

The Confluence



THE NEWSLETTER OF THE COLORADO WASTEWATER UTILITY COUNCIL

Fall Issue

October 6, 2009

WET Meeting Includes Federal, State, and Local Perspectives



By Lesa Julian, City and County of Broomfield

Implementation of Chronic Sublethal Effluent Limitations for Whole Effluent Toxicity

On September 29, 2009, a meeting was held at CDOT to discuss whole effluent toxicity in Colorado. This meeting

was to understand EPA's position on whole effluent toxicity (WET) implementation, to increase understanding of the Water Quality Control Division's current process for implementing effluent limitations for WET, to increase understanding of stakeholder perspectives, and to identify future steps.

In Colorado, the following criteria cause a facility to be required to perform WET testing: (1) all POTWs with design influent flows equal to or greater than one million gallons per day; (2) all POTWs with approved pretreatment programs or POTWs that are required to develop a pretreatment program; (3) all industrial facilities identified as an EPA major; (4) other POTWs or industrial facilities based on potential to discharge toxics in toxic amounts.

There are two types of tests, acute and chronic. Chronic testing is assigned when the ratio of stream low flow to effluent design flow is less than 10:1 and the segment has a class 1 or class 2 aquatic life use. All of the others are acute.

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CWWUC Seeks Member Input on Funding Strategies

The CWWUC is looking for your input on the most efficient way to fund special studies and maintain the high level of support members are used to. This funding is especially important in light of

the upcoming Basic Standards Hearing (June 2010).

To help the organization formulate a sustainable funding plan, your input is being requested.

Please provide feedback to CWWUC Board Members by e-mailing your response to Bret Linenfelser, CWWUC Secretary, at: **linenfelserb@bouldercolorado.gov** by **October 31, 2009**.

Spotlight on Wastewater Utility Council Member

CITY OF FORT COLLINS

The City of Fort Collins has been a Colorado Wastewater Utility Council member since 2000. Carol Webb, Regulatory and Government Affairs Division Manager is the council representative.

Issues of concern to the city include methylmercury (fish-tissue), selenium, nutrient criteria, WET tests established as permit limits, EDC's, nonphenol, and antidegradation.

(see spotlight on pg 5)

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“WASTEWATER TREATMENT TYPICALLY REPRESENTS A CITY’S SINGLE LARGEST INVESTMENT IN THE ENVIRONMENT” - RANDY EARLEY, UTILITIES PROJECT MANAGER, CITY OF BOULDER



Boulder's 75th St. Wastewater Treatment Plant

Boulder Upgrades Energy Efficiently

by Erin Mathe, Xcel Energy

Tough Choices

To get the job done in the wastewater treatment business, you typically have to choose between using more chemicals or using more energy. Managers at the City of Boulder had been at that crossroads many times so when they faced a facility upgrade in 2006, they did what they always have: go the most environmentally-friendly route possible, while using the least amount of energy.

“Wastewater treatment typically represents a city’s single largest investment in the environment,” says Randy

Earley, Utilities Project Manager for the City of Boulder’s Public Works Department. “It would be counterproductive to use methods that have adverse impacts on the environment. But energy is an uncontrollable cost so we try to make our processes as efficient as possible to save money in the long run.”

The tricky part is that the rules change every five years when they renew their permit. They’re constantly trying to predict what the new standards will be and forecast accordingly.

Time to Upgrade

A maximum of 20 million gallons of raw sewage can flow through the plant every day. Built in 1968, it was originally designed to treat 5 million gallons. The plant had last been upgraded in 1990 so by early 2006 – with new state and Environmental Protection Agency requirements needing to be met by January of 2008 – it was time for the City of Boulder to consider improvements.

Two things made the priority list:

- To increase ammonia removal. A reduction in the discharge of ammonia would improve the environment for plants and animals in Boulder Creek downstream from the plant. This expansion would include new aeration requirements which meant buying new blowers and motors to provide oxygen, and secondarily some mixing, to the treatment process.
- To increase the treatment capacity from 20.5 million gallons a day to 25 million

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gallons a day to help address future treatment needs.

A consultant conducted an extensive evaluation of motor and blower alternatives and estimated the costs over a 20-year span. The study revealed two things: many options were comparable, but the most *efficient blowers* would cost \$53,000 *more* than the others up front. The consolation was that over that 20-year timeframe, the city would recoup that amount in lower energy use and lower annual operating costs. A \$20,000 rebate from their electricity provider, Xcel Energy, was also helpful.

“They had already decided to upgrade to higher efficiency equipment to save energy and money,” says Andy Borchers, Xcel Energy account manager. “But of course they liked to hear they’d be eligible for rebate dollars to help keep initial costs down.”

Boulder’s annual energy bill at the plant is \$500,000. But knowing the city could save \$100,000 in energy costs over 20 years

THE CONSOLATION WAS THAT OVER THAT 20-YEAR TIMEFRAME, THE CITY WOULD RECOUP THAT AMOUNT IN LOWER ENERGY USE AND LOWER ANNUAL OPERATING COSTS.

Project Summary Totals

• Net Cost for Blowers:	\$1,425,999
• Xcel Energy rebates	\$20,000 (2% of 20-yr energy cost)
• Total project cost:	\$1,405,000
• Annual energy bills	\$500,000
• Return on Investment:	1% improved efficiency over 20 year span
• Outcome	\$100,000 in energy savings over 20 years

while doing the right thing environmentally was the determining factor. They moved forward with the project and finished it in April of 2008.

