

EXHIBIT 17-B

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT

DATE: September 12, 2006

MEMO TO: Board of Directors

FROM: Andrew M. Bell, District Engineer *AMB*

SUBJECT: Summary of Comments on June 26, 2006 Report by Bookman-Edmonston/GEI Consultants, "*Seawater Desalination Projects Evaluation*"

INTRODUCTION

At the February 23, 2006 Board meeting, the Board approved a contract with Bookman-Edmonston/GEI Consultants (B-E/GEI) to prepare a comparison of three major seawater desalination projects proposed for the Monterey Peninsula area: (1) the Coastal Water Project proposed by California American Water (Cal-Am); (2) the Monterey Bay Regional Desalination Project proposed by the Pajaro/Sunny Mesa Community Services District (Pajaro/Sunny Mesa); and (3) the 7.5 million-gallon-per-day project in Sand City most recently evaluated by MPWMD in 2004. The results of this evaluation are presented in a June 26, 2006 report titled "*Seawater Desalination Projects Evaluation*."

At the June 29, 2006 Board Special Meeting/Workshop, B-E/GEI engineers presented their report. During the workshop, B-E/GEI representatives responded to a number of questions and comments by the Board and the public. At the end of the workshop, the Board asked what would be the cost for additional work by B-E/GEI to revise the final report by including responses to questions posed and comments made during the workshop. An item was brought to the Board at their July 17, 2006 meeting to consider amending the consultant services agreement with B-E/GEI to fund additional work to revise the final report. The revisions would be in response to questions and comments on the report submitted to the Board for the June 29, 2006 workshop. The estimated cost of the additional work was \$15,000.00. The Board decided not to authorize additional expenditures and to postpone revising the report, and instead requested that District staff collect all of the questions and comments received, and provide them to the Board. This memo was prepared in response to that request.

SUMMARY

Comments and questions on the report were received during the June 29, 2006 workshop and via written communications from California American Water (Cal-Am) and Pajaro/Sunny Mesa Community Services District (P/SM), proponents of two of the seawater desalination projects reviewed and evaluated by the consultant team. A summary of the questions and comments made during the workshop is provided in the minutes of the June 29, 2006 meeting (**Attachment 1** to this memo). The staff note for the July 17, 2006 item to consider authorizing additional funds for B-E/GEI to revise their final report is provided as **Attachment 2**. The scope of work proposed by B-E/GEI for revising their report ("Work Effort Estimate – Follow-on Questions for Monterey Peninsula Water Management District Desalination Alternatives Analysis Report," Exhibit 13-A in **Attachment 2**), lists specific tasks to respond to questions and comments on the report. Minutes of that meeting, summarizing comments and questions by Board members, are provided as **Attachment 3** to this memo.

In addition to making comments made at the June 29 workshop, Peter MacLaggan of Poseidon Resources, partner in the P/SM project submitted two e-mails, each with attachments. These e-mails are provided as Attachment 4 and Attachment 5 to this memo. Steven Leonard of Cal-Am submitted a letter dated August 30, 2006 providing Cal-Am's comments on the B-E/GEI report (Attachment 6).

BACKGROUND

As part of the MPWMD 2005-2006 Strategic Plan adopted by the Board at its October 18, 2005 meeting, the Board directed staff to hold a series of public workshops dealing with several aspects of water supply augmentation. One of the workshops, held on June 29, 2006, was held to receive information on the three major potential water supply projects being proposed for the Monterey Peninsula and surrounding areas. This information was provided in the form of a review and evaluation of the feasibility and estimated costs of each project as presented in the June 26, 2006 report prepared by B-E/GEI and their subconsultants, Separation Processes, Inc. and Malcom-Pirnie, Inc.

Comments and questions relating to the report were received from District Board members, the public, and representatives of California American Water (Cal-Am) and Pajaro/Sunny Mesa Community Services District (P/SM), proponents of two of the seawater desalination projects reviewed and evaluated by the consultant team. The meeting minutes attached to this memo provide summaries of oral comments and questions made at the June 29, 2006 and July 17, 2006 Board meeting.

A related request from the Board was for District staff to provide an overview of water rights associated with desalination plants that are proposed for the Sand City area. The June 22, 2006 memo from MPWMD General Counsel David Laredo (Attachment 7) provides the response to this request.

ATTACHMENTS

1. Minutes of June 29, 2006 Board Special Meeting/Workshop
2. Staff note for July 17, 2006, Item 13 (Supplemental Information)
3. Minutes of July 17, 2006 Board meeting (see Item 13)
4. June 28, 2006 e-mail from Peter MacLaggan, Poseidon Resources, to Andy Bell, MPWMD, with attachment
5. July 14, 2006 e-mail from Peter MacLaggan, Poseidon Resources, to Andy Bell, MPWMD, with attachment
6. August 30, 2006 letter from Steven Leonard, Cal-Am, to Andy Bell, MPWMD
7. June 22, 2006 memo from David C. Laredo, DeLay & Laredo, to Andrew M. Bell, MPWMD

Attachment 1

FINAL MINUTES
Special Meeting/Board Workshop
Board of Directors
Monterey Peninsula Water Management District
June 29, 2006

CALL TO ORDER/ROLL CALL

The meeting was called to order at 7:15 PM in the Boardroom of the Monterey Regional Water Pollution Control Agency offices.

Directors present:

Michelle Knight, Chair – Division 4

Judi Lehman, Vice Chair – Division 2

Alvin Edwards – Division 1

Kristi Markey – Division 3

Larry Foy – Division 5

David Pendergrass – Mayoral Representative

David Potter – Monterey County Board of Supervisors (arrived at 7:18 PM)

Directors absent: None

General Manager present: David Berger

District Counsel present: David C. Laredo

PLEDGE OF ALLEGIANCE

The assembly recited the Pledge of Allegiance.

ORAL COMMUNICATIONS

No comments were directed to the Board during Oral Communications.

WORKSHOP/DISCUSSION

1. **Receive Report on Evaluation of Seawater Desalination Projects by Bookman-Edmonston/GEI Consultants**

The presentation was given by Mark Williamson of Bookman-Edmonston/GEI Consultants (B-E/GEI). He is the Principal-in-Charge for preparation of the desalination project evaluation. A summary of his presentation is on file at the District office and on the District's website. Also representing B-E/GEI, was Marc Rozman the Team Leader for preparation of the evaluation. The Board asked questions of the consultants and discussed the study. Chair Knight stated that the Board could at a future date discuss preparing an addendum to the report, once it is determined if funds remain within the contracted amount to amend the report.

The following comments were made by Mr. Williamson and Mr. Rozman in response to questions from the Board. (1) Seasonal storage might be needed for the Sand City Desalination Project if it is projected that during a high flow period the amount of flow

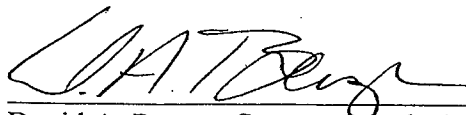
would exceed the outfall. (2) A conceptual design report on the Monterey Bay Regional Seawater Desalination Project (MBRSDP) stated that pesticides were not detected in the intake water. Poseiden Resources will provide the detailed information supporting that assertion to B-E/GEL. (3) The most accurate way to compare project costs is to review the unit-cost factors provided in the report. The following comments were also made in response to questions from the Board. (4) Paul Finley, representing RBF Consulting, project managers for the Coastal Water Project, stated that water quality information provided for the Coastal Water Project was obtained from intakes in Moss Landing Harbor for testing required for a National Pollution Discharge Elimination System (NPDES) Permit. (5) Peter MacLaggen, representing Poseiden Resources, project manager for the MBRSDP stated that the NPDES permit for the intake and outfall at the National Refractories site expired in May 2006. A renewal application is in process. Consideration of renewal of the permit for the full-scale plant should occur following permitting of the pilot project. He noted that the pilot project includes an innovative measure to reduce the rate at which water flows to the intake, so that when fish hit the screens they can swim away. Also planned, is the installation of a series of screens at the intake that will capture organisms and flush them back into the ocean. (6) David Laredo stated that California American Water (Cal Am) does have a limited right to acquire property through a process established by the Public Utilities Commission. The MPWMD or Pajaro/Sunny Mesa Community Services District could utilize the power of eminent domain.

