

OPEN CHANNEL NEWS

MCES Industrial Waste & Pollution Prevention

Issue #32/ October 2009



Metropolitan Council Environmental Services

Metropolitan Council Environmental Services (MCES) is one of three divisions of the Metropolitan Council, a regional public agency working for the seven-county metropolitan area. The mission of MCES is to provide wastewater services that protect the public health and environment while supporting regional growth.

Services provided by MCES ensure that:

- (1) sufficient sewer capacity exists to serve planned development, and sufficient capital investments are made to preserve the region's water quality;
- (2) wastewater collection and treatment services are provided in a cost- and quality-competitive manner for 105 communities and nearly 800 industrial clients; and
- (3) local plans provide for adequate water supply and nonpoint source pollution prevention in the region.

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Phytoestrogen Levels High in Some Industrial Wastewaters

Researching engineers from the University of Minnesota have discovered that certain industries may be a significant source of phytoestrogens in surface water. Phytoestrogens are naturally occurring, plant-derived estrogens that have been shown to mimic hormones and adversely affect the reproductive processes in many different species, including fish.

Many studies have looked at human-related chemicals such as those in birth control pills as the primary source for estrogens in the water supply. Civil engineering associate professor Paige Novak and graduate research student Mark Lundgren focused their research on finding point sources of plant-derived estrogens discharged to surface waters. They analyzed wastewater discharge from 19 different plant-processing industries and three wastewater treatment plants in Minnesota and Iowa for six phytoestrogens. Several MCES-permitted industries participated in the research.

The study found high levels of phytoestrogens – up to 250 times higher than the level at which feminization of fish has been seen in other research – in the wastewater discharged from eight industrial sites, including biodiesel plants, a soy milk factory, a dairy and a barbecue meat processing plant. While this is of concern, the study also found that more than 90 percent of the phytoestrogens were removed through standard wastewater treatment. According to Novak, because phytoestrogens have a documented ability to act additively with other estrogens and estrogen mimics, aquatic organisms may interact with not just a few, but a complex mixture of compounds. Therefore, greater removal may be needed to protect aquatic organisms in the receiving waters.

“This study provides a valuable baseline for understanding which industries are likely to discharge high concentrations of phytoestrogens; however, more research is necessary to understand the fate and removal mechanisms of phytoestrogens during wastewater treatment,” Novak concluded. “The expansion of our plant-processing industries must occur with caution and in a manner that ensures high quality wastewater treatment to our surface water supplies.”



More on-site industry pretreatment facilities like this one may be needed to avoid discharging high levels of phytoestrogens to municipal wastewater treatment plants.

Important Dates:

October 15, 2009 – Liquid Waste Hauler reports due at MCES offices for quarterly reporters.

October 30, 2009 – All Regular and Special Discharge quarterly reports due at MCES offices.

January 15, 2010 – Liquid Waste Hauler reports due at MCES offices for all LWH permittees.

January 30, 2010 – All Regular and Special Discharge quarterly, semi-annual, and annual reports due at MCES offices.

Mail Reports to: MCES, IWPP Section, 390 North Robert Street, St. Paul, MN 55101-1805.



Emerging Pollutants of Concern and MCES Response

There are a number of emerging pollutants of concern being found in surface water and water supplies that MCES is tracking. They are categorized into three groups: Endocrine Disrupting Chemicals (EDCs), Pharmaceuticals and Personal Care Products (PPCPs), and Perfluorochemicals (PFCs), with some overlap between EDCs and PPCPs.

Endocrine Disruptors are chemicals that, when absorbed, either mimic or block hormones and disrupt the body's normal functions. A wide range of substances, both natural and man-made, are thought to cause endocrine disruption, including pharmaceuticals, dioxin and dioxin-like compounds, pesticides, and plasticizers. Evidence suggests that environmental exposure to EDCs may cause adverse health effects in human and wildlife populations.

There is much research being done globally and locally on EDCs. The University of Minnesota is conducting studies which include determining the fate of EDCs in wastewater treatment and searching for potential sources of specific estrogenic compounds (see front page article of this newsletter.) MCES has and continues to provide information and assistance with research studies, and will investigate potential point sources when appropriate.

