment benefits (OPEB). GASB 45 will:

1. Recognize the cost of OPEB in the period when services are received.
2. Provide information about the actuarial liabilities for the promised benefits.
3. Provide information useful in assessing potential demands on future cash flows.

GASB 45 applies to the financial statements issued by government employers that offer OPEB and that are subject to GASB accounting standards. GASB 45 does not apply to private employers or trusts that are established in order to pre-fund OPEB benefits or for trusts that are used as conduits to pay OPEB benefits.

GASB has implemented the reporting of OPEB in three phases and is based on annual revenue reported in the first fiscal year ending after June 15, 1999. The implementation schedule for GASB 45 is:

1. Phase 1 implementation—for employers with annual revenues greater than \$100 million—is for fiscal years beginning after December 15, 2006.
2. Phase 2 implementation—for employers with annual revenues between \$10 million and \$100 million—is for fiscal years beginning after December 15, 2007.
3. Phase 3 implementation—for employers with annual revenues less than \$10 million—is for fiscal years beginning after December 15, 2008.

The implementation of GASB 45 requires agencies to report the accrued unfunded liability and the annual required contribution (ARC) in their financial statements. Agencies must also disclose descriptive information about each OPEB plan in which they participate, including the funding policy followed.

Until the implementation of GASB 45, these costs were not previously recognized in the financial statements of government institutions.

The SEJPA began recognizing these costs and liabilities in the fiscal year beginning July 1, 2009 and ending June 30, 2010.

### DISCUSSION

The San Elijo Joint Powers Authority (SEJPA) offers only one benefit that falls under the OPEB criteria. This benefit is for partial medical insurance coverage by the SEJPA for qualifying employees, who select CalPERS medical insurance upon retirement. Qualifying employees are those that have achieved full vesting with CalPERS, which is typically 5 years of service, and who retire from the SEJPA. Currently, the medical contribution by the SEJPA is \$105 per month per retired employee that chooses to keep their insurance with CalPERS. Retired employees that select another insurance provider upon retirement receive no OPEB funding by the SEJPA.

In June 2008, the SEJPA had an actuarial study performed in accordance with GASB 45 which reported an unfunded actuarial accrued liability of \$98,075 and ARC of \$18,330. The ARC is the estimated contribution the SEJPA needs to fund each year to keep pace with the forecasted OPEB liability.

Since that time, the SEJPA has proceeded with a pay-as-you-go approach to funding the OPEB. In the last fiscal year, the SEJPA paid less than \$4,000 to fund actual OPEB costs incurred. However, SEJPA recognizes the unfunded actuarial accrued liability estimated at \$98,075, which is shown in the footnotes of the agency's financial statement. The ARC is also recognized as an expense on the income statement of the SEJPA each year and is carried as a liability on the balance sheet until the actual costs are incurred.


Under GASB 45, the SEJPA is required to perform an actuarial study every three years to update the ARC liability. Due to the large variance between the estimated ARC and the actual incurred costs, it is management's recommendation to postpone the discussion on this topic until the next actuarial is completed in June 2011. Based on actual costs incurred, it appears that the first actuarial completed in 2008 may have incorporated conservative assumptions in the model which do not reflect actual conditions. The second actuarial may provide additional clarity on this issue.

It is therefore recommended that the Board of Directors:

1. Return this item for discussion after the June 30, 2011 actuarial is performed; and
2. Discuss and take action as appropriate.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Gregory Lewis', with a stylized flourish at the end.

Gregory Lewis   
Director of Finance/Administration

SAN ELIJO JOINT POWERS AUTHORITY  
MEMORANDUM

January 10, 2011

TO: Board of Directors  
San Elijo Joint Powers Authority

FROM: General Manager

SUBJECT: RECOMMENDATION FOR MICROFILTRATION MEMBRANE SYSTEM –  
RECYCLED WATER DEMINERALIZATION PROJECT

RECOMMENDATION

It is recommended that the Board of Directors:

1. Award Microfiltration Membrane Selection for the San Elijo Water Reclamation Demineralization Project to Pall Corporation; and
2. Discuss and take action as appropriate.

