



**District of Columbia
Water and Sewer Authority**

Board of Directors

**Water Quality and Water Services
Committee**

Thursday, December 16, 2010

11:30 a.m.

MEETING MINUTES

Committee Members Present

Dr. Joseph Cotruvo, Vice Chair
Howard Gibbs

DC WATER Staff Participating

Charles Kiely, Asst. General Manager
Gregory Hope, Assistant General Counsel
Linda R. Manley, Board Secretary

I. CALL TO ORDER

The meeting was called to order by Vice Chair Joseph Cotruvo at 12.00 p.m. Due to the schedule conflicts of staff, the meeting topics were addressed in a sequence different than the planned agenda.

II. ACTION ITEMS - CAPITAL BUDGET APPROVAL

David McLaughlin, Director of the Department of Engineering and Technical Services, provided a review of the proposed capital budget related to the water distribution system. He noted that the Board will be asked to approve the budget on two bases: 1) FY2010-2019 Capital Improvement Program also known as the lifetime budget and 2) the FY 2012 Capital Authority Request. Planned disbursements for the water service area are just under \$613 million for the period FY10 through FY19. This represents an increase of \$57.6 million over the current FY09 through FY18 10 year plan.

The following projects were highlighted during the presentation;

- Installation of waterproof roof membranes on three buried distribution system reservoirs,
- Continuation of the large valve replacements throughout the distribution system,
- Rehabilitation of elevated tanks,
- Proposed St. Elizabeth's elevated tank architectural enhancements,
- Replacement of discharge lines in the vicinity of Bryant Street Pump Station, and
- Renewal of the water distribution system small diameter water mains at a rate of 1% annually starting in 2014.

The committee recommended forwarding the proposed capital budget to the full Board.

II. WATER QUALITY MONITORING

1. Total Coliform Testing

Charles Kiely reported that there were zero positive coliform results for the month of November. However, he did note that there has been one positive sample so far in December.

2. Lead and Copper Rule Monitoring

Mr. Kiely reported that the second semester sample results had just been received to conclude the LCR sampling for the year. The final 90th percentile value for the year was 9 ppb. He noted that in the last sample cycle, there had been six sites that exceeded the 15 ppb action level, and that this included four households where that were sampled for the first time. Investigations are to be conducted at these locations, and it is considered likely that they have causative internal plumbing issues, such as galvanized pipe. This reaffirms the possibility that galvanized internal plumbing might be the more significant source of residual lead rather than service lines. He noted that until the most recent cycle, the 90th percentile level for the year-to-date had been 6 ppb. Mr. Rich Giani, Manager of the Drinking Water Office, formally the Water Quality Office, commented that despite the increase in the 90th percentile value, the median value (50th percentile) remained constant. Dr. Cotruvo also encouraged publication of the data that had been collected on the first draw lead concentration time trends after partial service line replacements.

III. FIRE HYDRANT PROGRAM

1. Service Status

Ms. Ayodele McClenney provided the monthly status (as of December 6) of the hydrant in-service report. It was noted that the current out of service percentage is just below the 1% target.

The new contract for hydrant replacements is expected to be in place by the end of December. There was discussion of the amount of the construction permit fee paid to the city by DC WATER for fire hydrant replacement. It was noted that approximately three years ago the fees increased from \$24 to \$214 per fire hydrants replacements while fees for the remaining distribution assets remained at \$24. The issue of permit fees paid to the District should be examined as part of the reconsideration of the entire financial relationship.

2. Status of Legislation on Private Fire Hydrants

Ms. McClenney reported that the legislation on private fire hydrants had been unanimously approved by the City Council on December 7, 2010. Implementation awaits signature by the Mayor and completion of review and comment periods. DC Water staff was actively involved in the drafting of the legislation which requires the Mayor to determine ownership of hydrants, assign an inspection agency, and report inspection results to owners of private hydrants. The legislation identifies the Mayor as being responsible for identification of the private hydrant owner through a title search, requires the Mayor to notify the established

owner of a private fire hydrant, and provides the Mayor rights of access to inspect private hydrants. The legislation also provides DC Water rights of access to repair maintain or replace a private fire hydrant and recover the costs through the customer's bill.

