

## **WASTEWATER RATES**

### **RELATIONSHIP BETWEEN WASTEWATER RATES AND REGULATIONS**

#### General

The Federal Clean Water Act establishes minimum water quality standards for the nation. States may establish water quality standards that are more stringent than the national standards, but can be no less stringent. Water quality standards dictate wastewater treatment requirements, and hence, dictate wastewater rates.

#### Federal Regulations

The Clean Water Act is implemented through a series of regulations at both the Federal and State levels. Regulations frequently establish specific numeric limits for specific chemicals. Examples of specific regulations include metals, nutrients, and organics. From time to time the regulations change in response to developments in science. When the regulations become more stringent, a higher level of wastewater treatment is required to maintain compliance. The result is higher treatment costs, forcing higher rates.

#### State Regulations

States may establish water quality standards that can be more stringent than federal standards, but can be no less stringent. Colorado generally has not adopted more stringent standards, but Colorado has defined groundwater as waters of the State and has applied water quality standards to groundwater. This has the effect of expanding the application of water quality standards. It requires a much higher level of effort in maintaining sanitary sewers to prevent spills.

#### Current Issues

Colorado is in the process of implementing state-wide regulation on ammonia. Ammonia is a form of nitrogen found in and generated from human waste. Ammonia treatment requires higher-cost processes than Pueblo has provided in the past. In 2010 Pueblo began construction of improvements to its Water Reclamation Facility designed to accomplish ammonia treatment.

Colorado adopted a water quality regulation for temperature in 2009 aimed at curbing the discharge of hot water that can raise the temperature of natural streams to a point that cold-water species are adversely affected. The regulation was described as being aimed at industrial facilities like power plants, not at cities. However, the rule does not codify that distinction, and the City of Boulder has been given a permit that appears to require

that it chill its effluent prior to discharge. Boulder has legally challenged this requirement, but if the challenge fails, the cost of compliance will be high.

Water quality regulations have historically focused on treatment plants. As a result, while treatment plants have been significantly improved, collection systems (sewer mains and pump stations) have largely been ignored. Today there is a renewed focus on the operation of sanitary sewer collection systems. The Colorado Department of Health and Environment has been directed by the Environmental Protection Agency to begin capacity inspections on wastewater collection systems. Pueblo went through an inspection in 2010 and was judged to be in compliance. Still, changes in operating and maintenance procedures are being required that will increase the cost of operation for the sanitary sewer system.

### Future Issues

Colorado is developing a regulation to control nutrients, which include all forms of nitrogen as well as phosphorus. This regulation will probably affect Pueblo's next discharge permit, which is due in 2015. The existing treatment facility will have to be upgraded again to comply with the new nutrient limits.

A new class of substances called "emerging contaminants" will affect wastewater treatment in the future. Emerging contaminants encompass residual medications, organic chemicals that mimic hormones, detergents, and a wide range of chemicals that are only now being recognized because of an improved ability to detect them. The specific effects of emerging contaminants and methods of removing them are just beginning to be researched. However it is reasonable to assume that these materials will eventually be regulated, and that existing methods of wastewater treatment will prove insufficient to remove them to safe levels. It is likely that as time goes on, controlling emerging contaminants will drive up wastewater treatment costs.