The meeting was recessed at 9 PM and reconvened at 9:10 PM.

The following comments were directed to the Board during the public comment period. (1) **David Dilworth**, representing Helping Our Peninsula's Environment, cautioned that high concentrations of DDT have been detected in Moss Landing Harbor. He also noted that approximately 300 million larvae are killed every day at the Duke Energy intake facility. According to Mr. Dilworth, there is no indication that the intake will be re-certified, which would affect plans to use it as an intake site for a desalination project. (2) **Manuel Fierro** asked several questions about the information presented by Mr. Williams. (1) Will the 8,400 acre-feet per year Sand City Desalination Project meet the requirements of SWRCB Order 95-10? (2) Why is information on financing the Coastal Water Project not available? (3) What is the current cost per acre-foot for water produced by Cal Am? (3) **John Kline**, Senior Operations Engineer for Cal Am and Technical Project Manager for the Coastal Water Project, thanked the Board for commissioning the study. He stated that water quality issues raised during Board discussion will be addressed in the Watershed Sanitary Survey to be conducted with the Department of Health Services during desalination pilot plant testing. He advised the Board that success of the Coastal Water Project is dependant on the aquifer storage and recovery (ASR) project component to meet peak summer production demands, so removing ASR costs from the cost summary does not result in an equal comparison of the projects.

ADJOURNMENT

The meeting was adjourned at 9:30 PM.



David A. Berger, Secretary to the Board

Attachment 2
SUPPLEMENTAL INFORMATION

ITEM: ACTION ITEMS

13. CONSIDER AMENDMENT TO AGREEMENT WITH BOOKMAN-EDMONSTON/GEI CONSULTANTS TO REVISE FINAL REPORT ON SEAWATER DESALINATION PROJECT ALTERNATIVES

Meeting Date:	July 17, 2006	Budgeted:	N/A
From:	David A. Berger, General Manager	Program/ Line Item No.:	N/A
Prepared by:	Andrew Bell	Cost Estimate:	\$15,000.00

General Counsel Approval: N/A
Committee Recommendation: N/A
CEQA Compliance: N/A

SUMMARY: Attached as Exhibit 13-A is a proposal from Bookman-Edmonston/GEI Consultants (B-E/GEI) for additional services to revise their final report on seawater desalination project alternatives. The revisions would be in response to questions and comments on the report submitted to the Board for the June 29, 2006 Workshop.

IMPACT TO STAFF/RESOURCES: The estimated cost of the additional work is \$15,000.00. The current agreement for professional services includes a cost cap of \$55,000. B-E/GEI has incurred costs that exceed the \$55,000 cap in the current agreement. When the original study was approved by the Board at the February 23, 2006 meeting, the Board authorized the General Manager to enter into a contract with B-E/GEI at a total cost not to exceed \$60,000. The additional \$5,000 was a contingency in the event of unforeseen tasks to complete the investigation and report. Funds to complete the report in the amount of \$60,000 were included in the Mid-Year 2005-2006 Budget (Project 1-2-1.C), but no funds to revise the report are included in the Fiscal Year 2006-2007 Budget adopted at the June 22, 2006 Board meeting. Therefore, it is recommended that if the Board approves the additional work, the \$15,000 cost be funded out of Capital Projects Fund Contingencies.

The final revised report will be completed in time for presentation at the Board's September 25, 2006 strategic planning workshop, if the Board so desires. The staff member responsible for administration of the B-E/GEI agreement is District Engineer Andrew Bell.

EXHIBITS

13-A Work Effort Estimate, Follow-on Questions for Monterey Peninsula Water Management District Desalination Alternatives Analysis Report, by Bookman-Edmonston/GEI Consultants, July 13, 2006

July 13, 2006

**Work Effort Estimate
Follow-on Questions for
Monterey Peninsula Water Management District
Desalination Alternatives Analysis Report**

The questions below are taken from Board and public comment at the June 29th Board Workshop on the Desalination Alternatives report by Bookman-Edmonston, Separation Processes, and Malcolm Pirnie. A cost estimate for addressing these questions is included. This estimate is based only on items that came up at the Board meeting and in subsequent discussions with District staff. The B-E team has incurred costs that will exceed the \$55,000 cap in the current agreement for professional services, so all costs to revise the report will be in addition to that amount.

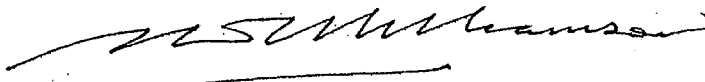
1. Review CWP data sources and compare costs for the Basic versus the Regional projects, esp. O&M costs
2. Compare CWP per-acre-foot cost to current CalAm cost (MPWMD to provide current cost)
3. Perform analysis of unit cost of entire CWP, including ASR element (Klein)
4. Prepare more detailed side-by-side cost comparison. Include consideration of ROW, and size, capacity, and life of pipelines (Lehman, Edwards)
5. Prepare more detailed unit (per acre-foot) cost comparison, to the limit of available data (potentially including data gaps, uncertainties, contingencies, sunk costs, mitigation and monitoring, etc.)
6. Correct as necessary the characterization of P/SM water quality data, both data included in NPDES Application Appendix C, and regular sampling P/SM asserts has occurred since then (using conceptual design report on the MBRSDP that purportedly states pesticides were not detected in the intake water -- Poseidon Resources to provide the detailed supporting data to B-E/GEI)
7. Describe process for determining feasibility for SCDP project large enough to meet Order 95-10 deficit and legal lots of record (Edwards)
8. Incorporate and elaborate on (as appropriate) answers provided at the Workshop into the revised report:
 - a. Seasonal storage might be needed for the Sand City Desalination Project if it is projected that during a high flow period the amount of flow would exceed the outfall.

July 13, 2006

- b. Paul Finley, representing RBF Consulting, project managers for the Coastal Water Project, stated that water quality information provided for the Coastal Water Project was obtained from intakes in Moss Landing Harbor for testing required for a National Pollution Discharge Elimination System (NPDES) Permit.
 - c. Peter MacLaggan, representing Poseidon Resources, project manager for the MBRSDP stated that the NPDES permit for the intake and outfall at the National Refractories site expired in May 2006. A renewal application is in process. Consideration of renewal of the permit for the full-scale plant should occur following permitting of the pilot project. He noted that the pilot project includes an innovative measure to reduce the rate at which water flows to the intake, so that when fish hit the screens they can swim away. Also planned, is the installation of a series of screens at the intake that will capture organisms and flush them back into the ocean.
 - d. David Laredo stated that California American Water (Cal Am) does have a limited right to acquire property through a process established by the Public Utilities Commission. The MPWMD or Pajaro/Sunny Mesa Community Services District could utilize the power of eminent domain.
- 9. 20 copies of revised final report
 - 10. Travel to and present at Board Workshop

Our estimate to perform these tasks is \$15,000 under the terms of our existing contract.

