Clean Water Services
Clean Water Advisory Commission
Meeting Notes
October 8, 2014

Attendance

The meeting was attended by Commission Chair Tony Weller (Builder/Developer), Vice Chair Mike McKillip (District 3-Rogers), and Commission members Molly Brown (District 2-Malinowski), Alan DeHarpport (Builder/Developer), Erin Holmes (Environmental), John Kuiper (Business), Art Larrance (At-Large-Duyck), Judy Olsen (Agriculture), Stephanie Shanley (Business), Richard Vial (District 4-Terry), and David Waffle (Cities), and Clean Water Services District General Manager Bill Gaffi.

Commission members Lori Hennings (Environmental), John Jackson (Agriculture), and Cathy Stanton (District 1-Schouten) were not in attendance.

Clean Water Services staff members present included Bob Baumgartner (Regulatory Affairs Department Assistant Director), Mark Jockers (Government and Public Affairs Manager), Jerry Linder (General Counsel), Mark Poling (Business Operations Department Director), Diane Taniguchi-Dennis (District Deputy General Manager), and Sheri Wantland (Public Involvement Coordinator).

1. Pre-Meeting Tour at Fernhill Wetlands

Prior to the meeting Commission members, Clean Water Services staff, and several guests visited the Clean Water Services Natural Treatment System (NTS) facilities at Fernhill Wetlands. The Fernhill Wetland Improvement and Reuse Project site has been discussed in detail at several previous Commission meetings. Ms. Taniguchi-Dennis, along with Jared Kinnear (Reuse Manager) and John Dummer (Fernhill Project Engineer), shared how the NTS project will provide not only cost-effective and environmentally-sensitive wastewater treatment but enhanced habitat, aesthetics, and recreation.

Commission members also learned about two research and development projects being conducted by Clean Water Services. Adrienne Menniti (Senior Process Technologist) explained the technology and techniques currently being used to produce high purity water. Matt Horton (Regulatory Affairs Intern) reviewed experiments with different materials to find the most effective host for the bacteria which break down wastewater impurities as part of the NTS process.

2. Call to Order

The meeting was called to order by Mr. Weller at 7:11 PM in the City Council meeting room of the Forest Grove Community Center.

3. Review of June 11, 2014 Meeting Notes

There were no comments on the Meeting Notes from June 11, 2014.

4. Pure Water Brew Competition Report

Mr. Jockers noted that the challenges with treated water to be consumed again are three-fold: the technology to produce it, the regulatory environment to allow it, and the public mindset to accept it. A conversation about this with Mr. Larrance, a pioneer in the craft brewing industry, led to the idea of the recent Pure Water Brew Competition. As the group learned from Dr. Menniti during the pre-meeting tour, the technology exists for Clean Water Services to produce any type of water for any purpose, up to and including the high-purity water used in the competition. Mr. Baumgartner noted that the regulatory environment has become more favorable since wastewater reuse regulations were developed to address agricultural and recreational safety, and in working on approval for the high purity water in the brewing contest, Clean Water Services staff found policy-level interest and support for the concept from several state and federal agencies. Mr. Jockers said the Pure Water Brew Competition helped bring the "all one water" acceptance discussion to the public and helped further awareness about the idea of reuse.

Mr. Baumgartner said because of regulatory agency concerns about setting a precedent for direct potable reuse in general, Clean Water Services is focused in the short term on getting permission to produce small batches of high purity water for specific uses such as brewing, and will approach the larger general question of direct potable reuse with state and federal regulators over the longer term. He expects approval for ongoing small-batch production from DEQ and the Oregon Health Authority (OHA) in the next several months, which should also meet EPA's requirements for wastewater and drinking water. The brewing water would also be subject to any applicable federal Bureau of Alcohol, Tobacco and Firearms (ATF) rules.

Mr. Poling described the Pure Water Brew Competition and added his thanks to Mr. Larrance for coming up with the idea and starting the conversation with the brewing communities. Carollo Engineers, the consulting firm working with Clean Water Services on the high purity water production technology, sponsored the contest and provided prize money and tasting glasses. The Oregon Brew Crew, one of the oldest and largest home brewing clubs in the U.S., was also a partner in coordinating the contest, which drew 16 entries from 13 Portland-area brewers. Each brewer received 10 gallons of high purity water from Clean Water Services. Mr. Poling said the brewers thought the water was perfect because it was such a blank slate—they could add whatever minerals, etc. they wanted to create the desired beer characteristics.

