

June 15, 1999

To: Board of Directors (Engineering and Operations Committee—Action)

From: General Manager _____

Submitted by: Gary M. Snyder
Chief Engineer _____

Subject: Authorize Additional Work Using Existing Funds Under Appropriation
No. 15171 to Relocate Below-Ground Vacuum and Air Release Valve
Assemblies to Above-Ground Locations

Reference: Appropriation No. 15171

RECOMMENDATION(S)

For the relocation and/or modification of below-ground vacuum air release valve (VARV) assemblies on Metropolitan's treated water pipelines, it is recommended that the Board authorize the General Manager to have all work performed on installations that constitute a high risk of cross-connection contamination using existing funds in Appropriation No. 15171.

EXECUTIVE SUMMARY

State of California Department of Health Services (DHS) regulations require the elimination or mitigation of all cross-connections in potable water systems. To date a total of 1,344 below-ground VARVs throughout Metropolitan's distribution system have been identified. Cross-connection surveys have been completed for 892 of these structures and a total of 46 high risk VARVs have been modified as authorized by the Board in Revision No. 2 to Appropriation No. 15171 in November 1994.

This work has been completed with major cost savings (approximately \$900,000) partially due to close team effort between the Engineering and Operations divisions, as well as using innovative designs wherever deemed appropriate. Surveys of the Lake Skinner area have identified additional VARVs constituting a high risk of cross-connection contamination.

This letter requests authorization for relocation of these additional VARVs, using the existing funds in Appropriation 15171. The total VARV program will be completed in a phased approach. The first phase covers the original 46 authorized VARVs recently completed as well as the additional ones requested here. The second phase is currently being planned and Board approval will be requested once a detailed budget and schedule for this phase have been developed. The Capital Program for fiscal year 1999/00 identifies a total program cost of \$17.5 million.

JUSTIFICATION

Current regulations (Code of California Regulations, Section 64636) require that all VARVs either be located above ground or properly drained in order to eliminate potential cross-connections in potable water systems. Water Permit No.04-92-011 issued to Metropolitan in November 1992, requires Metropolitan to maintain an effective cross-connection control program and to develop a plan for correction of backflow hazards.

ALTERNATIVE(S) TO PROPOSED ACTION

Defer Relocation Work

Deferring this action would cause staff to reschedule and reprioritize other work, further delaying regulatory compliance and placing Metropolitan at risk of cross-connection contamination and/or citations or fines under Article 7 of the California Health and Safety Code.

ACTIONS AND MILESTONES

December 1999 - Complete relocation of the additional 15 VARV in the Lake Skinner service area.

CEQA COMPLIANCE / ENVIRONMENTAL DOCUMENTATION

The proposed action is exempt from the provisions of the California Environmental Quality Act (CEQA), in that it consists of minor alterations of existing public facilities involving negligible or no expansion of use beyond what previously existed (CEQA State Guidelines Section 15301, Class 1).

DETAILED REPORT

A cross-connection creates a potential for contamination of potable water. A cross-connection that is not controlled by backflow prevention measures poses a potential health hazard and is in violation of Title 22 of the California Code of Regulations Section 64636 enforced by DHS.

Cross-connection surveys have now been completed for all five treatment plants and 13 of Metropolitan's treated water feeders. This represents 892 structures out of the estimated 1,344 structures to be surveyed. All structures surveyed were evaluated for degree of hazard and potential for backflow occurrence from which a matrix was developed for prioritizing modifications.

In August 1990, the Board approved Appropriation No. 15171 (originally known as Appropriation No. 608) to finance all estimated costs for design, procurement, and installation of backflow prevention assemblies for cross-connection control at Diemer, Mills, Skinner, and Jensen filtration plants.

Revision No.1 approved in August 1993 increased the initial funding from \$780,000 to \$1,400,000 to finance all estimated costs for design, procurement, and installation of backflow prevention devices at Weymouth Plant and the La Verne Facilities, and cross-connection surveys at other sites.

Revision No. 2 approved in November 1994 increased Appropriation No. 15171 by \$2,325,000 to the current total of \$3,725,000 to finance all estimated costs for design, purchase of materials, and construction related to the relocation of 46 high-risk VARVs.

This work was completed earlier this year, \$900,000 under budget. Some of these cost savings were attributed to the effective team work between the Engineering and Operations divisions in conducting this work. Also, staff were able to cut costs by using innovative designs wherever deemed appropriate in lieu of standard designs. The majority of the relocated VARVs were also within existing right-of-way, thus eliminating permit and right-of-way costs and reducing actual construction costs.

Cross-connection surveys of the Lake Skinner service area have identified 15 additional VARV assemblies that constitute the highest degree of cross-connection risk on Metropolitan's treated water pipelines. It is estimated that relocating these high-risk VARV assemblies would cost approximately \$300,000. As the surveys continue, additional high-risk assemblies may be identified and their relocation work would be completed under this authority as well. Based on initial review of construction drawings, it is not expected that there will be many more high-risk VARVs identified. Since sufficient funds remain under the original appropriation to perform this additional work, no revision to the appropriation amount is needed at this time. The total program budget remains unchanged at \$17.5 million.

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