Sincerely,



BOOKMAN-EDMONSTON/GEI
Mark S. Williamson

July 13, 2006

Cost Estimate
2006 Monterey Peninsula Seawater Desalination Projects Evaluation
Supplemental Tasks
Bookman-Edmonston/Separation Processes/Malcolm Pirnie

	Principal Engineer	Project Manager	Project Engineer	Clerical	Expenses	Total
Refine Comparable Costs	4	8	8			\$3,488
Regional CWP		6				\$1,038
Expanded SCDP		6				\$1,038
Refine Unit Costs	4	8				\$2,168
Water Quality		2	8			\$1,666
Report Revisions	4	4		4	\$300	\$2,094
Board Workshop	8	8			\$500	\$3,502
Total	20	42	16	4	800	\$14,994
Cost per hour	196	173	165	72	1.10	
Total Cost	\$3,920	\$7,266	\$2,640	\$288	\$880	\$14,994

7/12/06

Attachment 3

**FINAL MINUTES
Regular Meeting
Board of Directors
Monterey Peninsula Water Management District
July 17, 2006**

The meeting was called to order at 7 PM in the Boardroom of the Monterey Regional Water Pollution Control Agency offices.

CALL TO ORDER/ROLL CALL

Directors present:

Michelle Knight, Chair – Division 4
Judi Lehman, Vice Chair – Division 2
Alvin Edwards – Division 1
Kristi Markey – Division 3
Larry Foy – Division 5
David Pendergrass – Mayoral Representative
David Potter – Monterey County Board of Supervisors (Arrived at 7:10 PM)

Directors absent: None

General Manager present: David A. Berger

District Counsel present: Fran Farina

The assembly recited the Pledge of Allegiance.

PLEDGE OF ALLEGIANCE

No comments were directed to the Board during Oral Communications.

ORAL COMMUNICATIONS

On a motion by Director Pendergrass and second by Director Edwards, the Consent Calendar was adopted on a vote of 6 – 0. Directors Edwards, Foy, Knight, Lehman, Markey and Pendergrass voted in favor of the motion. Director Potter was absent for the vote.

CONSENT CALENDAR

Approved.

1. **Consider Adoption of Minutes of the June 22, 2006 Regular Board Meeting and June 29, 2006 Special Meeting/Board Workshop**

Approved.

2. **Consider Extension of United States Geological Survey Cooperative Agreement for Water Year 2007**

Approved

3. **Consider Approval of Annual Memorandum of Agreement between the MPWMD and the California Department of Fish and Game – Sleepy Hollow Steelhead Rearing Facility Operations**

Approved.

4. **Consider Approval of Renewed Memorandum of Agreement between the MPWMD and the Carmel River Steelhead Association – Sleepy Hollow Steelhead Rearing Facility Operations**

Approved.

5. **Consider Adoption of Treasurer's Report for May 2006**

Hank Smith of the Carmel River Steelhead Association presented a framed certificate of appreciation to Larry Hampson, Water Resources Engineer, in recognition of his work on development of a Large Woody Debris Project for the Carmel River Lagoon that has greatly improved habitat for the Carmel River steelhead. Mr. Smith praised Mr. Hampson for his dedication to the development of the project despite encountering many setbacks in the process.

PRESENTATIONS

6. **Presentation of Certificate of Appreciation to Larry Hampson, Water Resources Engineer, by Representative of the Carmel River Steelhead Association for Work on the Large Woody Debris Project**

Henrietta Stern, Project Manager, provided a report to the Board. A summary is on file at the District office and can be viewed on the District's website. In response to a question from the Board, Ms. Stern explained that some of the concerns about the proposed Phase 1 Aquifer Storage and Recovery Project (ASR) raised by the California Department of Fish and Game and NOAA Fisheries were responded to by development of measures to ensure that Carmel River water injected into the Seaside Basin would be used only to reduce the need for pumping from the Carmel River basin in the summer months. Staff members from the District and California American Water (Cal Am) discussed the issues and were able to develop procedures that will assure the agencies that the injected water would not be used to solve over-pumping in the Seaside Basin.

7. **Water Supply Project Alternatives Update**

Joe Oliver, Water Resources Division Manager, presented the report. A summary of the report is on file at the District office and can be viewed at the District's website. Mr. Oliver reported that between October 1, 2005 and July 12, 2006 Cal Am production from the Carmel River was 493 acre-feet below the year-to-date production target established as a result of SWRCB Order 95-10.

GENERAL MANAGER'S REPORT

8. **Status Report on California-American Water Company Compliance with State Water Resources Control Board Order 95-10**

In response to a question from the Board, Mr. Oliver explained that injection of Carmel River excess winter flows into the Seaside Basin does not increase the operating yield for the Cal Am system. All users in the basin are assigned an allocation from the Seaside Basin that takes into account natural recharge rates. The artificial recharge represented by the ASR project does not effect Cal-Am's allocation from the basin. The Watermaster should discuss this issue in the future.

David Berger, General Manager, reported that on June 29, 2006, the Board conducted a Closed Session with labor negotiators regarding labor contracts with the General and Management bargaining units. The Board provided direction to the negotiator. No reportable action was taken. Mr. Berger reported that at the July 17, 2006 Closed Session the Board discussed the same labor contracts under item 3. Direction was given to the negotiators and no reportable action was taken.

District Counsel, Fran Farina, reported that at the July 17, 2006 Closed Session, there was no discussion of item 4.A. A report was provided to the Board on items 4.B and 4.C, but no reportable action was taken. Action was taken on item 4.D as the Board directed that the District will not appeal the appellate court decision. The Board also deferred to District Counsel's determination regarding pursuit of a matter relate to item 4.D.

ATTORNEY'S REPORT

9. Reports on June 29, 2006 and July 17, 2006 Closed Sessions of the Board

July 17, 2006 Closed Session Agenda

1. Public Comment
2. Adjourn to Closed Session
3. Conference with Labor Negotiators (Gov. Code 54957.6)
Agency Designated Representatives:
Ellen Aldridge, Rick Dickhaut,
Cynthia Schmidlin, David A. Berger
Employee Organization: General
and Management Bargaining Units
represented by Laborer's
International Union of North
America, AFL-CIO, (LIUNA/UPEC)
Local 270
4. Conference with Legal Counsel –
Existing Litigation (Gov. Code
54956.9 (a))
 - A. Save Our Carmel River; Patricia
Bernardi; and The Open
Monterey Project v. MPWMD;
MPWMD Board; and the City
of Seaside; Monterey County
Superior Court Case No.
M72877
 - B. Application of California
American Water Company to
the Public Utilities Commission
Application No. 04-09-019 –
Coastal Water Project
 - C. Application of California
American Water Company to
the Public Utilities Commission
Application No. 05-02-012 –
General Rate Case
 - D. Save Our Carmel River; Patricia
Bernardi; and The Open
Monterey Project v. MPWMD;
MPWMD Board; and the City
of Monterey: Monterey County
Superior Court Case No.
M72061

Chair Knight reported that the California Public Utilities Commission is conducting a public hearing on July 18, 2006 at 7 PM at the Monterey Marriott in the San Carlos Ballroom. The topic is Cal Am's request to the CPUC to recover costs for Coastal Water Project pre-construction expenses and to begin collecting contributions from the ratepayers for the project. Director Foy announced that he attended the formal change of command ceremony when Colonel Pamela Martis was given command of the Defense Language Institute. Mr. Foy stated that he was pleased to know that Colonel Martis planned to work closely with the community, just as her predecessor Colonel Jeffrey Cairns had.

On a motion by Director Pendergrass and second by Director Edwards, the staff recommendation to adopt Ordinance No. 124 and transmit a Notice of Determination to the Monterey County Clerk was approved unanimously on a roll-call vote of 7 – 0. No comments were directed to the Board during the public hearing on this item.

Director Edwards offered a motion to adopt the first reading version of Ordinance No. 126 and schedule the ordinance for second reading on August 21, 2006. The motion was seconded by Director Foy and adopted on a roll-call vote of 5 – 2. Directors Edwards, Foy, Knight, Markey and Pendergrass voted in favor of the motion. Directors Lehman and Potter were opposed. No comments were directed to the Board during the public hearing on this item.