IV. CHLORINE BURN

In response to the Committee's request to review the effectiveness of the annual temporary change of secondary disinfection (aka chlorine burn) and alternative treatment options, Mr. Rich Giani made a presentation on the analysis of the recent "chlorine burns."

The chlorine conversion is typically done in the spring as a maintenance measure to control biofilms, prevent nitrification and assist in maintaining chlorine residual. The presentation revolved around:

- Water treatment history;
- Distribution sample results;
- Pipe loop sample results;
- Other secondary treatments being used

Overall, the results of the extended 2010 "chlorine burn" were disappointing. Although coliforms apparently were suppressed, and disinfection byproduct standards were not exceeded, there did not seem to be an impact on nitrification (production of nitrite usually from growth of nitrosomonas bacteria). There were also significant increases in HPC counts in some locations, and also significant releases of iron scales which could be seen as analogous to increases in lead observed in the distribution system when the Washington Aqueduct switched to chloramine. HPC (heterotrophic plate counts) are usually harmless bacteria and other microorganisms that can grow in the presence of water; high HPC in the presence of residual disinfectant are unusual. The results indicated that biofilms and other particulates were being released from the pipe surfaces as the result of the free chlorine action.

There was discussion of booster chlorination, or sodium chlorite treatment as alternative approaches. Mr. Giani expressed some concern over safety issues with regard to sodium chlorite, but Dr. Cotruvo commented although not endorsing that approach, the chemical is handled safely in many food and water treatment installations and the MSDS cautions should be manageable.

It was suggested that booster chlorination should be seriously considered to reduce the adverse tastes caused by the past burns. Booster chlorination is a method of reducing the amount of chlorine added at the plant, and introducing additional chlorine at appropriate locations in the distribution system. This allows the chlorine concentration at any time to be lower because a very large dose is not needed at the WAD plant to allow the chlorine residual to survive throughout the entire length of the distribution system. Mr. Giani reported that Fairfax Water's practice of stepping down the chlorine concentration seemed effective in managing taste and odor. This involves slowly reducing chlorine levels during the period of the burn. Dr. Cotruvo suggested that legionella microorganisms be included in future sampling protocols, because they are known to grow in biofilms, and chloramines are more effective than chlorine in suppressing their growth. He also suggested that HPC is a very imprecise measurement, and that in future testing using the ATP method be

considered for use in lieu of HPC (also known as standard plate count) testing, because results can be obtained in a few minutes rather than the 1 or 2 days required for plate culturing.

Mr. Giani reported that the data had been reviewed with the Technical Expert Working Group, and with the other Washington Aqueduct retail users. He reported that the consensus of the group was that a chlorine burn should be done again in 2011, but for 6 weeks, from March 21 to May 1, and at a lower concentration (likely 2 mg/l rather than 3.5 mg/l.)

IV. EMERGING ISSUES / OTHER BUSINESS

Mr. Giani announced that the DC WATER paper on galvanized pipe and its impact on sustaining elevated lead levels is scheduled for publication the AWWA Journal in April.

Mr. Giani gave a preliminary briefing on an apparent on-premises cross-connection incident which occurred the previous night on private property at the Good Hope Apartments. On December 15, 2010, a kerosene odor was reported in the water from the central hot water system. Laboratory testing at the Washington Aqueduct confirmed contamination. DC WATER staff are assisting the Department of Health in their investigation even though the problem is the responsibility of the property owners.

Dr. Cotruvo requested that the following topics be included on the agenda for future committee consideration:

- further development of a comprehensive DC WATER strategy on lead, including an update on the General Manager's "Get the Lead Out" initiative,
- a strategy for the issue of "forced partial LSLRs" (i.e. replacement of public lead services in conjunction with water main replacements),
- follow-up to the recent CDC report, including consideration of data from recent partial LSLRs, and possibilities for additional data analyses that could be instructive with regard to current status and also galvanized plumbing contributions,
- operations vulnerability and safety – suggested as appropriate for a presentation to a joint meeting with the Environmental Quality and Sewerage Services Committee

VI. ADJOURNMENT

The committee meeting was adjourned at 1:25 pm.