Chapter 7

Odor Control Program

The RWSP includes policies to guide King County in achieving its goal of preventing and controlling nuisance odor occurrences at all wastewater treatment plants and associated conveyance facilities. The policies also call for implementation of an odor prevention program that goes beyond traditional odor control. RWSP reporting requirements call for an annual report on the status of the odor prevention policies and projects, including a summary of odor complaints.

This chapter fulfills the annual reporting requirement for 2007. It describes the implementation of odor control improvements at the West Point and South Treatment Plants, the odor control improvements planned for conveyance system facilities, and the odor control design planned for the Brightwater System. The last section of the chapter lists odor control activities planned for 2008. Appendix A provides a summary of odor complaints received in 2007.

7.1 Phased Retrofit of the West Point and South Plants

The RWSP odor control policies, as established via Ordinance 14712, require that odor control retrofits be phased at the West Point and South Treatment Plants, implementing those that generate the greatest improvements first.[1] To that end, the Wastewater Treatment Division (WTD) has undertaken projects at each plant to identify and implement changes to existing odor control systems and to install new systems.

At the West Point plant, improvements include covering the division channel and modifying the odor scrubber system. In 2005, the channel was covered and changes were made to divert the air directly to the ventilation system. In early 2007, modifications to the odor scrubber system were completed. Since these modifications were made, the amount of fugitive odors escaping from the system has greatly decreased. In 2008, WTD will collect samples and perform modeling to evaluate the effects of these improvements and determine if they meet the odor control goal for existing facilities.

At South plant, installation of the covers for each first pass of the four aeration basins and of covers for the return activated sludge channel began in 2006 and was substantially complete in 2007. Work was completed in early 2008.

[1] Ordinance 14712 and accompanying attachments are available on the King County Council's legislation site at http://mkcclegisearch.metrokc.gov/detailreport/?key=4469.

7.2 Conveyance System Upgrades

RWSP policy calls for retrofitting conveyance facilities that pose nuisance odor problems with odor prevention systems as soon as such odors occur, subject to technical and financial feasibility. Table 7-1 lists projects to improve odor control in the county conveyance system. The table also includes the type of control technology planned and anticipated completion date for each project.

Table 7-1. Current and Planned Odor Control Projects in Conveyance System

Facility	Odor Control Technology	Anticipated Completion Date
Hidden Lake Pump Station[a]	Carbon bed odor scrubber & chemical injection	4th quarter 2008
Kenmore Lakeline	Carbon bed odor scrubber & chemical injection	4th quarter 2013
Sweyolocken Force Main Discharge	Replacement of phoenix/carbon scrubber with bioscrubber	4th quarter 2009
Lake City Regulator Station	Replacement of phoenix/carbon scrubber with carbon bed odor scrubber	2nd quarter 2009
University Regulator Station	Carbon bed odor scrubber	4th quarter 2008
Interbay Pump Station	Carbon bed odor scrubber	4th quarter 2013
King Street Regulator Station	Carbon bed odor scrubber	1st quarter 2009
53rd Avenue Pump Station	Carbon bed odor scrubber	2nd quarter 2009
Juanita Bay Pump Station[a]	Carbon bed odor scrubber & chemical injection	3rd quarter 2008
Kirkland Pump Station	Carbon bed odor scrubber	1st quarter 2012
Bellevue Pump Station	Carbon bed odor scrubber & chemical injection	4th quarter 2011
Eastside Interceptor	Chemical injection	1st quarter 2009
Soos Creek Pump Station & Pipeline	Carbon bed odor scrubber & chemical injection	4th quarter 2020

[a] These are new pump stations that are being built to replace existing stations.

7.3 Brightwater Odor Control System

RWSP policy directs the county to construct odor control systems for new regional treatment plants that meet the "best in the country for new facilities" level, as described in Attachment A to Ordinance 14712. Brightwater's odor control system was designed to meet this level and ensure there are no detectable odors at the property line for the Brightwater Treatment Plant.

To remove odors, air will be collected from treatment process units, enclosed buildings, and loading areas and then routed to odor control systems. All treatment process units will be covered, and buildings that house the headworks and solids handling equipment will be fully

enclosed.[2] Odors from these facilities will be absorbed and neutralized through a multistage treatment process that includes the use of biological, chemical, and carbon odor scrubbers.

Site preparation for the Brightwater solids/odor control facilities was completed and the construction contract for these facilities was awarded in 2007.

7.4 Schedule for 2008

WTD will continue to implement odor control improvements in accordance with RWSP policies. The following activities are planned for 2008:

- Evaluate the effectiveness of modifications to the odor control scrubber system at West Point Plant completed in 2007.
- Complete the installation and evaluate the effectiveness of aeration basin covers at South Plant.
- Continue to design and implement odor control improvements to conveyance system facilities that are listed in Table 7-1 of this chapter.
- Begin construction of Brightwater odor control facilities.

Visit the Odor Control Program's Web site for more information: http://dnr.metrokc.gov/wtd/odorcontrol/.

[2] The headworks is the first step in wastewater treatment. Large solids and grit are removed from the wastewater before it moves to the next step of treatment.