Chair Knight made a motion to defer action on amending the contract with Bookman Edmonston/GEI until the September 25, 2006 Board Strategic Planning Workshop. Staff was directed to compile comments and additional information received by project proponents after the report was released, and attach them to the report as an addendum to be presented to the Board prior to the September 25, 2006 Strategic Planning Workshop. In addition, the Board will review the updated Water Supply Alternatives Matrix at the September 18, 2006 Board meeting. Review of this supplemental information will prepare the Board to identify what issues should be addressed in an amended report. The motion was seconded by Director Edwards and adopted unanimously on a vote of 7 – 0. No comments were directed to the Board during the public comment period on this item.

There was no Board discussion of the Informational Items/Staff Reports.

DIRECTORS' REPORTS

10. Oral Reports on Activities of County, Cities, Other Agencies/Committees/Associations

PUBLIC HEARINGS

11. Consider Second Reading and Adoption of Ordinance No. 124 – Water Distribution System Regulation Amendment Ordinance (Rule 20-C)
12. Consider First Reading of Ordinance No. 126 – Setting Compensation for Board Members

ACTION ITEMS

13. Consider Amendment to Agreement with Bookman-Edmonston/GEI Consultants to Revise Final Report on Seawater Desalination Project Alternatives

INFORMATIONAL ITEMS/STAFF REPORTS

14. Letters Received
15. Committee Reports
16. Strategic Planning Initiatives Progress Report
17. Carmel River Fishery Report

18. **Water Conservation
Program Report**
19. **Monthly Allocation Report**
20. **Monthly California
American Water
Production Report**
21. **Monthly Water Supply
Status Report**
22. **Quarterly Water Supply
Project Status Report**
23. **Quarterly Irrigation
Program and Riparian
Projects Report**
24. **Quarterly Carmel River
Erosion Protection and
Restoration Projects Report**
25. **Quarterly Water Use
Credit Transfer Status
Report**

The meeting was adjourned at 8:45 PM.

ADJOURNMENT

David A. Berger, Secretary to the Board

Attachment 4

Andy Bell

From: Peter MacLaggan [pmaclaggan@poseidon1.com]
Sent: Wednesday, June 28, 2006 5:45 PM
To: Andy Bell
Cc: 'Nikolay Voutchkov'; MJDelPiero@aol.com; joerosa@worldnet.att.net
Subject: RE: B-E/GEI report on Monterey area desal projects
Attachments: Tampa Bay Desalination - Overview FINAL 7 19 05.doc

Andy,

Overall I think your team has done a good job on the draft report. In the discussion that follows I've noted the areas where some additional clarification is in order. I will summarize the points in this email and get you a more detailed response next week.

Draft Report: Page 3-8 the report states: "One area of concern is the selection of DynaSand technology by Poseidon as a "conventional" filtration on other projects ... Selection of (traditional) granular media filtration style for piloting has not been identified by the project proponent."

Comment: Poseidon has yet to select the media filtration that would be used in the pilot or full scale plant for the MBRSDP, or for that matter, any of our other projects in California. In order to preserve maximum planning flexibility and the opportunity to study all available technologies in our pilot plant, we included the physical dimensions of the largest available filtration technologies (DynaSand) in the elevation drawings we submitted to the Monterey County Planning Department.

Draft Report: Page 4-3 states that Poseidon "does not specify how the required pathogen removal and inactivation credits will be achieved."

Comment: Poseidon has been working closely with DHS on the permitting of large-scale desalination projects in California for nearly five years and has received conditional approval from the DHS for our project in Huntington Beach. We believe we have a clear understanding of what would be required to secure DHS approval of the MBRSDP. We will share our thoughts on this subject with you next week.

Draft Report: Page 4-3 "chloramines ... no supporting detail is provided to justify its use."

Comment: Same as previous comment.

Draft Report: Page 4-3 "CDR notes that pesticides and agricultural runoff will not be a factor ... but there is no rationale or supporting water quality data provided to support this assertion."

Comment: Poseidon has conducted monthly water quality monitoring since October 2005 that included both wet and dry weather conditions. On each of these occasions we analyzed the seawater collected from Moss Landing Harbor for over three hundred priority pollutants (including pesticides and other constituents of agricultural runoff) regulated under the California Ocean Plan and the state and federal Safe Drinking Water Acts. On the basis of this information, we formulated our conclusion that pesticides and agricultural runoff will not be a factor.

Draft Report: Pages 4-3, 4-4, third paragraph expresses concerns regarding aesthetics, blending and corrosion control.

Comment: Poseidon recognizes that product water quality control is crucial to the success of a desalination project. We have conducted comprehensive studies to address each of these issues in Carlsbad and Huntington Beach we intend to follow similar protocols with the pilot studies and water quality investigations associated with the MBRSDP.

Draft Report: Page 5-12 states "A recent (Poseidon) desalination project experience at Tampa Bay, Florida resulted in the project being taken over by the local water authority after plant operational failure and two contractor bankruptcies. Financing was problematic with the Tampa Bay project because of a legal challenge to the project from local homeowners, which resulted in only about half of the financing being secured up front. The second contractor-related bankruptcy created an obstacle to obtaining required financing for the rest of the project."

Comment: This is not an accurate representation of Poseidon role in what transpired with the Tampa Bay Desalination Project. A summary of the Tampa Bay Desalination Project history, ownership and control, lessons learned and conclusions is attached. The bottom line is that Tampa Bay Water exercised its option to purchase the project from Poseidon when construction was 30%

completed and at that time the project was on schedule, within budget and, if construction were completed according to design, would have met performance specifications. The testimony of water agency staff and outside experts confirming these facts are part of the public record.

Thank you for an opportunity to comment on the draft report.

Peter M. MacLaggan
Senior Vice President
Poseidon Resources
501 W. Broadway #840
San Diego, CA 92101
Ph. 619-595-7802
Fax 619-595-7892
pmaclaggan@poseidon1.com

From: Andy Bell [mailto:Andy@mpwmd.dst.ca.us]
Sent: Tuesday, June 27, 2006 11:22 AM
To: PMacLaggan@Poseidon1.com
Subject: B-E/GEI report on Monterey area desal projects

Peter—

Attached is a .pdf file of Bookman-Edmonston's final report. Let me know if you wish a hard copy. This report will be the subject of the MPWMD Board workshop this Thursday June 29 at 7:00 PM at the MRWPCA Conference Room, next door to our office in Ryan Ranch.

Thank you again for your assistance in providing information to our consultants.

-Andy Bell
831) 658-5620



POSEIDON RESOURCES

TAMPA BAY DESALINATION

SUMMARY

- ◆ In 1999, Tampa Bay Water selected (from a competitive solicitation) Poseidon Resources to develop, construct and operate a 25-million-gallon-per-day desalination project among several proposals.
- ◆ Poseidon selected the site, negotiated the land lease, a power purchase contract and an agreement to share the use of the power plant cooling water infrastructure for source water and water discharge; secured all local and state permits for construction and resolved various challenges to the project, including the bankruptcy of the construction contractor, replacement of the contractor (with no change in cost or schedule) and the successful defense of a legal challenge to a critical state permit; while obtaining financing and beginning plant construction per contract schedule.
- ◆ In May 2002, Tampa Bay Water exercised its right in the Water Purchase Agreement to buy the project from Poseidon Resources.¹
- ◆ At the time of purchase, Tampa Bay Water's engineers concluded that the project, under Poseidon's management, was on time and on budget and would perform as desired.²
- ◆ Under Tampa Bay Water ownership, the constructed plant failed to meet operating test standards (December 2002 – May 2003).
- ◆ Tampa Bay Water sued several parties, but not Poseidon, to recover the costs of repair.
- ◆ Tampa Bay Water has selected a new contractor in November 2004 to correct the construction defects and bring the plant back to expected performance standards.³

HISTORY

PURPOSE

- ◆ To reduce demands upon groundwater supplies through the creation of a reliable new source of potable water supply using seawater from Tampa Bay by December 31, 2002. (Tampa Bay Water, regional wholesale supplier of water, is under a directive to systematically reduce its demands upon the area groundwater and create new water supplies by specific dates).⁴
- ◆ Insulate the rate payers from the risk of developing, constructing and operating the new facility by using a private firm to provide the funding and to assume the risks of getting such a facility on line by December 31, 2002.
- ◆ Purchase the facility at a future date once it is operating successfully.

