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**MWD**

METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

*Harold E. Duff*  
EXECUTIVE SECRETARY

December 19, 1995

**To:** Board of Directors (Executive Committee--Action)  
(Special Committee on Water Quality and Environmental  
Compliance--Action)

**From:** *[Signature]*  
General Manager

**Submitted by:** Mark D. Beuhler  
Director of Water Quality

*Ray Walte for MDR*

**Subject:** Eleventh Year of Voluntary Research Subscription Program--American Water  
Works Association Research Foundation

**RECOMMENDATION**

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It is recommended that the Board authorize the General Manager to make payment of \$375,000 to the American Water Works Association Research Foundation (AWWARF) as Metropolitan's contribution to fund AWWARF's applied research program for the calendar year 1996.

**EXECUTIVE SUMMARY**

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The AWWARF has asked Metropolitan to participate in the eleventh year of its Voluntary Research Subscription Program. The amount requested for the calendar year 1996 is \$375,000. Metropolitan's contribution, along with contributions from other water utilities and consulting firms, will be used to fund critical applied research projects in the drinking water field.

**DETAILED REPORT**

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The AWWARF has asked Metropolitan to participate in the eleventh year of its Voluntary Research Subscription Program. The amount requested for the calendar year 1996 is \$375,000. Metropolitan's contribution, along with contributions from other water utilities and consulting firms, will be used to fund critical applied research projects in the drinking water field.

The AWWARF is a non-profit corporation which was established in 1967 to promote, coordinate, and finance applied research in the operation and management of public water supply systems. Currently, AWWARF has 804 utility subscribers, 46 consulting firm subscribers, and 15 manufacturers.

Applied research topics funded by AWWARF address key problems identified by the water industry and provide essential information for impacting the development of drinking water regulations. Reports on these studies are disseminated to all subscribers on a regular basis.

Metropolitan has benefited from AWWARF's program in a number of areas, including the Information Collection Rule; the Disinfectants/Disinfection By-Products (D/DBP) Rule; the Enhanced Surface Water Treatment Rule; taste and odor control strategies; and detection and treatment of microbial pathogens. In addition, AWWARF has funded \$1,335,897 on arsenic research, \$45,202,960 on microbials and disinfection by-products, and \$15,968,493 on *Cryptosporidium*.

Metropolitan has staff currently serving in an advisory capacity on six different research projects. In addition, Associate Director of Water Quality Roy Wolfe is the Chair of the Technical Proposal Review Committee which makes recommendations for distributing approximately \$800,000 per year for unsolicited or special projects. Dr. Wolfe was also a member of the Research Advisory Council, which selected the projects to be funded for 1996. In addition, Metropolitan is a participating/cooperating utility on ten research projects and is scheduled to receive \$341,000 in arsenic, DBP, taste and odor, and ozone/PEROXONE research over the next few years. Thus far, Metropolitan has received \$273,000 from AWWARF for research on ozone and PEROXONE.

Utility contributions are based on \$1.60 per million gallons delivered per year, with credits given for water purchased from subscribing wholesalers and water sold wholesale. Therefore, Metropolitan covers part of the funding of AWWARF for our Member Agencies. Metropolitan contributed \$350,000 for the calendar year 1995.

Adequate funds for one-half of the proposed \$375,000 contribution have been budgeted for fiscal year (FY) 1995/96 because payments must be made on a calendar year basis. If this recommendation is approved by your Board, the other half of the proposed \$375,000 contribution would be included in the FY 1996/97 budget. The proposed contribution is categorically exempt from the California Environmental Quality Act because it involves only feasibility and planning studies.

JSS/RLW/sdf

Attachment

## ATTACHMENT

### Metropolitan's Current Involvement with AWWARF Projects

Project Title	Principal Investigator	Duration of Study	WQD Staff Involved	Monies Receiving
Demonstration-Scale Evaluation of Engineering Aspects of the Ozone/ Peroxide Advanced Oxidation Process	J. T. Gramith, MWDSC	Jul. '89-Jun.'96	ODP, Chemistry, Microbiology	\$140,000
Factors Affecting Disinfection By-Products Formation During Chloramination	J. M. Symons, U. of Houston	Jul. '93-Jan.'96	Org. Chem. Res., Pilot plant	\$48,000
Analytical Chemistry of Arsenic in Drinking Water	A. Eaton, Montgomery Labs	Aug. '93-Feb.'96	Inorg. Chem.	\$35,000
Strategies to Control Bromide and Bromate	Amy & Siddiqui, U. of Colorado	Nov. '94-Mar.'96	Pilot plant, Inorg. Chem.	\$25,000
Arsenic Treatability Options and Evaluation of Residuals Management Issues	Amy & Edwards, U. of Colorado	Jan.'95- Jan.'97	Pilot plant	\$30,000
Arsenic and Removal by Enhanced Coagulation and Membranes Processes	Herring & Elimelech, UCLA	Jan.'94-Jan.'96	Pilot plant	\$0
Chloramine Decomposition Kinetics and Degradation Products in Distribution System and Model Waters	Valentine & St. Clair U. of Iowa	Dec.'93-Dec.'95	S. E. Barrett, Field Monitor.	\$0
Investigation of Biological Stability of Drinking Water Treatment Plants and Distribution Systems	A. Camper, Montana State University	Jan.'95-Jul.'97	ODP Chemistry	\$0
Optimizing Filtration in Biological Filters	P. M. Huck U. of Waterloo	Jun.'96-Apr.'98	B. M. Coffey, ODP, Chemistry, Microbiology	\$100,000

**ATTACHMENT (Continued)**

**Metropolitan's Current Involvement with AWWARF Projects**

Project Title	Principal Investigator	Duration of Study	WQD Staff Involved	Monies Receiving
Assessment of Blue-Green Algal Toxins in Raw and Finished Waters	W. W. Carmichael, Wright State Univ.	Aug. '95-Feb. '98	S. W. Krasner, Org. Chem.	\$13,000
Colonization of Biologically Active-Filter Media with Pathogens	A. Camper, Montana State Univ.	Jan. '96-Jun. '97	R. DeLeon, Pilot plant	\$47,000
Evaluation of the By-Products Produced by the Treatment of Groundwaters with Ultraviolet (UV) Radiation and Post-Disinfection Following Irradiation	J. P. Malley, Jr.; U. of New Hampshire	Sept. '92-Jan. '96	C. J. Hwang (PAC Member)	\$0
Analytical Methods for Polymers, Associated Contaminants, and Oxidative By-Products	W. H. Glaze, U. of North Carolina	Nov. '93-May '96	T. S. Tanaka (PAC Member)	\$0
Application of PCR Technologies for Virus Detection in Groundwater	M. Abbaszadegan, AWWSC	Jul. '95-Jul. '97	M. H. Stewart (PAC Member)	\$0
Ozone Energy Efficiency (joint project with the Electrical Power Research Institute)	K. Rakness, Process Applications, Inc.	Jul. '94-Jul. '96	J. T. Gramith (PAC Member)	\$0
Ultraviolet Disinfection of Groundwater	A. Margolin & J. Malley, U. of New Hampshire	Dec. '94-Jul. '96	R. L. Wolfe (PAC Member)	\$0
Flow Cytometry for pathogen Detection	J. Standridge, Wisconsin	Dec. '94-Jul. '96	R. DeLeon (PAC Member)	\$0

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