After the judging in Hillsboro on September 6, four five-gallon kegs of the top four beers were transported to New Orleans where they were served at the "One Water Innovations" gala hosted by the Water Reuse Association during WEFTEC, an annual conference of the Water Environment Federation. Clean Water Services and Oregon Brew Crew received an "Innovations" award and trophy for advancing the concept of potable reuse through the Pure Water Brew Competition. Mr. Gaffi added that there were 20,000 people at WEFTEC and many were talking about the beer made with reused water.

Mr. Jockers showed a video and a TV news clip highlighting the Pure Water Brew Competition, and some photos from the gala event in New Orleans. The contest got positive coverage in local, regional, and national media (even National Public Radio's Facebook page, which has 4 million followers), as well as environmental and brewing industry-specific publications.

Questions and comments from Commission members and staff are attached in an Appendix.

5. Announcements

Ms. Wantland invited all to the "Birds & Brew" event Saturday, October 11 beginning with coffee and birding tours at Fernhill Wetlands and continuing with events at McMenamins Grand Lodge such as an Audubon Society birds of prey exhibit and films (including a documentary about the recovery of the Western Bluebird).

Mr. Jockers pointed out the next meeting will be November 12 (not November 11 as printed on the mailed agenda) and will be held at the usual time and place (dinner for members at 5:30 PM and meeting at 6:30 PM, at the Clean Water Services Administration Building).

5. Adjournment

Mr. Weller declared the meeting adjourned at 8:13 PM.

(Meeting notes prepared by Sue Baumgartner)

Appendix

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Questions and comments from Commission members and Clean Water Services staff throughout the meeting included:

1. The technology used to produce the high purity water is expensive and goes far beyond what a drinking water treatment plant would do. It would be prohibitively expensive to produce potable reuse water in large quantities with this technology.
    a. Clean Water Services is using the high purity treatment technology only as a pilot project to bring attention to the idea that water can be reused and to navigate the current regulatory requirements, which are not specific to direct potable reuse.
    b. Utilities in California and Texas are routinely installing the costly ultra-pure, or full advanced treatment (FAT), technology in wastewater treatment plants despite cost. Clean Water Services intends to pilot less expensive purification technologies in side-by-side comparisons to show that they are adequately effective.

2. Clean Water Services effluent currently compares very closely to drinking water standards.

3. It's a good idea to attach the "ultra-pure" label to FAT water, to distinguish it from drinking water.

4. Part of the issue with public acceptance of direct potable reuse may be that there is some public discomfort with drinking water standards—if we can get to the point where people feel that is safe, we have a better chance of them accepting potable reuse water that meets those standards.

5. There should be one set of standards for safe drinking water, rather than different standards based on water's history. There are more molecules in a glass of water than there are glasses of water in all the oceans on Earth. All those molecules have been somewhere else—quite likely in a wastewater treatment plant—at some point and it is impossible to pinpoint their "true source."

6. There are other considerations with high purity water beside cost.
    a. Stripped of its minerals and other naturally-occurring elements, it is hardly palatable as drinking water without additives.
    b. Because so much of its natural composition has been removed, it can cause unusual reactions with and/or draw undesirable substances from the surrounding rock or soil when used to replenish groundwater or put into storage wells.
    c. Even water from Portland's Bull Run, generally regarded as the highest

standard in naturally clean water but far less "clean" than FAT water, has caused problems such as accelerated bacteria growth because of its high oxygenation, and chemical reactions with surrounding rock.

7. Countries with direct potable reuse do not require FAT technology. Is there an international standard for direct potable reuse water?
    a. Clean Water Services is not aware of a broadly-accepted international standard.

8. Clean Water Services could/should take the lead on changing the direct potable reuse focus from source to safety—regardless of where it came from, have we done enough to make it safe to drink?—and on finding a rational balance. It would be good for the long-term health of the organization to be out in front of this question, even driving the national and international conversation—especially with Oregon's "natural" culture.
    a. Oregon is not leading the reuse charge—arid areas are already doing direct potable reuse, with one of the first projects in Namibia—and Clean Water Services isn't trying to advance a massive reuse program, but it would be the best jurisdiction to lead efforts in Oregon, which could result in a broader discussion and a leadership role on a larger stage.
    b. Clean Water Services is engaged in the international discussions on this topic but hasn't pushed that role.
    c. Oregon needs to avoid the hysteria seen elsewhere and Clean Water Services would be the best choice to lead the conversation about a balanced approach.

9. Acceptance will change when water is wanted or needed badly enough. We will eventually get to the notion that all water is reused, but the real challenge is getting to the idea that the ultimate in technology is not needed.