Pharmaceuticals and Personal Care Products refers, in general, to any product used by individuals for personal health or cosmetic reasons or used by agribusiness to enhance growth or health of livestock. PPCPs comprise a diverse collection of thousands of chemical substances, including prescription and over-the-counter therapeutic drugs, veterinary drugs, fragrances, and cosmetics. PPCPs have been found in every waterway where scientists have looked. Research has shown that small amounts of medications may have adverse effects on human cells and contaminated waters have damaged wildlife, especially fish. No one knows what long-term effects might occur.

Since 2000, MCES has been an active member in the Healthcare Hazardous Waste Committee work group

which includes Solid Waste Management Coordinating Board (SWMCB), Minnesota Pollution Control Agency (MPCA), and Minnesota Technical Assistance Program representatives. This group developed Consensus and Guidance documents for proper evaluation and disposal of hazardous waste (including pharmaceuticals) for metropolitan area hospitals. Through wastewater discharge permitting of area hospitals, MCES is able to observe current practices and provide direction on implementing strategies to reduce the discharge of PPCPs to the sanitary sewer. MCES also continues to provide guidance to other healthcare sectors such as medical and veterinary clinics. Additionally, MCES has campaigned along with MPCA and other agencies to educate the general public on proper disposal of unused medications and personal care products.

Perfluorochemicals are a family of manmade chemicals that has been used for decades to make products that resist heat, oil, stains, grease, and water. Common uses include nonstick cookware, stain-resistant carpets and fabrics, as components of fire-fighting foam, and other industrial applications. PFCs are very stable chemicals that do not change or break down in the environment. As a result, they may be found in soil, sediments, and water sources. While some PFCs have been shown to bioaccumulate in humans and animals and are being found in the environment, the long-term effects of chronic exposure are not yet known.

MPCA has identified four types of PFCs that are of local concern and have developed water quality criteria for two types. MCES currently monitors for four PFCs of local concern in the final effluent of its Seneca Plant and will soon do the same at the Metro and Eagles Point plants. Additionally, MCES is in the process of investigating potential industrial sources of PFCs, which may lead to industry-specific educational campaigns, pollution prevention, or other methods of assessing and controlling the input of PFCs into the sanitary sewer.

MCES participates in various functions to keep current with emerging pollutants of concern. We gather and evaluate information from multiple credible sources, serve on work groups and committees to develop minimization and best management practices, and form partnerships with federal, state, and local regulators in an effort to reduce emerging contaminants from entering the sewer.

If you are interested in learning more about these emerging pollutants visit the U.S. Environmental Protection Agency and Minnesota Pollution Control Agency Websites. For EDCs, visit: www.epa.gov/endocrine/ for PPCPs, visit: www.epa.gov/ppcp/ and for PFCs, visit: www.pca.state.mn.us/cleanup/pfc/index.html.

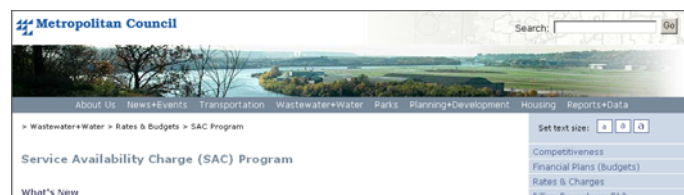
What Happens to SAC When you Sell Your Company?

When you sell your company, the Modified SAC Baseline Value assigned to your Industrial Discharge permit may or may not transfer to the new owner. It depends on the nature of the sale, the previous SAC history, and whether or not the facility has been in continuous operation as an MCES permittee.

Many permittees have a Modified SAC Baseline Value that has been computed, in part or in whole, using 1991 discharge volume data that is greater than the grandparent and/or paid SAC value up to that point. This modified baseline will only transfer to a new owner if MCES transfers the permit and the sale of the company is complete, which means the new owner has legally assumed all company assets and liabilities. This is because any modified baseline value over the grandparent and paid SAC represents capacity in the system that was never paid for and is only authorized (without SAC liability) for the current business.