BACKGROUND

In the Preliminary Design Report for the Recycled Water Demineralization (RWD) Project, the recommended treatment process consisted of microfiltration (MF) or better filtering system followed by reverse osmosis filtration (RO). In this design, the purpose of the MF (0.1 micron filtration) system is to provide a barrier to particles that could foul or reduce the RO filtration process. This allows for maximum production of RO filtered water at the lowest operational cost.

The Preliminary Design Report identified four experienced MF manufacturers that could provide packaged membrane filtration systems for the RWD facility. These membrane system suppliers are Norit, Pall, Siemens/Memcor, and GE/Zenon. All four of these manufacturers offer MF treatment systems that will provide a filtered water quality suitable for pretreatment ahead of the RO systems. Because each MF system has its own unique footprint and layout, the SEJPA must select its desired MF system for the completion of the process design and facility layout.

During the July 12, 2010 Board Meeting, SEJPA staff requested Board approval to commence negotiations with the top three MF manufacturers recommended for this project. The purpose of the negotiations was to receive a cost by each manufacturer for its MF system under a lease purchase agreement, including an extended system warranty and pre-negotiated cost for future MF replacement cartridges. The proposals would be evaluated based on an estimated 10-year cost to own and operate each system.

Due to the highly technical nature of the equipment, and the need to evaluate operational cost as well as equipment cost, the Board also authorized Trussell Technologies to assist in the negotiations and evaluation of each proposal. Trussell has extensive experience with MF/RO equipment and has been involved in the demineralization project at SEJPA since 2008. Trussell

Technologies finished their technical review and submitted a recommendation letter to SEJPA on December 17, 2010 (see attached).

DISCUSSION

The three MF equipment suppliers (Pall, Siemens/Memcor, and GE/Zenon) were contacted and proposals were requested that met the requirements set forth in the PDR.

Proposals were reviewed individually to determine package components and system completeness. The proposals were primarily evaluated based on their ability to reliably achieve filtrate production and minimize maintenance activities.

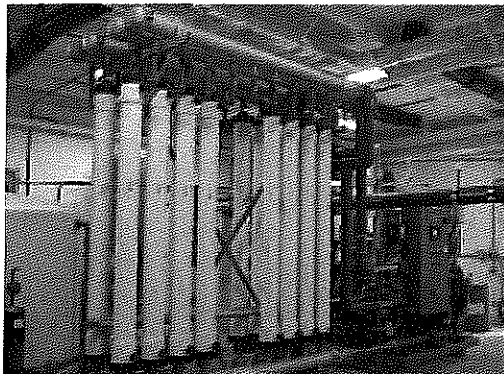
After multiple submittals, all three MF equipment suppliers produced costs that were similar in price. However, a comparison of only equipment costs is incomplete because of the significant operating costs associated with membrane replacements. Based upon the warranties provided and assuming the term was equivalent to the membrane life, the 10-yr membrane replacement costs were calculated for the three MF suppliers.

Lastly, installed experience and years operational in wastewater applications in the United States were considered as a subjective decision factor. Siemens has the largest facility in operation at 86 mgd of MF capacity at the Orange County Water District. GE Water has multiple installations and is particularly strong with a specialized product for membrane bioreactors (MBR), which is an advanced wastewater treatment process. Pall has 3 mgd of installed capacity at the Leo J. Vander Lans Water Reclamation Facility (LVL WRF) located in Los Angeles. Of all this installed experience, Pall's MF installation is the most relevant because it is the same membrane material and the same membrane area per module as the product proposed for SEJPA. The Water Replenishment District of Southern California, who owns the LVL WRF, confirmed that the Pall system has maintained satisfactory performance with limited membrane replacements and acceptable cleaning frequencies.

Based on the evaluation by Trussell Technologies, Pall Corporation is recommended as the membrane equipment supplier based on cost, warrantee, and experience with the proposed product. The final 10-year total cost based on data from each supplier was as follows:

	<b>GE Water</b>	<b>Pall</b>	<b>Siemens</b>
<i>Total 10-Yr Cost</i>	<i>\$1,056,893</i>	<i>\$1,036,412</i>	<i>\$1,197,569</i>

SEJPA staff is in the process of finalizing the language of the Lease Purchase Agreement that will be brought to the Board for approval in February 2011. At that meeting, it is expected that a purchase order in the amount of \$30,000 will be requested for a down payment of the equipment.



