



*The Membrane Technology Consultants*

SPI  
3156 Lionshead Ave., Suite 2  
Carlsbad, CA 92010  
Tel: 760-400-3660  
Fax: 760-400-3661  
www.spi-engineering.com

Date: December 6, 2013  
To: Members of the Governance Committee  
From: Alex Wesner, PE  
Subject: Review of Selection Process for the Design-Build Contractor for the Monterey Peninsula Water Supply Project

## **SUMMARY**

This memorandum summarizes my review of the process California American Water (Cal-Am) undertook for the purposes of securing an agreement with a preferred design-build (D-B) contractor for design and construction of the proposed desalination plant infrastructure component of the Monterey Peninsula Water Supply Project. Under an agreement with Cal-Am, I was provided access to documents related to the selection process, attended all interviews with the candidate proposers, and witnessed deliberations of the selection team. I was also present during negotiations and follow up discussions between Cal-Am and the selected proposer.

Previously the Governance Committee (GC) had reviewed and commented on the antecedent documents to the current selection process—the request for statements of qualification (SOQs) from qualified D-B contractors and the request for proposals (RFP) for design and construction of the proposed desalination plant facilities. Candidate D-B contractors meeting the qualifications criteria for the proposed work received the RFP and were permitted to submit a proposal.

The previous RFP document set the terms for both the scope of work and evaluation process/criteria for the proposals. Proposers were required to provide fixed price bids and supporting basis of design documents and drawings for a base proposal consisting of a prescribed treatment process design and defined plant production capacities of 6.4 mgd and 9.6 mgd, with a master-plan/build-out capacity at the site of 12.8 mgd. Proposers were required to submit pricing adjustments on five required alternative proposals, primarily involving post-treatment system equipment and component warranties. They were also allowed to submit voluntary alternative proposals which deviated from prescribed criteria in the RFP along with their associated price adjustments.

Proposals from four teams were received on October 16, 2013—Black & Veatch Constructors (B&V), CDM Constructors Inc. (CDM), CH2M Hill Engineers (CH2M Hill), and MWH Constructors Inc. (MWH). A fifth D-B contractor, Kiewit Infrastructure West Co., was approved through the SOQ phase but elected not to submit a proposal. Cal-Am assembled both a Selection Committee and Evaluation Team, comprised of four and ten individuals, respectively. In practice, the two entities worked cooperatively to evaluate the submitted proposals, conduct interviews with each proposer, and negotiate with the selected proposer to finalize terms of an agreement. The Evaluation Team prepared a final Proposal Evaluation Report dated November 16, 2013 summarizing their process and ultimate selection of the most “advantageous proposer”;

the term used within the documents to signify the D-B contractor selected for final negotiation of a contract.

The evaluation included both financial and technical components, weighted 60 percent for financial criteria and 40 percent for technical criteria. The Evaluation Team recommended and the Selection Team accepted the proposal from CDM as the most advantageous. **Table 1** provides the scoring for the proposals from each team.

**Table 1: Summary of Final Scoring of Proposals**

Proposer	Technical Criteria (40 Pts)	Business and Financial Criteria (60 Pts)	Total
B&V	35.8	50.2	86.0
CDM	36.1	59.8	95.9
CH2M Hill	40.0	48.0	88.0
MWH	35.1	51.4	86.5

Each of the main criteria categories included sub-categories that went into calculating the overall score. The Technical Criteria score was made up of the following:

- Project Delivery – 10 percent
- Technical Reliability and Viability – 17 percent
- Operability – 10 percent
- Technical Qualifications – 2 percent
- Other – 1 percent

The Business and Financial Criteria score was sub-categorized as well:

- Cost Effectiveness of Proposals – 50 percent
- Business Terms and Conditions – 8 percent
- Proposer/Guarantor Financial Qualifications – 2 percent

Cost effectiveness of the proposals was the most strongly weighted criterion at 50 percent of the total score. Overall scoring was based on a weighting of the fixed DB price proposal for each capacity increment (60 percent of the total score) and a net present value (NPV) evaluation which included both the fixed price and present worth of the guaranteed energy cost. The NPV calculation was broken down into four sub-categories, derived from evaluations at each plant capacity and terms of 20 and 30 years. Each of these sub-category figures was given a weighting of 10 percent—for a cumulative 40 percent total.

The fixed DB price for each plant capacity figures prominently in the evaluation and is summarized by proposer in **Table 2**. It also represents the price each D-B contractor offered to

design and build the base case desalination facilities.