OWNERSHIP & CONTROL

- ◆ Poseidon controlled the project from July 1999 through May 2002; Tampa Bay Water assumed ownership in May 2002.
- ◆ All approvals and permits were obtained by Poseidon and construction began on schedule in May 2001 despite a legal challenge to a critical permit (which included obtaining interim construction financing until the legal challenge was resolved).

¹ Quarterly Report to Tampa Bay Water, R.W. Beck, dated March 2005, page 2, 2nd paragraph; Minutes of Tampa Bay Water Board Meeting, March 18, 2002, page 10;

² Minutes of Tampa Bay Water Board Meeting, March 18, 2002, pages 23-25, 44;

³ Quarterly Report to Tampa Bay Water, R.W. Beck, dated March 2005, page 3, 3rd paragraph;

⁴ Reality Destination: Start-up of a Seawater Desalination Plant, R.W. Beck and Tampa Bay Water, paper presented American Water Works Association Annual Conference 2004, page 2;



POSEIDON RESOURCES

OWNERSHIP & CONTROL – CONTINUED

- ◆ In May 2002, Tampa Bay Water exercised its right in the Water Purchase Agreement to buy out Poseidon Resources' interests in the project.
- ◆ At the time of purchase, Tampa Bay Water's engineers and attorneys concluded that the project design would meet the Authority's operational requirements and was on time and on budget. The primary reason given for Tampa Bay Water's purchase was to realize savings on the cost of financing the project.⁵
- ◆ Tampa Bay Water's spokespersons have been quoted in many public forums that the biggest risk of the desalination project was in permitting and development, and that they could handle the remaining construction, startup and operating risks, while benefiting from a lower interest rate on the financing of the project.⁶

LESSONS LEARNED

- ◆ It's important to finish what you start; changing the lead during the middle of construction or even development can lead to complications and eliminate accountability.
- ◆ The private sector delivery mechanism is the best means to implement complicated, technology-based projects. The public agency (and general public) can be protected from loss of invested capital and other risks. (While Poseidon was the owner, one contractor went bankrupt, yet the project remained on time and on budget.)
- ◆ After Tampa Bay Water purchased the project, a bankruptcy of the construction contractor, Covanta, caused Tampa Bay Water to experience delays and additional costs since there was no longer a party to shield Tampa Bay Water from the legal and financial aspects of the bankruptcy.
- ◆ Select good contractors that have the financial and market presence to finish the project and have the ability to make a profit if they perform.

HISTORICAL CONTEXT⁷

- ◆ September – October 2001:
 - Terrorist attacks of 9/11;
 - Enron scandal/failure;
 - Telecom financial collapse (MCI, Global Crossing, etc) created uncertainty in the financial markets and increased lending interest rates accordingly.

CONCLUSION

- ◆ The Tampa Bay project is not an accurate indicator of Poseidon Resources' performance since it was not able to finish the project.
- ◆ If Poseidon Resources designs, builds and operates a project, it works.

⁵ Minutes of Tampa Bay Water Board Meeting, March 18, 2002, page 40;

⁶ Minutes of Tampa Bay Water Board Meeting, March 18, 2002, page 40 and 52;

⁷ Quarterly Report to Tampa Bay Water, Jacob's Engineering, date December 2004, page 3

Andy Bell

From: Peter MacLaggan [pmaclaggan@poseidon1.com]
Sent: Friday, July 14, 2006 5:56 PM
To: Andy Bell
Subject: RE: B-E/GEI report on Monterey area desal projects
Attachments: Supplemental Comments SW Desal Project Evaluation 071406.doc

Andy,

Attached is PSM/Poseidon's comment letter on the subject report. This comment letter intended to supplement and expand on the written comments we provided June 28th. Thank you for the opportunity to comment on the draft report.

Peter M. MacLaggan
Senior Vice President
Poseidon Resources
501 W. Broadway #840
San Diego, CA 92101
Ph. 619-595-7802
Fax 619-595-7892
pmaclaggan@poseidon1.com

From: Andy Bell [mailto:Andy@mpwmd.dst.ca.us]
Sent: Wednesday, June 28, 2006 6:25 PM
To: Peter MacLaggan
Cc: Nikolay Voutchkov; MJDelPiero@aol.com; joerosa@worldnet.att.net; david@mpwmd.dst.ca.us; balspach@pirnie.com; gfilteau@spi-engineering.com; DHanson@PIRNIE.COM; HMorgan@geiconsultants.com; MRozman@geiconsultants.com; MWilliamson@geiconsultants.com
Subject: FW: B-E/GEI report on Monterey area desal projects

Peter—

Thank you for your comments, and I look forward to your more detailed response to follow. I'm passing your e-mail on to our consultant team and to Dave Berger so that your comments are available to them in advance of tomorrow evening's meeting.

—Andy

From: Peter MacLaggan [mailto:pmaclaggan@poseidon1.com]
Sent: Wednesday, June 28, 2006 5:45 PM
To: Andy Bell
Cc: 'Nikolay Voutchkov'; MJDelPiero@aol.com; joerosa@worldnet.att.net
Subject: RE: B-E/GEI report on Monterey area desal projects

Andy,

Overall I think your team has done a good job on the draft report. In the discussion that follows I've noted the areas where some additional clarification is in order. I will summarize the points in this email and get you a more detailed response next week.

Draft Report: Page 3-8 the report states: "One area of concern is the selection of DynaSand technology by Poseidon as a 'conventional' filtration on other projects ... Selection of (traditional) granular media filtration style for piloting has not been identified by the project proponent."

Comment: Poseidon has yet to select the media filtration that would be used in the pilot or full scale plant for the MBRSDP, or for that matter, any of our other projects in California. In order to preserve maximum planning flexibility and the opportunity to study all

7/17/2006

available technologies in our pilot plant, we included the physical dimensions of the largest available filtration technologies (DynaSand) in the elevation drawings we submitted to the Monterey County Planning Department.

Draft Report: Page 4-3 states that Poseidon "does not specify how the required pathogen removal and inactivation credits will be achieved."

Comment: Poseidon has been working closely with DHS on the permitting of large-scale desalination projects in California for nearly five years and has received conditional approval from the DHS for our project in Huntington Beach. We believe we have a clear understanding of what would be required to secure DHS approval of the MBRSDP. We will share our thoughts on this subject with you next week.

Draft Report: Page 4-3 "chloramines ... no supporting detail is provided to justify its use."

Comment: Same as previous comment.

Draft Report: Page 4-3 "CDR notes that pesticides and agricultural runoff will not be a factor ... but there is no rationale or supporting water quality data provided to support this assertion."

Comment: Poseidon has conducted monthly water quality monitoring since October 2005 that included both wet and dry weather conditions. On each of these occasions we analyzed the seawater collected from Moss Landing Harbor for over three hundred priority pollutants (including pesticides and other constituents of agricultural runoff) regulated under the California Ocean Plan and the state and federal Safe Drinking Water Acts. On the basis of this information, we formulated our conclusion that pesticides and agricultural runoff will not be a factor.

Draft Report: Pages 4-3, 4-4, third paragraph expresses concerns regarding aesthetics, blending and corrosion control.

Comment: Poseidon recognizes that product water quality control is crucial to the success of a desalination project. We have conducted comprehensive studies to address each of these issues in Carlsbad and Huntington Beach we intend to follow similar protocols with the pilot studies and water quality investigations associated with the MBRSDP.

