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METROPOLITAN WATER DISTRICT OF SOUTHERN CALIFORNIA

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September 30, 1997

(Special Committee on Water Quality, Desalination, and
Environmental Compliance--Information)

To: Board of Directors (Engineering and Operations Committee--Information)
(Water Planning and Resources Committee--Information)

From: General Manager

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for Director of Water Quality

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Subject: Summary of Board Water Quality Workshop on Salinity and Hardness

RECOMMENDATION

For information only.

EXECUTIVE SUMMARY

Approximately 30 Directors participated in the water quality portion of the Board workshop held on July 25-26, 1997 in San Diego. The workshop focused on salinity and hardness and included a display of corroded pipe, videos of consumer satisfaction focus groups, a water tasting exercise, technical presentations and facilitated discussions regarding Metropolitan's future role in regional salinity management. No actions were taken, however, salinity management and salinity levels in Metropolitan's imported supplies were identified as important long-term resource issues in need of a regional response.

DETAILED REPORT

The salinity and hardness management session of the Board water quality workshop on July 25- 26, 1997 in San Diego began Friday afternoon with a water-tasting exercise. Participants found the taste of Colorado River water (total dissolved solids (TDS) of

650 mg/L) distinctly different than State Project water (250 mg/L of TDS). Directors viewed pipe samples with scale and corrosion associated with high salinity water. Videos were shown of meetings by consumer-satisfaction focus groups.

Saturday morning began with J. Christopher Layton, President of the Water Quality Association (WQA), addressing the benefits of water softening to remove hardness and the relationship between the point-of-use water treatment industry represented by WQA and municipal water service. He also discussed the industry's response to the issue of salt discharge from self-regenerative water softeners and its adverse impacts on groundwater and recycled water.

John Gaston of CH2M-Hill provided an overview of salinity, hardness, and Department of Health Services regulations. There are little, if any, practical health concerns regarding the TDS parameter which is regulated based on aesthetic factors including taste. Moderate levels of hardness have positive cardiovascular effects, and concerns about sodium in municipal water causing hypertension are unfounded in Southern California.

Richard Atwater of Bookman-Edmonston addressed the economic impacts of high salinity in water and potential management strategies based on the ongoing Metropolitan Salinity Management Study, which is scheduled to be completed in the spring of 1998. Financial impacts to Metropolitan's service area from elevated salinity are significant. Potential strategies fall within four basic actions: imported water source control, blending, desalination, and local water source control. While there are a few actions, such as blending, which Metropolitan may pursue unilaterally, most actions will require the cooperation of other agencies. Furthermore, it would be prudent to stage salinity strategies based on the advent of key capital improvements:

- 1998 to 1999 (Current Facilities)
- 2000 to 2004 (Eastside Reservoir Filling)
- 2005 to 2015 (Inland Feeder Operational)

An Option Finder exercise was conducted with directors responding to questions on Metropolitan's future role in salinity management. Directors also discussed policy issues in break out groups. Summaries of both activities are included as Attachments 1 and 2.

Discussions indicated salinity is considered an important long-term water resource issue in need of a cost-effective regional management strategy. It is important that strategies be based on objective information. It was deemed appropriate to use information being developed in the ongoing Salinity Management Study, and pursue policy development upon completion.

As a result of the workshop, staff is adjusting its study effort to focus on key concerns, such as developing a clear description of how Metropolitan's blended water salinity levels would change in the future as lower-TDS State Project water is used to meet increasing water demands. Assessment of the natural TDS variability in Metropolitan's imported supplies

and possible capacity constraints would be included to properly describe this baseline condition. Staff is also focusing on developing a clear assessment of salinity impacts on water recycling and groundwater resources.

Results of the Option Finder exercise, as well as copies of Mr. Gaston's and Mr. Atwater's overheads, have been assembled in a booklet, available in the Executive Secretary's office.

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Attachments

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Summary of Option Finder Results
July 26, 1997 Workshop

1. All participants indicated that the salinity of Metropolitan's water is important to Southern California. Approximately 70 percent of the participants believe they understand the salinity issue enough to set a policy.
2. About 50 percent of the participants indicated that Metropolitan should give a medium priority to resolving the salinity issue overall; while about 30 percent consider that this issue should have a high priority.
3. The priority of resolving the salinity issue as it impacts wastewater reclamation and groundwater recharge was in the medium to high level, while a slightly lower priority seems to be given to the issue as it impacts customer satisfaction. Additionally, about half of the participants favor Metropolitan increasing efforts to educate consumers regarding this issue.
4. Most participants lean towards the federal and state government as the entities most responsible for salinity management, and about 70 percent believe that Metropolitan has adequate information to take more aggressive steps to reduce Colorado River salinity at this time. The participants overwhelmingly indicated that consumers are least responsible for salinity management.
5. About 60 percent of the participants believe that the public will support an increase of 10 percent in current wholesale water rates to permanently resolve the salinity issue, while about 20 percent believe the public will not support any increase in water rates.
6. Approximately 65 percent of the participants favor Metropolitan establishing a numeric salinity goal, as opposed to a blend percentage.

Summary of Small Group Discussions
July 26, 1997 Workshop

Four small groups engaged in discussions regarding five questions. Responses are summarized below:

1. Question: How much do aesthetics (taste and odor) and consumer satisfaction matter?

Responses: Taste and odor are important to consumers, perhaps more important than salinity and hardness, and need to be incorporated into an overall water quality strategy. Local agencies also have a major role in managing taste and odor. Bottled water industry sales tactics may unfairly criticize municipal water quality. While important, taste and odor are not a top priority.

2. Question: Is there a consensus on the need to set a salinity/hardness goal?

Responses: Some reported no consensus on the need for goals while others indicated a need for a long-term goal. Metropolitan should pursue goals to provide a functional quality of water which local agencies could enhance at their discretion. A salinity goal in the range of 500 mg/L was contemplated by some, however a valid analysis should drive the adopted value. More information is needed on the costs of alternative action and the impacts to groundwater and water recycling for the salinity goal setting process. More information is also needed to establish a hardness goal.

3. Question: What should the schedule be if we decide to address the salinity/hardness issue?

Responses: There is time to establish a well planned strategy as salinity and hardness are long-term issues. The CIP schedule is an important factor to be considered. There are no compelling reasons to act immediately.

4. Question: How much more will consumers be willing to pay for reduced salinity/hardness?

Responses: Consumer responses are site specific, influenced by local conditions. Most consumers have little sensitivity to salinity and will be reluctant to pay for reductions until they perceive there is a problem. Consumer education is needed. New surveys are also needed to assess consumer willingness to pay. Consumers will be reluctant to pay now for distant future benefits.

5. Question: What are the impacts of “do nothing” about salinity/hardness?

Responses: There are significant long-term impacts if salinity is not managed. Metropolitan should be at the forefront of fixing the problem with a long-term strategy. Studies should be accelerated to provide the data needed to establish an effective strategy. Metropolitan should support research now to aid future actions.