**Table 2: Summary of Fixed Bid Prices for Base Scope of Work**

Proposer	Fixed D-B Price 6.4 MGD Plant	Fixed D-B Price 9.6 MGD Plant
B&V	\$88.9M	\$99.0M
CDM	\$78.0M	\$85.2M
CH2M Hill	\$102.3 M	\$110.0M
MWH	\$81.9M	\$91.9M

It should be noted that the above bid prices fall in the low end of the range projected in our comparative evaluation of projects conducted last January. Though estimates in that report were for plant capacities of 5.4 mgd and 9.0 mgd, the comparable estimate of facilities cost (less the 30 percent contingency factor applied at the time of the estimates) would be \$109.6M for the larger plant option and \$90.0M for the smaller capacity plant. The costs are therefore considered very competitive.

In whole I consider the process of selection fair and typical of selection processes used by public water utilities. My recommendation to the GC is to support Cal-Am’s selection of CDM to design and build the desalination facilities infrastructure.

**DISCUSSION**

Background

The Governance Committee (GC) was created on March 8, 2013 by an agreement emanating out of Application A.12-04-019 by California American Water Company (Cal-Am) for approval of the proposed Monterey Peninsula Water Supply Project (MPWSP), filed with the California Public Utilities Commission (CPUC) in April 2012. The GC consists of a single representative and designated alternate from each of four parties to the agreement—the Monterey Peninsula Regional Water Authority (MPRWA); the Monterey Peninsula Water Management District (MPWMD); the County of Monterey (County); and Cal-Am. Under the terms of the agreement, the GC has various prescribed roles for review of documents and provision of recommendations for various components of the MPWSP.

Under terms of the agreement, the GC is provided a discretionary role in execution of the MPWSP under three categories—A, B and C. Category A activities and decisions represent the strongest level of input from the GC, while categories B and C are more advisory. The present activity is classified under Category B and allows the GC to make a recommendation on receipt of a written recommendation and supporting documents from Cal-Am. Cal-Am has the option at

SPI MEMORANDUM  
Subject: Review of Cal-Am D-B Contractor Selection

December 6, 2013  
Page 4

its sole discretion to follow or oppose the recommendation from the GC, but must provide a written explanation to the GC explaining its reasons for any opposing decision.

Document Summary

Cal-Am has released the following documents related to the selection process for the D-B Contractor. I was given access to each of these documents prior to their public release as part of the agreement with Cal-Am:

1. Request for Statements of Qualification from candidate proposers in *California American Water Request for Qualifications from Prospective Design-Build Entities, April 1, 2013*.
2. Statements of Qualification submitted by candidate proposers:
  - ARB, Inc.
  - Bay Water Partners
  - Black & Veatch
  - CDM
  - CH2M Hill
  - Filanc
  - Kiewit
  - MWH
  - Walsh
3. Cal-Am's selection of candidate proposers to receive the RFP in *California American Water Monterey Peninsula Water Supply Project Desalination Infrastructure Statement of Qualifications Analysis, May 31, 2013*; in which the following five teams were selected:
  - CDM
  - MWH
  - Kiewit
  - Black & Veatch
  - CH2M Hill
4. Cal-Am's request for proposals document and related addenda in *California American Water Request for Proposals for Design and Construction of Desalination Infrastructure for the Monterey Peninsula Water Supply Project, June 17, 2013*.
5. The proposals submitted by four of the five pre-qualified teams (all teams with the exception of Kiewit submitted a proposal).
6. Cal-Am's evaluation of the proposals and selection of the preferred D-B contractor in *California American Water Proposal Evaluation Report, Request for Proposals for Design and Construction of Desalination Infrastructure for the Monterey Peninsula Water Supply Project, November 16, 2013*.

SPI MEMORANDUM  
Subject: Review of Cal-Am D-B Contractor Selection

December 6, 2013  
Page 5

7. The Agreement and supporting contract documents between Cal-Am and CDM, *Design-Build Agreement for the Monterey Peninsula Water Supply Project Desalination Infrastructure, December 6, 2013.*

#### Process Description

The overall process of D-B selection was similar to that employed by other California public utilities, such as West Basin Municipal Water District (WBMWD) in Carson, CA. In terms of the D-B process employed, the RFP dictated a prescriptive approach in which overall process design and technical criteria are established as part of the RFP documents and candidate proposers submit fixed price bids. Other, non-prescriptive D-B approaches are different from this model, in that they are essentially performance based and selection is based on qualifications/approach rather than price. Such an approach can increase flexibility in the design and construction approach, but decrease price competitiveness as price negotiations occur at a non-competitive stage of the process when the design details are complete. For the MPWSP, the prescriptive approach was expanded slightly by allowing proposers to submit voluntary alternative proposals in addition to the based bid. This allowed consideration of alternate treatment or technological approaches with fixed pricing. Cal-Am also required proposers to submit pricing on five required alternative proposals:

- For the UV disinfection system, a credit if the California Department of Public Health assigns sufficient disinfection credits to the overall treatment process to allow it to be removed from the project.
- For the post-treatment product water stabilization system, a calcite contactor alternative in place of the hydrated lime feed system in the base bid.
- Also for the post-treatment product water stabilization system, an RDP Tekkem batch slurry lime feed system in place of the hydrated lime feed system in the base bid.
- Pricing for a 5-year RO membrane element warranty in place of the manufacturers' standard 3-year warranty.
- Pricing for a 2-year warranty on the high pressure RO system feed pumps in place of the manufacturers' standard 1-year warranty.