Draft Report: Page 5-12 states "A recent (Poseidon) desalination project experience at Tampa Bay, Florida resulted in the project being taken over by the local water authority *after* plant operational failure and two contractor bankruptcies. Financing was problematic with the Tampa Bay project because of a legal challenge to the project from local homeowners, which resulted in only about half of the financing being secured up front. The second contractor-related bankruptcy created an obstacle to obtaining required financing for the rest of the project."

Comment: This is not an accurate representation of Poseidon role in what transpired with the Tampa Bay Desalination Project. A summary of the Tampa Bay Desalination Project history, ownership and control, lessons learned and conclusions is attached. The bottom line is that Tampa Bay Water exercised its option to purchase the project from Poseidon when construction was 30% completed and at that time the project was on schedule, within budget and, if construction were completed according to design, would have met performance specifications. The testimony of water agency staff and outside experts confirming these facts are part of the public record.

Thank you for an opportunity to comment on the draft report.

Peter M. MacLaggan
Senior Vice President
Poseidon Resources
101 W. Broadway #840
San Diego, CA 92101
Ph. 619-595-7802
Fax 619-595-7892
pmaclaggan@poseidon1.com

From: Andy Bell [mailto:Andy@mpwmd.dst.ca.us]
Sent: Tuesday, June 27, 2006 11:22 AM
To: PMacLaggan@Poseidon1.com
Subject: B-E/GEI report on Monterey area desal projects

Peter—

7/17/2006

Attached is a .pdf file of Bookman-Edmonston's final report. Let me know if you wish a hard copy. This report will be the subject of the MPWMD Board workshop this Thursday June 29 at 7:00 PM at the MRWPCA Conference Room, next door to our office in Ryan Ranch.

Thank you again for your assistance in providing information to our consultants.

—Andy Bell
(831) 658-5620

Poseidon Resources
COMMENTS TO
"SEAWATER DESALINATION PROJECTS EVALUATION" REPORT
OF JUNE 26, 2006

Prepared by: Bookman-Edmonston/GEI; Separation Processes, Inc.; and
Malcolm Pirine, Inc.

Draft Report: Page ES-5 states that the cost per Acre-Ft for the CWP Regional Project and MBRSDP project are within 15 % of one another.

Comment: According to Table ES-1 and Table 2 (page ES-6, page 5-2) the 2005 cost of water for the *proposed* CWP project is \$1,944/AF, which is 44 % higher than the 2006 cost of water of the MBRSDP of \$1,352 presented in these tables ($(1,944-1352)/1352 \times 100 = 44\%$). Since 2005, the cost of construction in California increased over 5 %, so if the 2006 costs of the two projects are compared, the difference in the two projects will be closer to 50 %. The 2005 cost of water for the *regional* CWP project is \$1,562/AF, which is 16 % higher than the 2006 cost of water of the MBRSDP of \$1,352 presented in these tables. However, there appears to be an error in the calculation of the O&M cost for the *regional* CWP project because while the plant capacity increased 80% over that of the *proposed* CWP, the O&M only increased from \$8.1M to \$10.5M for a 30% increase. The O&M cost for a plant of this capacity should be closer to \$14M, which would add an additional \$180 per acre-foot to the unity cost of the water produced. The additional O&M plus adjusting the cost basis to 2006 dollars would put the cost of the regional CWP at about \$1,800 per AF, or 33% higher than that of the MBRSDP, not 15 % as stated in the report.

In addition, as shown on Table ES-1, the Sand City Project costs are presented in 2002 dollars; while the MBRSDP project costs are in 2006 dollars. The cost of construction in California increased over 15 % since year 2002, and the interest rates for long term debt have increased significantly as well. Therefore, the cost of water in 2006 dollars for the Sand City project is over 50 % higher than that of the MBRSDP.

Draft Report: Page 3-9 states that "Feed water temperature is not well defined in the documents and will have substantial impact on the performance and economics of the project."

In the Conceptual Design Report submitted by our team to the reviewing consulting companies we have clearly stated the design minimum, maximum and average temperatures of the source water we used in the preparation of our design and cost estimate (see Table 2, page 7 of the Conceptual Report). This temperature information is based on actual source water characterization completed by a certified laboratory. At source water quality samples were collected at the existing National Refractories intake in 2005 and 2006.

Draft Report: Page 4-3 states that Poseidon "does not specify how the required pathogen removal and inactivation credits will be achieved."

Comment: Poseidon has been working closely with DHS on the permitting of large-scale desalination projects in California for nearly five years and has received conditional approval from the DHS for our project in Huntington Beach. We believe we have a clear understanding of what would be required to secure DHS approval of the MBRSDP.

A 24-hr water quality characterization of the source water during worst-case scenario rain event completed in January 2005 indicates that the source water contained maximum hourly concentrations of total coliforms and fecal coliforms of 5,000 MPN and 900 MPN, respectively. Based on this and other water quality information collected at the existing National Refractories intake to date, we anticipate that the desalination plant will need to be designed to achieve Giardia inactivation level of 4 logs and virus inactivation of 3 logs.

Based on our prior experience and discussions with the CDHS staff, we project that the project treatment processes would be assigned the following Giardia/Virus Removal credits for the key treatment processes:

Treatment Process	Giardia Log Removal Credit	Virus Log Removal Credit
Sedimentation/Filtration	2	1
Reverse Osmosis Membrane Separation	2	2
Disinfection with Free Chlorine in Contact Tank	2	1
Total	6	4

Therefore, the proposed treatment processes will be adequate to meet the log inactivation requirements established based on the source water characterization completed to date. The log removal credits for sedimentation and filtration are very conservative. The filtration credit in the table above assumes the use of granular media filters. However, the project team will also explore the use of membrane pretreatment alternatives, such as the Zenon UF system. This system, as well as a number of other similar membrane pretreatment systems, has been granted approximately two times higher log removal credits by the CDHS for other similar projects.

Based on our prior experience, the DHS is expected to grant a 2/2 log removal credits of the reverse osmosis system based on the fact that this system will be designed to remove a minimum of two logs of salinity (i.e., the RO will reduce salinity from 33,500 mg/L to a minimum of 330 mg/L. The actual log removal of Giardia and viruses is expected to be at least two times higher than 2 logs.

The seawater desalination plant will be provided with chlorine contact tank designed to provide adequate final disinfections compliant with the applicable DHS regulations. The

disinfection in the tank will be completed using free chlorine. Depending on current the disinfection practices and needs of various users of the desalinated water, ammonia may be added to the plant permeate after it exits the chlorine contact tank to form chloramines at the desalination plant or at the points of entrance to the distribution system/s of the individual water users. No additional credit for Giardia and virus inactivation is assumed at this time.

Draft Report: Page 4-3 "chloramines ... no supporting detail is provided to justify its use."

Comment: As indicated above, the entire desalination plant product water flow will be disinfected using free chlorine in a contact tank. If all potential users of the desalinated water require the delivered product water to be chloraminated at the desalination plant site. Otherwise, the desalinated water will only be disinfected using free chlorine at the desalination plant site. Then the chlorinated water will be conveyed to the points of delivery of the individual customers. For these customers that may require chloraminated water, the chlorinated product water will be injected with ammonia to form chloramines just prior to the entrance to their water distribution system.

Draft Report: Page 4-3 "CDR notes that pesticides and agricultural runoff will not be a factor ... but there is no rationale or supporting water quality data provided to support this assertion."

Comment: Poseidon has conducted monthly water quality monitoring since October 2005 that included both wet and dry weather conditions. On each of these occasions we analyzed the seawater collected from Moss Landing Harbor for over three hundred priority pollutants (including pesticides and other constituents of agricultural runoff) regulated under the California Ocean Plan and the state and federal Safe Drinking Water Acts. On the basis of this information, we formulated our conclusion that pesticides and agricultural runoff will not be a factor. The October 2005 water quality sampling results were included in the document that was transmitted to Mr. Bell on May 18, 2005 (*Monterey Bay Regional Desalination Pilot Plant Project Report of Waste Discharge, Pajaro/Sunny Mesa Community Services District, March 2006*).

