

Clean Water Services

Clean Water Advisory Commission

Meeting Notes

May 11, 2016

Attendance

The meeting was attended by Commission Chair Tony Weller (Builder/Developer), Commission Vice Chair Mike McKillip (District 3-Rogers), and Commission members Molly Brown (District 2-Malinowski), Alan DeHarport (Builder/Developer), Lori Hennings (Environmental), Erin Holmes (Environmental), John Jackson (Agriculture), Art Larrance (At-Large-Duyck), Judy Olsen (Agriculture), Erin Poor (District 1-Schouten), Richard Vial (District 4-Terry), and David Waffle (Cities), and Clean Water Services District General Manager Bill Gaffi.

Commission member Stephanie Shanley (Business) did not attend the meeting.

Attendees from Clean Water Services included Bob Baumgartner (Regulatory Affairs Department Assistant Director), Bruce Cordon (Business Opportunities Manager), Nate Cullen (Wastewater Treatment Department Director), Dan Garbely (Senior Engineer), Mark Jockers (Government and Public Affairs Manager), Diane Taniguchi-Dennis (District Deputy General Manager), and Dr. Ken Williamson (Regulatory Affairs Department Director).

1. Call to Order

Mr. Weller called the meeting to order at 6:17 PM in the meeting room at the Clean Water Services Durham Advanced Wastewater Treatment Facility in Tigard.

2. Review of Meeting Notes from April 13, 2016

There were no comments regarding the Meeting Notes from April 13, 2016.

3. NPDES Permit Renewal Update

Mr. Baumgartner announced that the Clean Water Services NPDES (National Pollution Discharge Elimination System) permit renewal application was approved and signed April 22. The permit will become effective May 31 and will run through May 30, 2021. He noted that there is still a 60-day period during which the permit could be challenged. A petition for reconsideration could be filed with DEQ (Oregon Department of Environmental Quality), or a petition could be filed for judicial review in Oregon Circuit Court.

This is a very complex permit and Clean Water Services proposed several unique approaches in the renewal application. EPA (United States Environmental Protection Agency) had many objections, primarily due to not understanding how DEQ used information from Clean Water Services to develop the permit conditions. During the

years since the existing permit was issued and then extended several times by DEQ during the renewal application process, Clean Water Services has kept up with emerging issues and has developed and even implemented practices for meeting the anticipated requirements. As a result, Clean Water Services is well-positioned to transition smoothly into operations under the new permit, even though it does impose some new requirements. There are stricter limits for some types of pollutants, different ways of measuring others, and additional ones to monitor, as well as new regulations addressing more recently-identified areas of concern.

Dr. Williamson added that one of the biggest challenges with the permit renewal was a change in the way ammonia levels are measured, which after a series of tense discussions was resolved just days before the permit was approved. The approach initially favored by DEQ would have cost Clean Water Services an estimated \$100 million-\$150 million to meet the requirements. Mr. Gaffi pointed out the energy-intensive process involved would also have had a large carbon footprint, erasing millions of dollars already invested in energy conservation.

Mr. McKillip asked if any appeals are likely. Mr. Baumgartner said there may be a challenge from a group which opposes pollutant trading.

Mr. Weller asked when the Commission will get a more complete sense of the permit's impact on Clean Water Services, such as the Design and Construction Standards (D&Cs). Mr. Jockers said in August or September, when more is known about any challenges to the permit, the Board of Directors will likely charge the Commission with helping to update the D&Cs (Design and Construction Standards). There are also some changes in monitoring and requirements related to hydromodification which the Commission may be involved in over the next year or two. Mr. Jockers will ask the appropriate Clean Water Services representatives to share specific details at future Commission meetings.

Mr. Baumgartner said that the excellent cooperation and positive comments from partner cities was a big help in working with DEQ.

Mr. Jockers extended his thanks to the Commission for playing an important role in the permit process since 2011.