If this condition is not met, the Modified SAC Baseline Value attributed to the site, based on current rules, will include a 1973 “grandparent” value (if any can be substantiated) and paid SAC units for the site. This could result in a SAC liability for a new owner running the same process (as the prior owner), which could be problematic if this situation is not disclosed prior to the company sale. Also note that the method used to determine potential credits if a new use is established for a site will change in 2010. This will involve a 7-8 year look-back for the maximum use, and although MCES credits are to communities not businesses, this may also be of interest to a buyer because it may impact community fees for sewer capacity availability in subsequent uses of the site. Please note that additional factors may be involved regarding SAC in the event of an ownership change for a permitted facility. If you have questions regarding SAC transfers, please contact your assigned MCES permit engineer, or you may contact Leo Hermes, IWPP manager at 651-602-4701. An updated permit transfer form, which includes verification of the nature of the company sale, is available www.metrocouncil.org/environment/IndustrialWaste/form_s.htm.

For more information regarding the MCES SAC program, visit: www.metrocouncil.org/environment/RatesBilling/SAC_Program.htm.



2009 Customer Forum Review

The “Budget” is not a popular topic these days given the status of the economy, but Jason Willett, director of Financial Management and Planning, put his heart into the matter and crunched the numbers and figures of the MCES 2010 budget for all those in attendance at the Customer Forum held in June. While



Jason Willett, MCES director of Financial Management and Planning

some issues, such as the declining SAC fund, are a sign of the times, Willett showed that MCES is making adjustments – cancelling or delaying capital projects; cutting costs – reducing energy costs; reducing pay-as-you-go for current capital projects and keeping the overall budget down – with the result that the overall MCES budget actually decreased a bit from 2009. Leo Hermes, IWPP Section manager, followed Willett’s presentation with more specific 2010 industrial user rates and fees and regulatory updates, including the potential use of General Permits and Fats, Oils and Grease (FOG) controls. Please note that some of the industrial user rates have changed slightly from those presented at the forum. See back page article to get the current 2010 Rates and fees.

If you missed the forum and would like to get more information about the MCES 2010 budget and rates or capital improvement projects, go to the following Website and use the links under “Regional Wastewater System”:
www.metrocouncil.org/water/index.htm.

MnTap Intern Program

By next summer, your facility could be reducing costs and waste. If you have a specific waste-related project that you would like investigated, but do not have the time and resources, an intern from the Minnesota Technical Assistance Program (MnTAP) may be your answer. An intern can make suggestions that improve efficiency, save money, reduce waste, or decrease your regulatory compliance burden. Also, an intern has the time to research alternative equipment, procedures, chemicals, and raw materials.

Applications are currently being accepted through February 1, 2010. If you would like to discuss a potential intern project, call Krysta Larson at 612-624-4697 or 800-247-0015. Additional information is available online at www.mntap.umn.edu.

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2010 MCES Rates and Fees

Rates and fees affecting industrial users for 2010 were approved at the September 9, 2009, Metropolitan Council meeting. The approved rates are:

Strength Charge rates for wastewater generated within the Council's region and discharged on site will be \$0.158 per excess pound of total suspended solids (TSS) and \$0.079 per excess pound of chemical oxygen demand (COD).

Full-cost recovery rates for treatment of industrial wastewater hauled to the approved MCES disposal site will be \$0.315 per excess pound of TSS and \$0.1575 per excess pound of COD. There is an additional \$10 per 1,000 gallon service fee for out-of-region loads.

Liquid waste haulers' standard load charges will be \$48.05 per 1,000 gallons. Holding tank wastes will be charged \$3.01 per 1,000 gallons. The Portable Toilet Waste rate will be \$61.18 per 1,000 gallons. Collar county domestic waste load charges will be \$58.05 per 1,000 gallons. Please note that due to an adjustment of projected wastewater volumes, some liquid waste hauler rates are lower than those presented at the June 2009 Industrial Waste Customer Forum.

The Service Availability Charge (SAC) will be \$2,100 per unit, and the associated Add-on Service Charge rates will be \$1.05 per 1,000 gallons.

For all permittees, permit fees will range from \$600 to \$5,575, depending on permit status. General permit fees for specific user groups will range from \$50 to \$500.

For more information regarding rates and fees, please contact your MCES engineer or visit: www.metrocouncil.org/environment/IndustrialWaste/news_rates.htm. The 2010 rates will be posted on this site following final 2009 billings in February 2010.