Draft Report: Pages 4-3, 4-4, third paragraph expresses concerns regarding aesthetics, blending and corrosion control.

Comment: Poseidon recognizes that product water quality control is crucial to the success of a desalination project. We have conducted comprehensive studies to address each of these issues in Carlsbad and Huntington Beach we intend to follow similar protocols with the pilot studies and water quality investigations associated with the MBRSDP.

The corrosion testing study completed at our Carlsbad Demonstration Desalination Plant under the oversight of the City of in Carlsbad staff, and independent corrosion experts, including corrosion specialist from the US EPA, Michael Schock indicates that desalinated water can be successfully stabilized to match the needs of the water customers.

The purpose of the corrosion study was to compare corrosion levels for conditioned desalinated seawater with those of imported water from the Metropolitan Water District of Southern California (MWD). The seawater desalination process would produce treated water that varies in quality from the District's typical imported, treated surface water supply in several respects. The water quality of the reverse osmosis (RO) permeate would generally contain lower total dissolved solids, calcium, alkalinity, and disinfection byproduct formation potential, as well as higher concentrations of bromide, sodium, and chloride ions than the imported water supply.

A 6-month study was conducted to compare potential corrosion impacts on distribution system and household materials for conditioned desalinated seawater and imported water from the potable supply (a blend of California State Project water and Colorado River water). Various distribution and home plumbing appurtenances were tested in parallel and duplicate test systems, including copper pipe, brass home water service meters, cement mortar-lined pipe, and distribution system gate valves. Corrosion was assessed by analyzing changes in water quality due to pipe corrosion or passivation, including metal concentration (iron, zinc, lead, copper, and aluminum), calcium, alkalinity, and turbidity changes. Chloramine stability and nitrification occurrences were also determined, along with pH changes. Testing demonstrated that, in terms of corrosion and nitrification effects, the properly conditioned RO permeate is comparable to the traditional fresh water sources and is not likely to trigger new corrosion problems in the Carlsbad distribution system. The results of this study were presented in the context of satisfying regulatory requirements of the Lead Copper Rule and secondary drinking water standards, and achieving favorable corrosion and scaling index values, while maintaining satisfactory aesthetic characteristics of the water.



RECEIVED

AUG 30 2006

MPWMD

August 30, 2006

Andy Bell
Monterey Peninsula Water Management District
5 Harris Court, Building G
PO Box 85
Monterey, CA 93942

RE: Comments on Bookman-Edmonston/ GEI Report *Seawater Desalination Projects Evaluation*

Dear Andy,

California American Water Company (CAW) would like to thank to Monterey Peninsula Water Management District Board for the opportunity to submit comments regarding the *Seawater Desalination Projects Evaluation* completed June 2006 by Bookman-Edmonston/ GEI Consultants. Our comments and concerns are addressed below.

- The B/E Report excludes the ASR component of the CWP from the analysis in order to get an "apples to apples" comparison with the MBRSDP. Unfortunately, excluding ASR from the CWP has the opposite effect and creates even more confusion in comparing the projects.
- CAW needs to have about 12 mgd of supply on a typical cool winter day, and about 25 mgd of supply on a typical hot summer day. At 10 mgd, the CWP desalination plant is sized to meet most of the winter demand (the rest would come from the Carmel River) However, we need the entire 10 mgd from the desalination plant plus 15 mgd from the ASR wells and the Seaside wells to meet the hot summer day demand. This means that full use of the desalination plant would be made during both the winter and summer.

If CAW agreed to purchase desalinated water from the MBRSDP (without an ASR component), CAW would need all of the 20 mgd from the desalination plant in the summer, but would only need half of it in the winter. Poseidon/ PSM would surely have other customers who would also seek the desalinated water supply to meet their peak summer demands. Even though they have a 20 mgd desalination plant, they won't be able to operate it year round at this capacity unless they have users who only purchase during the winter. The intricacies between winter and summer demands amongst potential Poseidon/ PSM customers has not been worked out. In conclusion, the annual yield that the B/E Report associates with the MBRSDP (20,930 AFY) is probably too high.

- If we were going to compare apples and apples, the proper assumption would have been that CAW would buy 11,730 AFY from the PSM/ Poseidon MBRSDP in order to satisfy Order 95-10 and reduce overdrafts of the Seaside Basin. As a result, our costs would be much higher

per acre-foot because the low-cost ASR component would not be implemented. The costs would probably be closer to \$1,800/ acre-foot, as opposed to the \$1,352/ acre-foot figure in the B/E Report.

This is why CAW always includes the ASR costs and ASR yield when we present CWP economics. We have calculated the annualized costs of the entire CWP (including ASR) to be \$20M (per year, in 2005 dollars). The yield of the CWP is 11,730 AFY. \$20M divided by 11,730 AFY is the \$1700/ acre-foot number that we claim for the CWP. This is the basis for our objection to the \$1,944/ acre-foot number cited in the B/E report.

- The B/E Report is misleading in that no facilities south of the Terminal Reservoir are depicted. Even though the authors removed the ASR component of the CWP to complete their analysis, facilities are still required to deliver desalinated water to CAW's customers in Carmel Valley, Carmel-by-the-Sea, Pacific Grove, Pebble Beach, and Monterey. Thus, the Terminal Reservoir, Segunda Pipeline and the Tarry Flats Pump Station still need to be included in the analysis. The Terminal Reservoir provides operational benefits to the CAW system and provides fire and emergency storage. The Tarry Flats Pump Station is required to pump desalinated water to the Crest Tank so it can then gravity flow to Carmel Valley for distribution. The Segunda Pipeline would convey this water from Seaside to Carmel Valley.
- Because integral facilities to the CWP have been removed from B/E's analysis, we are also concerned of the accuracy of the cost estimate for the MBRSDP in comparison to the CWP (aside from the cost per acre-foot analysis previously described). The CWP estimate is the result of a lot of time and effort, and includes the input of a professional cost estimator who prepared a detailed estimate. We do not see a similar level of detail in the other projects. The MBRSDP and SCDP project estimates do not include sufficient capital costs for pipeline conveyance to the CAW service area. They also do not include any costs for the Terminal Reservoir, Segunda Pipeline or the Tarry Flats Pump Station. The CWP capital cost estimate includes costs that effectively integrate the supply into the CAW system. Other cost estimates do not. The projects cannot be fairly compared with this unequal level of accuracy and completeness in the cost estimate methodology. The report is also incomplete in that MBRSDP has not included all of the costs associated with getting their product water to their customers. Similarly, the MBRSDP has not included the cost of building and operating the necessary water storage facilities.
- The report does not shed enough light on the fact that the MBRSDP, as proposed by the PSM/ Poseidon, cannot meet the requirements of Order 95-10.
- The report is in error regarding CAW's data collection and pilot plant project status. CAW has an agreement with LS Power to construct and operate a pilot plant on the Moss Landing Power Plant site and has information that is at least as comprehensive and conforms with what the relevant state agencies require. The pilot plant arrived to the LS Power site on June 28, 2006 and just yesterday (August 29, 2006) we obtained our County permit before the

County Board of Supervisors. We will obtain a County building permit and a Coastal Commission permit before beginning construction. Public notice was issued that the pilot projects for both the CWP and the MBRSDP go before the Regional Board on September 7, 2006. This permit is not required for construction, but for discharges from the operating facilities. Regional Board staff recommends granting both of the research facilities a General NPDES Permit for Discharges with Low Threat to Water Quality. (Page ES-3)

- CAW clearly understands and will abide by federal and state drinking water regulations. It is inherent that CAW will provide a water of quality that satisfies all regulatory requirements and is compatible with local supplies. All water quality parameters, including reduction of disinfection byproduct (DBP) precursors and log-removals for contaminants, will be addressed during the piloting phase of the CWP. Operating parameters for membranes are typically established by the manufacturer and are optimized during the pilot study for the range of source water qualities. The optimal operating parameters of the full-scale desalination plant that will be established during the pilot study include membrane flux, transmembrane pressure decline over time, number of RO passes and stages, chemical dosing, and cleaning strategies. (Page ES-3)
- The B/E Report should stress that impingement and entrainment issues are not raised in the CWP proposal because it will not cause any increase in the amount of seawater pumped into the MLPP cooling water system. (Page ES-7)
- The Board should know that the schedule for the CWP was recently revised. The CWP has two distinct operational objectives: to have the ASR component of the project online by the Winter of 2008/ 2009 and to have the desalination plant operating in late 2010 (thus providing two winters of storage in the ASR prior to desalination plant startup).

