

WEST BASIN MUNICIPAL WATER DISTRICT

JULY 9, 2003 - Water Resources

McDonald, Kwan

JULY 28, 2003 - Board Meeting

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ACTION CALENDAR

WEST BASIN WATER RECYCLING PROGRAM
RESEARCH AND DEVELOPMENT (R&D) PROJECTS
EVALUATION OF FOULING RESISTANT REVERSE OSMOSIS MEMBRANES AND
THIN FILM COMPOSITE MEMBRANE CLEANING

SUMMARY:

The District is an active member of the Desalination and Research Innovation Partnership (DRIP) whose main purpose is to evaluate new and innovative technologies for salinity removal and disinfection of various source waters. Under DRIP, the District submitted two research Projects, which were subsequently approved; Evaluation of Fouling Resistant Reverse Osmosis Membranes and Thin Film Composite Membrane Cleaning.

At the April 17, 2000 Board meeting, the Board authorized the General Manager to enter into a contract with Separation Processes, Inc. (SPI) for an amount not-to-exceed \$75,000. This contract was for design and technical assistance for the two approved research Projects.

As a result of changes to SPI's "Scope of Work" as the Projects have evolved, an increase in funding is requested by SPI in order to complete the Projects. The Projects are currently on hold until the additional funding is secured.

Evaluation of Fouling Resistant Reverse Osmosis Membranes

As a recap, this Project will determine the fouling characteristics of "fouling resistant" membranes using lime clarified and micro filtered effluent, and will also determine energy savings. After the SPI contract was in place, the Project was expanded to test three membrane types, rather than the original two, requiring design of a more extensive test apparatus. The procurement method for the test apparatus was determined to require competitive bidding, which required additional SPI services and resulted in a delay not included in the original schedule. Subsequent periods of down time due to hardware problems and change in operating personnel resulted in the need for additional SPI support.

The additional engineering services resulting from the activities cited above and the execution of the study over a longer period of time have resulted in a cost over-run of SPI's design and support services on the project of \$6,346.

Thin Film Composite Membrane Cleaning

As a recap, this Project will investigate and identify effective cleaning procedures of thin film composite membranes located at the Mobil Oil Refinery with the intent of optimizing cleaning procedures that minimize time off-line and chemical costs. The results of this study will be applicable to the RO operations at all the District's MF/RO installations.

The original Project schedule estimated the multi-step cleaning trials would take 5-months. However, priorities regarding operation of the Mobil RO and other District facilities delayed execution at several points in the study. Additionally, operating staff personnel changes required a higher level of effort for coordination and oversight by SPI.

The additional engineering services resulting from the execution of the study over a longer period of time and the aforementioned coordination requirements have resulted in a cost over-run on the Project of \$7,975.

Conclusion

The execution of the two R&D projects has required greater involvement by SPI than provided in their original contract. SPI has already completed design/technical assistance on approximately two-thirds of each Project, and in combination with their expertise in RO membrane facilities, it is crucial that SPI complete both Projects.

The Districts are aware that other companies retain expert services in RO membrane facilities/technology, and are seeking to broaden its base of qualified consultants to do this type of work through the recently released "Request for Proposal" for Research and Regulatory Compliance Support Services for Water Recycling Facilities.

FISCAL IMPACTS:

Increased funds for this effort have been included in the fiscal year 2003-04 Water Recycling Operations Research and Development Program Budget.

ENVIRONMENTAL COMPLIANCE:

Not applicable.

COMMITTEE STATUS:

This item was reviewed by the Water Resources Committee on July 9, 2003 and recommended for approval at the July 28, 2003 Board meeting.

RECOMMENDED MOTION:

That the Board authorizes the General Manager to amend SPI's contract for an additional amount not-to-exceed \$14,321 to complete work on the two noted research Projects.

LIST OF EXHIBITS:

None.

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