Cal-Am assembled an evaluation team of individuals who had participated in development of the RFP and related technical criteria. A listing of those individuals is included in the Evaluation Report. The evaluation team reviewed the written proposals from each team and conducted a preliminary scoring exercise on that basis. The evaluation team also assembled a list of questions for each team. The questions were provided ahead of in person interviews, which were conducted the week of November 4, 2013. Each team was given an interview that lasted 3-hours and consisted of both a formal presentation by the team and open question and answer discussion between the parties. The teams provided written responses to the questions and the evaluation team updated its scoring based on any new information or clarifications provided in the

SPI MEMORANDUM  
Subject: Review of Cal-Am D-B Contractor Selection

December 6, 2013  
Page 6

interviews and questionnaire responses. CDM remained the preferred proposer in both the preliminary and final scoring, and was notified of their selection on November 16, 2013.

Following selection, the evaluation team met with members of CDM's project team to negotiate and clarify the final scope of work and D-B agreement. Formal negotiations took place over two days, November 19-20, 2013. The negotiations culminated in the draft D-B agreement between Cal-Am and CDM published December 6, 2013 for review by the GC.

### Process Assessment

The overall process was similar and in several respects stronger than other prescriptive D-B selection processes which I have been involved with. Notable features include the following:

- A particularly strong D-B Agreement within the RFP documents, protective of Cal-Am (and by extension, rate payers) from a cost and risk perspective and cognizant of schedule uncertainties.
- A thorough evaluation process, including the lengthy team interviews and subsequent negotiations with CDM by the full evaluation team.
- A balanced evaluation of technical approach and cost; with a higher weighting of non-cost criteria than typical.
- The ability of teams to propose voluntary alternative proposals for consideration by the evaluation team.

In the end Cal-Am elected to base its overall selection on the base alternative pricing from each team. A summary of voluntary alternative proposals submitted by the candidate D-B teams is included in the Evaluation Report. Details of each proposal are included in the individual proposal documents from the candidate teams. In general, the high value alternatives related to a proposed elimination of the upstream media filters and chemical addition facilities from the base treatment alternative—an approach considered too risky given uncertainties in raw water quality to the facility. None of the voluntary alternative cost proposals that were considered negotiable by the evaluation team were significant enough to change the scoring of the proposals.

The final negotiation process with CDM was unique in my experience and a credit to the overall process. Most of the risk in a prescriptive D-B procurement in which the contract price is established at the time of bid is in undefined issues between the technical criteria, proposal, and final construction documents. The D-B contractor must base his price on certain assumptions that he believes meet the intent and requirements of the RFP and related technical criteria. Not all of these assumptions are clear at the time of proposal and typically emerge as the project design documents are developed. Disagreements over compliance or the application of RFP requirements can lead to increases in cost and/or schedule delays. The negotiation process in this case sought to further define key assumptions between the parties and likely forestalled future disagreements.

The final agreement included several outcomes from the negotiation process that clarified the scope of work (SC) and accommodated some of the required alternative (RA) proposals as well as CDM’s voluntary alternative (VA) proposals. A summary of these items and their associated cost impact is presented in **Table 3**.

Table 3: Summary of Final D-B Price Adjustments

Item	Description	Potential Cost Impact	Status
VA-1	Replace the hydrated lime feed system from the base bid alternative with a saturated lime solution feed system as manufactured by Cal-Flo.	\$1.0 M Credit @ 6.4 mgd \$1.5 M Credit @ 9.6 mgd	Still under negotiation. Credit likely to decrease pending incorporation of additional features requested by Cal-Am.
RA-1	Eliminate the UV system from the project facilities.	\$0.313 M Credit (fixed)	Cal-Am has until Feb. 4, 2016 to exercise this option.
VA-2	Use various alternative materials of construction	\$0.3 M Credit (fixed)	Still under negotiation.
RA-2	Replace the hydrated lime feed system from the base bid with a calcite contactor system.	\$1.26 M Add (fixed)	Still under negotiation, and would only apply if the Cal-Flo alternative under VA-1 is not accepted.
VA-3	Allow the use of multi-ported pressure vessels on the RO trains in lieu of pipe headers	\$0.14M Credit @ 6.4 mgd \$0.19M Credit @ 9.6 mgd	Included in the draft contract fixed design-build price.
VA-4	Allow the use of various different materials of construction, including electrical breakers, transformers, valves, and curbs	\$0.36M Credit @ 6.4 mgd \$0.37M Credit @ 9.6 mgd	Included in the draft contract fixed design-build price.
RA-3	Provide a 2-year warranty from the RO high pressure pump manufacturer in lieu of a standard 1-year warranty	\$0.012 M Add (fixed)	Included in the draft contract fixed design-build price.
SC-1	Provide an 8-in potable water line for future connection to the landfill at MRWPCA RTP.	\$0.043 M Add (fixed)	Included in the draft contract fixed design-build price.
SC-2	Change RO cleaning system piping from PVC to CPVC	\$0.024M Add @ 6.4 mgd \$0.026M Add @ 9.6 mgd	Included in the draft contract fixed design-build price.
SC-3	Provide upgrades to product water storage tanks, including additional security measures	\$0.2 M Add (fixed)	Included in the draft contract fixed design-build price.