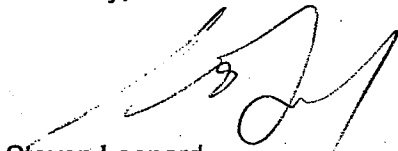
In summary, CAW feels that the B/E Report does not adequately inform the MPWMD Board of the proposed desalination projects in Monterey County and does not provide a sound basis for comparison. The Report argues that the three projects contend to satisfy the requirements of Order 95-10 and to reduce overdraft of the Seaside Basin. While the SCDP would partially offset CAW's demands off the Carmel River, an additional new water source would still need to be developed in order to fully comply with Order 95-10 and to reduce overdraft of the Seaside Basin. The B/E Report does not site this other source of supply. The MBRSDP as described could provide CAW with 20 mgd of desalinated water to meet the summer demands; however no supply would be left for North Monterey County or other Peninsula users. In addition, use or storage of the desalinated water during the winter has not been identified.

The ASR component of the CWP was purposely excluded from the analysis in an effort to gain an "apples to apples" comparison of the desalination projects. We believe the comparative costs as presented are inaccurate. We acknowledge that larger desalination plants would enjoy economies of scale benefits and this would be reason why costs per acre-foot would be less than other projects. It is true that the CAW's customers could be supplied by a 20-mgd desalination plant and the

remaining 5 mgd would be supplied by the Seaside Wells during the hottest summer days when no withdrawals from the Carmel River would occur. Either CAW or the MBRSDP could supply this desalinated water. However, the CWP offsets the requirement for a larger capacity desalination plant and resultant conveyance facilities by including the ASR component. Not only is the ASR component a cost benefit to the CWP, it also provides operational benefits to the CAW system and replenishes the Seaside Basin. This is why the cost comparison must include the ASR cost component for the CWP.

Again, thank-you for providing CAW with the opportunity to comment on the B/E Report. If you have any questions or would like further details, please contact me directly.

Sincerely,



Steven Leonard
Vice President/Manager

CC: John Klein

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Coastal Division
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Attachment 7
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Paul R. De Lay
David C. Laredo
Heidi A. Quinn
Fran Farina, *of Counsel*

June 22, 2006

TO: Andrew M. Bell, District Engineer

FROM: David C. Laredo, District Counsel 

RE: Water Rights Relating to Sand City Desalination Projects

This memo provides an overview of water rights associated with desalination plants that may be proposed for the Sand City area, as requested by board members in relation to the MPWMD 2005-2006 Strategic Plan adopted on October 18, 2005.

The City of Sand City has developed a desalination concept that may include construction of a 300,000 gallon-per-day desalination project located in Sand City. The Sand City plan calls for desalination of brackish water derived from vertical well intakes from the Aromas Sands Formation, a groundwater formation that lies within the Coastal Subarea of the Seaside Basin.

The Monterey Peninsula Water Management District has developed a desalination concept that may include construction of a 7.5 million gallon-per-day desalination project also located in Sand City. The MPWMD plan calls for desalination of seawater derived either from coastal radial wells, or from more "offshore" horizontal (HDD) collector wells. While seawater does not derive from groundwater of the Seaside Basin, it is possible that water collected by the District intake could have an effect upon groundwater within the Coastal Subarea of the Seaside Basin¹.

The recent Seaside Basin Groundwater Adjudication of Judge Roger D. Randall in *California American Water v. City of Seaside, et al.*, Case M66343, imposed a "physical solution" aimed at eliminating over-drafting of native water from the Basin by Cal Am, the City of Seaside, and other original parties to the lawsuit. The decision adjudicated the relative priority of legal rights and allocated production amounts among the public and private entities that produce water from the Basin. The adjudication decision also addressed select issues pertaining to water rights for the City of Sand City desalination plan. That portion of the decision states, in part,

Sand City shall have the right to Produce Brackish Water from the brackish Groundwater aquifer portion of the Coastal Subarea of the Seaside Basin for

¹ Joe Oliver comments on the possible impact of an MPWMD District desalination plant upon a City of Sand City desalination plant, stating, "it is not likely, however, that the radial wells would increase the salinity at the Sand City Wells. See the discussion of water quality impacts on pages 8-37 of the Board Review Draft MPWMD EIR for a more detailed description." He adds, however, that the radial well configuration could cause an efficiency loss for the Sand City intake facilities.

the purpose of operating its proposed desalination plant, said Production being limited to the Aromas Sands Formation, so long as such Production does not cause a Material Injury. Upon receiving a complaint... the Watermaster may impose conditions on such Production of Brackish Water that are reasonably necessary to prevent such Material Injury.

Several of the terms set forth above are defined "terms of art." "Brackish Water" is defined to mean "water containing greater than 1,000 parts of chlorides to 1,000,000 parts of water." "Groundwater" means "all Water beneath the ground surface in the Seaside Basin, including Water from Natural Replenishment, Artificial Replenishment, Carryover, and Stored Water." "Material Injury" means a substantial adverse physical impact to the Seaside Basin or any particular Producer(s), including but not limited to: seawater intrusion, land subsidence, excessive pump lifts, and water quality degradation." "Water" includes "all forms of water."

The Seaside Basin Groundwater Adjudication decision explicitly addresses the occurrence of a Material Injury caused by Production of Brackish Water by the City of Sand City desalination plant affecting other groundwater producers.

The Adjudication decision does not allocate any production amount to the Monterey Peninsula Water Management District as it does not produce water from the Basin. The decision also does not confer any water right upon the Water Management District related to brackish water.

The Court retained and reserved jurisdiction to make supplemental orders upon the noticed motion of any party to provide further direction as may be necessary to interpret or enforce the adjudication decision.

Based upon the foregoing, it is clear that the City of Sand City has the right to Produce Brackish Water from the brackish portion of the Aromas Sands Formation. The Water Management District may not operate a production or intake facility that interferes with Sand City's water right without the permission (and/or compensation) of Sand City, and without approval of either the Watermaster Board or the Court. Wrongful interference would occur to the Sand City desalination plant if its water source suffered an increase in salinity, or if excessive pump lifts or other operational efficiencies were lost by reason of Water Management District desalination plant operations.

It is not certain that a District seawater desalination plant would interfere with operation of a City of Sand City brackish water desalination plant. If an adverse effect were to occur, its effect can be mitigated by a variety of methods, including but not limited to providing Sand City with an alternate supply of potable (desalted) water, providing Sand City with an alternate supply of brackish water for it to desalinate, or by making modifications to the District facilities to avoid those impacts.

It is important to note that any production of water deriving from the Seaside Groundwater Basin is subject to regulation of the Watermaster Board, and eventually the Court. The Seaside Basin Groundwater Adjudication decision does not limit production of seawater from sources other

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than those beneath the ground surface in the Seaside Basin, and also does not operate to limit production of seawater that does not adversely effect upon the Seaside Basin water resources.

Please do not hesitate to contact me if you have any question regarding this memo.

Sincerely,

De LAY & LAREDO

David C. Laredo

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