

US EPA ARCHIVE DOCUMENT

Technical Expert Working Group Conference Call

Friday June 2, 2006
10:00 a.m. – 10:40 a.m.

DRAFT CALL SUMMARY

Attendees:

EPA Region 3 and contractors: Jennie Saxe, George Rizzo, Laura Dufresne, Karen Sklenar, Kathy Martel

CDC: Barry Brooks

The Aqueduct and contractors: Patricia Gamby, Lloyd Stowe, Savita Schlesinger

DCWASA and contractors: Rich Giani

George Washington University: Marina Moses, Rebecca Bruhl

Falls Church: Bob Etris

Dept. of Health: William Slade

The meeting was led by Jennie Saxe.

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. DCWASA Pipe Loop Study

Rich Giani provided an update on the pipe loop study. Pipe Loop 1, the control, is stable and no changes have been observed over the last two months. The average observed lead concentration is 8 to 9 ppb.

In Pipe Loop 5 (stannous chloride), changes were observed last month after DCWASA started using a mass balance approach rather than a preferred dosage rate. The dissolved lead concentration has dropped to 2 ppb and the total lead concentration is coming down slowly. The higher total lead values reflect the presence of some particulate lead in this loop.

Pipe Loop 6 (chloramines and phosphate) results show that some spikes have occurred and probably were caused by particulate lead. Rich thinks that the stability of this pipe loop may be changing.

II. Aqueduct Pipe Loop Update

Savita Schlesinger discussed the latest results. A chlorine burn was conducted from April 14th to May 12th on Racks 2, 3 and 6 but not Rack 7. The data, graphs and memo distributed to the TEWG today represent data through May 8th and do not include the switch back to chloramines. Savita reiterated the following findings, as summarized in the memo:

- The Racks that are remaining (Racks 2, 3, 6 & 7) will be operated through 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 from 3 mg/l 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 can be attributed 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. *Update:* A decrease in lead values can be seen once the system was put on free chlorine.
- Rack 3 lead values appear to have started increasing slightly starting in late February. This increase appears to correspond to increasing temperature. *Update:* A decrease in lead values can be seen once the rack was switched to free chlorine. In addition, the correlation between temperature and lead values seems to continue to track.
- Rack 6 lead results indicate increasing levels between 3 and 8 ppb after the switch from 3 mg/l PO₄ to 1 mg/l PO₄. Note that during this period, there were days when the PO₄ 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. *Update:* A decrease in lead values can be seen once the rack was switched to free chlorine. In addition, the correlation between temperature and lead values seems to continue to track.
- Rack 7, plant water control rack, lead levels increased in the time period after the PO₄ 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. *Update:* The additional data illustrates the potential correlation between change in temperature and lead values.
- Prior to 4/14/06, in Rack 2, 3 and 6, despite the irregularities and changes mentioned above, lead levels appear to be rising slightly. In rack 7 (plant water, which did not see the switch to free chlorine) lead levels appear to be rising slightly. This increase in lead appears to be due to the increase in water 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/1 phosphate (racks 2 and 6) and at 3 mg/1 (rack 3.) The ammonia was turned on again on 5/12/2006. This resulted 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. A decrease in lead levels can be seen in racks 2, 3 and 6 after the switch to free chlorine. This is consistent with what was observed during the earlier chlorine burn simulation. Data shown is through 5/8/2006 and does not reflect the switch back to chloramine. This will be presented in the next TEWG call.

In summary, during the chlorine burn period, lead levels dropped, consistent with the earlier chlorine burn simulation. WA continues to see lead levels tracking with temperature changes. Laura Dufresne suggested that they may want to consider conducting statistical analyses such as R^2 testing on the pairs of temperature and lead data. Others suggested that the lead concentration is affected by both temperature and phosphate concentration, and it is difficult to draw conclusions about one factor as both are changing.

III. WASA Compliance Sample Update

Rich Giani stated that DCWASA has continued to see reduced lead levels in the distribution system. LCR compliance sampling has been completed for this monitoring period but the QAQC review is still being conducted. DCWASA collected 106 first draw samples, of which 5 exceeded the lead action level. The 90th percentile value will be either 9 or 10.5 ug/L depending on final calculations and the QAQC review. The phosphate concentration in the distribution system during this monitoring period has been 2.3 mg/L on average.

Second draw samples are still being analyzed but preliminary results indicate that there are more exceedances as compared to first draw samples, but lead levels are lower as compared to the previous monitoring period.

IV. OCCT Designation

Jennie Saxe noted that EPA Region 3 is currently in the process of signing the OCCT letter to WA and DCWASA. DCWASA and WA comments were addressed in the letter. Excursions related to phosphate dose or water quality parameters will be evaluated on a case-by-case basis.

V. ES&T Article

Jennie Saxe announced that an article entitled *Mis-lead* was published on May 31st on ES&T's website. The article focuses on the initial phases of the lead issue in Washington D.C. Jennie will distribute the link to the group. EPA staff are taking a "wait and see" approach to the article and had no specific comments at this time. Marina Moses noted that GW will likely be responding directly to the article.

VI. Conclusions/Wrap-up

Jennie Saxe stated that the next call would be held June 30th at 10 am. On the next call we will discuss new data from the WA pipe loops. Karen Sklenar suggested that we could also talk about the NOM study and could ask Dr. Korshin to participate.

Attachment A
Proposed Agenda from EPA Region 3
TEWG Meeting
June 2, 2006

1. WASA pipe loop update
2. Aqueduct pipe loop update (any results from Cl₂ burn and switch back to chloramines; regression analysis to look at temperature-lead relationship)
3. WASA compliance sample update (if new data is available since the last call)
4. OCCT designation coming soon!
5. Recent ES&T article
6. Anything else?