Clean and efficient

The wastewater treatment plant staff is happy with the equipment choices they made, the amount of energy they’ll save over time and the fact that they made the best environmental choice possible. Earley says the treatment is safe, thorough and there’s room to add capacity if needed.

For more about the City of Boulder’s Waste Water Treatment plant upgrades, visit

www.bouldercolorado.gov. For more on Xcel Energy’s efficiency programs, visit www.xcelenergy.com.

Basins at Boulder’s 75th St. Plant



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ENFORCEABLE
LIMITS FOR
GROWTH AND
REPRODUCTION
SHOULD BE
DRIVEN BY
IDENTIFIED
STRATEGIC
ENVIRONMENTAL
OUTCOMES

Currently, Colorado permit WET limits are based on lethality. As part of the chronic WET test procedures, sublethal toxicity testing (growth and reproduction) is included, but limits are “report” only. Permits may be reopened to include sublethal limits, but this hasn’t historically been done.

The EPA Office of Wastewater Management indicated that four states are currently not fully implementing their NPDES WET program. Colorado is one of the four states. The others are Texas, Nevada, and Oklahoma. Full compliance includes reasonable potential and compliance for acute and chronic sublethal endpoints. The EPA has set a goal of having all of the states

in compliance by December 2009, unless the states can persuade them that they need more time for full implementation.

The Water Quality Control Division, of the Colorado Department of Health and Environment understands that toxicity is important. They believe that enforceable limits for growth and reproduction should be driven by identified strategic environmental outcomes. At this time they don’t have the resources to devote to this issue. They have lost some full-time employees and aren’t anticipating any additional or increased funding. The process also takes time to implement and they have other competing priorities (ie. ammonia,

antidegradation, temperature, nutrients, etc.) that they are currently focusing on.

So, the meeting was a good starting point, but it is going to take time to work through the issues. The stakeholders will have to wait and see what the future brings.



We’re on the WEB

WWW.CWWUC.ORG



Regulated Community Proposes Economic Reasonableness

At the last Water Quality Forum Standards Framework Workgroup meeting (Sept. 21st), Amy Woodis of Metro Wastewater presented a proposal to include economic reasonableness language into the Basic Standards. Language is currently included in a State legislative declaration addressing economic reasonableness. The intent of the regulated community’s proposal focuses on including language in the Basic Standards which allows for consideration of water quality decisions based on a triple bottom line approach.

The presentation suggested that in addition to the predominantly scientific method that is currently used to set

standards, consideration should also be given to:

- Environmental impacts vs benefits
- Societal values and input
- Economic considerations and benefit valuations

An example of the use of the triple bottom line approach was given in the context of nutrients. The presentation demonstrated that although urban and population-related sources are a relatively small part of the Gulf of Mexico nutrients problem, meeting very stringent limits would have huge impacts. In a TBL framework it would mean:

- Environmental— An increase in carbon-based chemicals, greenhouse

gas emissions, and energy consumption

- Social— Dedication of societal resources of future generations
- Economic— Huge capital costs necessary to bring nutrients to levels that may provide little environmental benefit.

The proposal suggested allowing the proponents of a standard to assess its economic, social, and environmental impacts using outlined sustainability metrics such as life-cycle assessment tools, and multi-criteria decision analysis tools.

For more information on the proposal please visit the Colorado Water Quality Forum at www.cwqf.org and click on the workgroups link.



Balances between economic, environmental, energy, and public health costs and impacts of pollution control measures should be considered.



Serving Colorado's Water Quality and Treatment Needs

THE NEWSLETTER OF THE COLORADO WASTEWATER UTILITY COUNCIL

The Colorado Wastewater Utility Council's mission is to “professionally and responsibly promote environmental protection by supporting legislation and regulations which achieve well-defined environmental benefits while maintaining local flexibility.”

The Confluence is a quarterly publication of the Colorado Wastewater Utility Council. For newsletter questions, suggestions, article submissions, etc. please contact: Blair Corning— bcorning@sacwsd.org— 720-206-0463

Other questions or input concerning the CWWUC may be emailed to: admin@cwwuc.org or a Board member below.

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Ft. Collins

(Continued from Spotlight pg. 1)

The City of Fort Collins employs two, separate wastewater treatment facilities to treat domestic, industrial and commercial wastewater discharges from the City' 135,000 residents and 2000+ businesses.

Drake Water Reclamation Facility (DWRf): The primary purpose of the DWRf is to treat wastewater for the City of Fort Collins. The DWRf, located generally at 3036 Environmental Drive, has a design capacity of 23 MGD treats an average of 15 MGD, using primary treatment, aeration basins,

anaerobic digesters and a chlorine/sulfur dioxide system for disinfection. All treated water is discharged to Fossil Creek Ditch.

Mulberry Water Reclamation Facility (MWRF): The primary purpose of the DWRf is to treat wastewater for the City of Fort Collins. The MWRF, located generally at 918 E. Mulberry, has a design capacity of 6 MGD and treats an average of 3 MGD. All treated water is discharged to the Cache la Poudre River. This location is currently under renovation/construction and is not being

utilized to treat wastewater. Expected start-up in January of 2011.



Ft. Collins is home to a population of 137,000 including the CSU Rams.