Pictured on the left is a Pall Aria System installed at Stoney Creek, VA.

## RECOMMENDATION

It is recommended that the Board of Directors:

1. Award Microfiltration Membrane Selection for the San Elijo Water Reclamation Demineralization Project to Pall Corporation; and
2. Discuss and take action as appropriate.

Respectfully submitted,



Michael T. Thornton, P.E.  
General Manager

Attachment: Membrane Filtration Equipment Selection for Lease Purchase



17 December 2010

Michael T. Thornton, P.E.  
General Manager  
San Elijo Joint Powers Authority  
2695 Manchester Avenue  
Cardiff by the Sea, CA 92007

**Re: Membrane Filtration Equipment Selection for Lease Purchase**

Dear Mr. Thornton:

Trussell Technologies, Inc. was retained by the San Elijo Joint Powers Authority (SEJPA) to provide technical assistance in the negotiations of membrane filtration equipment for a lease purchase agreement. The membrane filtration (MF) equipment will provide the necessary pretreatment for reliable of operation of the selected demineralization process (e.g. reverse osmosis, RO) for the Recycled Water Demineralization Project. The Preliminary Design Report (PDR) completed by Kennedy/Jenks in December 2009 recommended three MF system suppliers:

1. General Electric Water and Process Technologies
2. Pall Corporation – Water Processing
3. Siemens Water Technologies Corporation

These three MF equipment suppliers were contacted and proposals were requested that met the requirements set forth in the PDR using their most standardized or pre-packaged MF equipment in an effort to reduce costs.

Proposals were reviewed individually to determine package components and system completeness. The proposals were primarily evaluated based on their ability to reliably achieve filtrate production and minimize maintenance activities. A summary of key parameters is provided in Table 1 based on the final offers.

**Table 1. Summary of Final and Best Offers on Equipment Submittals**

Parameter	Unit	GE Water	Pall	Siemens
Equipment Cost	\$	857,105	890,000	918,000
Cost per Filtrate	\$/gpd	0.63	0.66	0.68
Net Flux @ 940 gpm	gfd	21	21	20
Racks or Trains	#	2	2	4
Total Modules	#	120	120	168
Cliff Warranty	Years	2	3	2
Total Warranty	Years	7	10	7
10-Yr Replacement	\$	199,788	146,412	279,569
<i>Total 10-Yr Cost</i>	\$	<i>1,056,893</i>	<i>1,036,412</i>	<i>1,197,569</i>



After multiple submittals, all three MF equipment suppliers produced costs that were similar in price (see Table 1). Siemens' first response was significantly lower at \$707,000, but did not include a comparable total MF system capacity. GE Water's equipment cost was the lowest price submitted, which was \$32,895 lower than Pall's MF system and \$60,895 lower than Siemens.

However, a comparison of only equipment costs is incomplete because of the significant operating costs associated with membrane replacements. Based upon the warranties provided and assuming the term was equivalent to the membrane life, the 10-yr membrane replacement costs were calculated for the 3 MF suppliers. Pall had the lowest membrane replacement cost, which was \$53,376 lower than GE Water and \$133,157 lower than Siemens.

Lastly, installed experience and years operational in wastewater applications in the United States were considered as a subjective decision factor. Siemens has the largest facility in operation at 86 mgd of MF capacity at the Orange County Water District. GE Water has multiple installations and is particularly strong with a specialized product for membrane bioreactors (MBR), which is an advanced wastewater treatment process. Pall has 3 mgd of installed capacity at the Leo J. Vander Lans Water Reclamation Facility (LVL WRF). Of all this installed experience, Pall's MF installation is the most relevant because it is the same membrane material and the same membrane area per module as the product proposed for SEJPA. At this time, both GE and Siemens have little operating experience with the membrane products proposed for this project. The Water Replenishment District of Southern California, who owns the LVL WRF, confirmed that the Pall system has maintained satisfactory performance with limited membrane replacements and acceptable cleaning frequencies.

Based on our evaluation, Pall Corporation is recommended as the membrane equipment supplier based on cost, warranty, and experience with the proposed product. Should you have any questions after reviewing our recommendation, please free to contact me.

Respectfully,

Shane Trussell, Ph.D., P.E.  
Vice President  
Trussell Technologies, Inc.