

MEMORANDUM

TO: Water Resources Commission and Environmental Quality Commission

FROM: Mike Llewelyn, Department of Environmental Quality, Water Quality Division Administrator; and Tom Paul, Water Resources Department, Field Services Administrator

SUBJECT: Water Reuse Initiative
Joint Meeting of the WRC and EQC, June 6, 2002

I. Background

Historically, the management of wastewater has been focused on treatment and disposal; i.e., maximizing the treatment and minimizing the environmental impact. However, focusing strictly on this approach may result in missed opportunities to benefit from the reuse of treated wastewater. For example, instead of trying to find the most benign discharge location for wastewater, “replumbing” infrastructure to make wastewater more broadly available for non-potable uses could be an attractive alternative to surface water discharges. Meeting the growing demands on potable water supplies could be aided if treated wastewater was reused for watering city parks, landscaped areas and golf courses. Other non-potable uses include crop irrigation, cooling water for power plants, process water for paper mills, toilet flushing, dust control, concrete mixing, and use in artificial lakes.

There are a number of concerns about wastewater reuse practices that could thwart widespread support and enthusiasm for these types of projects, such as:

- Is water reuse safe? Will the public's health be protected? What entities will have long-term oversight of such activities to ensure public safety and health?
- How would these practices affect instream flows?
- What consequences would water reuse projects have on farmland? How does using wastewater affect marketability of agricultural products?
- What are the regulatory barriers?
- What are the incentives for promoting wastewater reuse? Can wastewater reuse be cost effective?

II. Discussion

DEQ's "Wastewater Liability to Asset" Initiative

The Department of Environmental Quality (DEQ) has embarked upon a "Wastewater Liability to Asset" initiative, an effort to encourage new ways to reuse wastewater. This initiative seeks to change the perception that wastewater is strictly a "liability" and encourage the reuse of treated wastewater for beneficial uses.

The initiative is currently in the early developmental phase. An internal DEQ workgroup has been identifying advantages and disadvantages of wastewater reuse as well as opportunities and obstacles. Additionally, DEQ is communicating with a wide variety of stakeholders on this issue – including the Water Resources Department (WRD), municipalities, the Department of Human Services (DHS), agricultural interests, consultants in the field of wastewater reuse and others – to get a better understanding of the wide array of perspectives, interests and issues. When this phase is completed later this year, DEQ will be evaluating next steps for the initiative. Regardless of the results from this initial phase, DEQ is expecting that this will be a long-term strategy that will be dependant upon successful collaboration with WRD and other key stakeholders.

Wastewater Reuse Regulatory Responsibilities

DEQ and WRD both have regulatory responsibilities relating to the authorization of wastewater reuse. While there are some differences in the regulations that govern the reuse of treated municipal wastewater (i.e., from sewage treatment plants) and treated industrial wastewater (e.g., from a food processing plant), the permitting process is much the same regardless of its source. Each project proponent must get a permit from DEQ. A project proponent may also be required to register the project or file a water right application with WRD, depending on the source of the original water used, the type of entity involved in the water reuse project, and the nature of the reuse project. Water reuse projects may also require consultation with DHS. Regulatory requirements for water reuse projects are described in detail below.

DEQ: The reuse of municipal and industrial wastewater requires a permit from DEQ. DEQ reviews the proposal to ensure that the wastewater can be safely used for the intended use. In most cases, a certain amount of treatment is required to remove potentially harmful pollutants and disease-causing organisms. DEQ also requires a comprehensive management plan, describing the source of the wastewater, treatment, quality and quantity, intended reuse (e.g., wheat crop), and any environmental controls (e.g., buffers to streams, harvest restrictions) necessary to protect human health and the environment. DEQ must approve this plan and will monitor the activity to ensure that the permittee is operating in compliance with the plan.

WRD: Water that has been used for municipal purposes may be subsequently put to another use, or “reclaimed,” without needing a new water right. However, in order to use reclaimed water, certain criteria must be met, including water quality standards set by DEQ, a review of impacts on fish and wildlife by the Department of Fish and Wildlife, and the submission of information concerning the nature of the use of the reclaimed water to WRD. The use of the reclaimed water must be registered with WRD if the use is not included in the municipality’s service area. In addition, the registration process provides notification to other water users if a municipality’s historic discharges of effluent have represented a significant portion of the flow in a stream. Certain industrial and confined animal feeding operation (CAFO) effluent can also be exempt from water right permit requirements so long as the water is reused for irrigation purposes. To qualify for this exemption, the original source of water for the industrial use or CAFO must be ground water. To date, 36 reclaimed water registrations have been filed with WRD. In no case has a water right holder claimed injury to a water right caused by changes in streamflows due to reduced discharge associated with reclaimed water use.

DHS: For projects involving the reuse of “reclaimed” water (i.e., treated effluent from a sewage treatment plant) the project proponent must consult with DHS to ensure that public health concerns are adequately addressed.

III. Conclusion

This initiative seeks to increase the use of treated wastewater for beneficial uses. Reuse, when managed through appropriate environmental controls with protection for existing water right holders, can be a valuable component of a holistic water resource management program. DEQ and WRD are working together to gain a better understanding of the barriers and opportunities to help chart the course for the future of this initiative.

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