Item	Description	Potential Cost Impact	Status
SC-4	Change the finished water storage tank from lined steel to pre-stressed concrete type	\$0.69 M Add (fixed)	Included in the draft contract fixed design-build price.
SC-5	Revise piping at the pressure filters to relocate pressurized lines from beneath structural concrete.	\$0.816 M Add (fixed)	Included as an allowance in the draft contract fixed design-build price.
SC-6	Revise piping trenches inside the RO building to improve maintenance access.	\$0.317 M Add (fixed)	Included as an allowance in the draft contract fixed design-build price.
SC-7	Eliminate the site septic system from the base bid and replace it with a sewage lift station.	\$0.233 M Add (fixed)	Included as an allowance in the draft contract fixed design-build price.
SC-8	Provide independent testing of earthwork, concrete paving and cast-in-place concrete	\$0.1 M Add (fixed)	Included as an allowance in the draft contract fixed design-build price.
SC-9	Provide additional supplies for the on-site construction trailer occupied by Cal-Am's representative	\$0.05 M Add (fixed)	Included as an allowance in the draft contract fixed design-build price.
SC-10	Conduct background checks on D-B contractor and subcontractor key employees	\$0.01 M Add (fixed)	Included as an allowance in the draft contract fixed design-build price.
SC-11	Provide outside water quality sampling services during startup, commissioning, and testing	\$0.05 M Add (fixed)	Included as an allowance in the draft contract fixed design-build price.
SC-12	Miscellaneous upgrades in landscape features; interior and exterior architectural features,; and computers, telephones, etc.	\$0.25M Add (fixed)	Included as an allowance in the draft contract fixed design-build price.

As noted in the table, some identified issues are still being negotiated between the parties and will be incorporated into the final contract between CDM and Cal-Am prior to execution. The final contract value for the draft agreement between Cal-Am and CDM is \$86,984,544.65 for the 9.6 mgd plant capacity alternative, which includes CDM's initial bid price for the 9.6 mgd plant along with the allowances listed in **Table 3** above. The corresponding adjusted price for the 6.4 mgd plant alternative is \$79,802,290.16. The adjusted costs represents a roughly \$1.8 M increase above their original bid proposal prices, but are still well below the next lowest price proposal and do not change the overall scoring. Should the plant capacity be reduced to 6.4 mgd,



SPI MEMORANDUM  
Subject: Review of Cal-Am D-B Contractor Selection

December 6, 2013  
Page 9

the draft agreement includes a fixed deduct of \$7,182,254.49.

The schedule for implementation of the facilities is dynamic and Cal-Am and CDM have taken a proactive approach to accommodate flexibility. CDM has proposed to advance its design initially to a 60 percent completion level by August 2014, projected to be coincident with final CPUC approval. They would then provide only permitting support through the time period necessary to secure a coastal development permit. Cal-Am's current schedule envisions having this complete in February 2015, but could conceivably be extended without excessive cost escalation beyond the contractual indexing of construction costs which the draft agreement allows for. The completion of the design to a 90 percent level would be completed in September 2015 providing the coastal permit date is held, at which point there would be a second hold pending the decision on the groundwater replenishment (GWR) project in October 2015. The schedule then calls for a rapid completion to final construction documents by November 2015. The rapid transition from 90 percent to final design was accommodated by CDM through increasing the size of the process building from the original proposal submitted in October to accommodate equipment for either plant capacity. This had the net effect of increasing the cost for the 6.4 mgd facility by roughly \$0.5 M. It should be noted that this adjusted price was provided prior to the final evaluation and scoring of proposals, and was used in all cost calculations. Finally, Cal-Am currently envisions a staggered construction of their supply wells due to environmental limitations. It is projected that two thirds of the required supply wells would be complete in September 2017, sufficient to run that plant at 6.4 mgd. If the actual plant capacity built is 9.6 mgd, the final supply wells would be complete in March 2018. Cal-Am and CDM have negotiated a two part commissioning plan