Technical Expert Working Group Conference Call

Friday April 28, 2006
10:00 a.m. – 11:30 a.m.

DRAFT CALL SUMMARY

Attendees:

EPA Region 3 and contractors: Rick Rogers, Jennie Saxe, Laura Dufresne, Stephanie Jones

EPA Headquarters: Jeff Kempic

The Aqueduct and contractors: Patricia Gamby, Miranda Brown, Savita Schlesinger

DCWASA and contractors: Rich Giani, Maureen Donnelly, John Civardi

George Washington University: Marina Moses

Falls Church: Matt Jacobi

Arlington: Dave Hundelt

The meeting was led by Rick Rogers.

Agenda

There were no changes or additions to the agenda. The meeting agenda is enclosed below as Attachment A.

Summary of Discussions by Topic Area

I. WA Pipe Loop Study

Patricia Gamby and Savita Schlesinger discussed the latest results of the Aqueduct's pipe loop study. Charts showing the results, along with a summary memo, were distributed to TEWG members before the call. Patty reiterated the following findings, as summarized in the memo:

- The pipe loop conditioning phase began on January 7, 2005. During this phase, the pipe loops were exposed to Washington Aqueduct finished water;
- On March 7, 2005 the pipe loops were put in automatic mode and were fed chemically-conditioned water, according to the Pipe Loop Plan.
- On September 5th, 2005 in Rack 3 we switched from chloramine to free chlorine. On November 4th, we switched back from free chlorine to chloramine. We did not see a significant increase in lead release after switching back to chloramine.
- On September 12th, 2005 we lowered the phosphate concentration in Rack 2 from a target of 3 mg/L to a target of 2 mg/L. And on November 14th, we switched from a target phosphate

concentration of 2 mg/L to 1 mg/L. In this rack we have not seen an increase in lead due to the decreased phosphate dose.

- At the Washington Aqueduct plants the PO_4 dose to the finished water was decreased from 3 mg/L to 2.4 mg/L at the end of January 2006.
- Operation of Racks 1 (Zinc Orthophosphate), 4 (no orthophosphate inhibitor) and 5 (low chloramines dose) was discontinued because we concluded that the data we had was sufficient to draw conclusions from these racks. Sampling for these Racks was discontinued on February 3, 2006. Charts for these racks will not be included with the monthly report.
- The Racks that are remaining (Racks 2, 3, 6 & 7) will be operated until June 2006. Rack 7 (finished water) will be operated longer.
    - The phosphate dose in Racks 2 and 6 is currently 1 mg/L (Rack 6 was lowered to 1 mg/L in mid-February).
    - Rack 3 has 3 mg/L phosphate.
- Very high lead values in Rack 2 during the first part of March are due to high pH values resulting from chemical feed issues in the rack (see pH graph). pH results were above 9. Disregarding the above mentioned values, in general lead values appear to have started increasing slightly starting in late February. This increase appears to correspond to increasing temperature.
- Rack 3 lead values appear to have started increasing slightly starting in late February. This increase appears to correspond to increasing temperature.
- Rack 6 lead results indicate increasing levels between 4 and 8 ppb after the switch from 3 mg/l PO_4 to 1 mg/l PO_4. Note that during this period, there were days when the PO_4 levels were below 1 mg/L due to chemical feed however from 3/2/06 on, PO4 levels in Rack 6 were 1 mg/L or above on all days and the pH was 7.8 or below on all days except one. During this same time period there is also increasing temperature.
- Rack 7, plant water control rack, lead levels increased in the time period after the PO_4 level was decreased from 3 mg/l to 2.4 mg/l. In the same time period the temperature was increasing. The trend of lead levels appears to track closely with increase in temperature.
- Ammonia to all three racks in service was turned off on 4/14/06 to simulate a chlorine burn. This was done as previously discussed to observe the effect of a chlorine burn with typical spring water temperature (note that the earlier chlorine burn was simulated in September, in fall temperatures.) We will observe and compare the effects of a spring chlorine burn in the loops at 1 mg/l phosphate (racks 2 and 6) and at 3 mg/l (rack 3.) The ammonia will be turned on again on 5/12/2006. This will result in 4 weeks of free chlorine in the loops and will give 6 weeks of data after the loops are returned to chloramine before the current study is scheduled to end in June. Patty Gamby asked the group if anyone objected to the 4-week chlorine burn (in lieu of a 6-week burn). No one objected.

Ms. Gamby added that in Rack 2, 3, 6 and 7, despite the irregularities and changes mentioned above, lead levels appear to be rising slightly. WA believes that this increase in lead is related to the increase in water temperature. Savita Schlesinger plans to plot only dissolved lead and

temperature over time to isolate these parameters and allow for a more direct comparison. Rich Giani noted that he has not seen a strong temperature dependency in the WASA racks, and questioned the strength of the dissolved lead / temperature relationship in Racks 2, 3, and 6. All agreed that analyzing the data is challenging due to multiple changes in operating parameters.

II. DCWASA Pipe Loops

Rich Giani described the progress of DCWASA's pipe loop studies. DCWASA's Rack 1 mimics WA Rack 7. The latest data (not included in the graphs provided to the group) shows a slight decrease in lead levels. Rack 3 exhibited a slight increase in lead when the orthophosphate was reduced from 3.5 to 2.5 mg/L. DCWASA returned the dose to 3.5 mg/L, and lead levels dropped back down. Rack 5, the loop with stannous chloride, has recently exhibited a slight decrease in dissolved lead. There was an issue with the stannous chloride stock solution, and DCWASA plans to bring in someone to check the dosage. Lead levels increased in February in Rack 6 (chloramine and phosphate), but have since begun to stabilize.

III. New Monitoring Results (DCWASA, WA)

Rich Giani stated that DCWASA has continued to see reduced lead levels in the distribution system. So far, 69 LCR compliance samples have been taken, and only two are greater than 15 ppb (at 170 ppb and 16 ppb). Particulate lead release is the suspected cause of the 170 ppb reading. Rich explained that these samples were taken from February 1 through March 31, spaced relatively evenly.

Rich Giani reported that occurrence of cloudy water has been minimal. He noted one instance when his staff observed cloudy water in a 2 to 3 block area close to the Dalecarlia Treatment Plant. The water had a white milky color, which eventually precipitated out as a white or light tan substance. WASA suspects that the precipitate is a result of the orthophosphate reacting with calcium, chloride, and ferric iron.

IV. Water Quality Parameters

Rick Rogers noted that EPA Region 3 has sent a draft OCCT letter to WA and DCWASA. EPA is looking at setting final pH and water quality parameters for DCWASA and interim water quality parameters for the Aqueduct because WA plans to install caustic soda feed equipment in the future. Interim pH would remain at 7 ± 0.3, but WA really has been staying within 0.2, and often 0.1 of the pH requirement. For DCWASA, final parameters would be set for pH and, and an orthophosphate range would be set to allow for final tweaking of a maintenance dose. After WA and WASA have commented on the draft letter, EPA Region 3 will send the letter to the TEWG.

V. Conclusions/Wrap-up

Mr. Rick Rogers stated that the next call would be held June 2, noting that by then the NOM study would be completed.

Attachment A
Proposed Agenda from EPA Region 3
TEWG Meeting
April 28, 2006

I. Anything to add for today?
II. Washington Aqueduct pipe loop update
III. WASA pipe loop update
IV. Any new monitoring data from WASA?
V. Update on WQPs for final OCCT designation
VI. Items for the next call (Friday, June 2, 2006)