4. Energy Efficiency & Generation Program

Mr. Cullen provided an overview of the Clean Water Services resource recovery program (*presentation attached*). Resource recovery includes energy co-generation and nutrient recovery. The solids from the primary and secondary phases of wastewater treatment are digested anaerobically, producing digester gas that is about 60% methane. Methane can be burned in the engines at the treatment plant(s) (energy co-generation). The water that is removed from the solids carries concentrated nutrients in a form that makes recovery of those nutrients commercially viable (nutrient recovery). At the Durham plant, phosphorous is recovered from the water and processed into Crystal Green®, a slow-release fertilizer product.

Mr. Cordon outlined the energy management efforts at Clean Water Services (*presentation attached*). Besides labor, energy (mostly electricity) is the largest item in the organization's budget. The energy management program has three components: capital improvements that reduce energy use, operational changes that reduce energy use, and on-site energy generation (co-generation). Clean Water Services staff has identified more than 200 energy management ideas so far. A PIE (Process, Innovation and Energy) Team evaluates and selects projects to pursue. Financial assistance from Energy Trust of Oregon has reduced the actual cost to Clean Water Services, shortening payback periods for various projects. Despite increased service demands since 2010, Clean Water Services annual electricity usage has decreased in each of the last three fiscal years. About one-third of the electricity used by Clean Water Services is from co-generation.

The co-generation operation at the Durham facility was recently expanded and upgraded, tripling its capacity and adding a receiving station for FOG (fats, oils, and grease from restaurants). Like the solids from primary and secondary treatment plant processes, the FOG can be digested and the methane gas product used as fuel for generating electricity. Discussions are underway regarding the Rock Creek co-generation setup, where about 30% of the biogas produced is flared (burned off) as the equipment there cannot utilize the increased amounts resulting from population growth.

Mr. Vial left the meeting at 6:50.

Ms. Hennings asked if the syngas production option at Rock Creek could release toxics into the air. Mr. Cordon said there is no oxygen and no combustion in the process so nothing in the emissions would be regarded as toxics. Some states have required additional emissions controls for syngas production, while others have not. He added that the "biochar" that is fed to the system may have some value as a land application.

Mr. McKillip asked about the future of support from Oregon Energy Trust and Oregon Department of Energy, given the recent negative publicity about energy tax credit programs. Mr. Cordon said funding and/or administration of funds may change but it is unlikely to disappear completely.

Mr. DeHarpport asked if Clean Water Services has considered generating hydropower from wastewater treatment operations. Mr. Cordon said the idea has been explored but so far it has not been feasible. Wind power is another energy alternative that is not practical to pursue in Washington County.

Mr. Jockers reminded Commission members that the group has had a hand in several items of major importance to Clean Water Services, such as the framework for the Energy Management Policy, developing an appropriate approach to FOG, and the NPDES permit renewal. Mr. Jockers said he will send to all current Commission members a copy of the Energy Management Policy, which was adopted by the Board in 2009 after discussion and recommendations from the Commission.

5. Announcements

Mr. Jockers presented a framed wildlife photo to Mr. DeHarpport in acknowledgement of his many years of service on the Commission. Mr. DeHarpport, who is leaving the Commission due to conflicting time commitments, expressed his appreciation for the opportunity to serve.

6. Facility Tour

Mr. Garbely walked the group through the new co-generation system at the Durham facility, which was dedicated May 4. The new system digests FOG and wastewater treatment solids to produce biogas. Methane in the biogas is burned to produce 60% of the electricity needed to run the resource recovery facility. FOG is hauled in from area restaurants and a tipping fee is charged. Besides generating power, this program saves money by keeping FOG clogs out of the sewer lines.

Mr. Cullen led the tour of the nutrient recovery operation at Durham, which captures 80% of the phosphorous in the wastewater stream and turns it into a slow-release fertilizer product. The equipment for this process was developed by Ostara, which buys the product from Clean Water Services. Some of the product is used in Clean Water GROW®, a plant food for residential use. The fertilizer product offers an income stream to offset costs, but a great benefit from the recovery process is the reduced maintenance and replacement costs associated with phosphorus build-up in treatment plant pipes. The facility opened in 2009 and the original equipment was replaced with a larger capacity setup in

There were additional comments and questions during the tour which were not recorded.

7. Adjournment

Mr. Weller adjourned the meeting following the facility tour, at approximately 8:30 PM.

(Meeting notes prepared by Sue Baumgartner)